

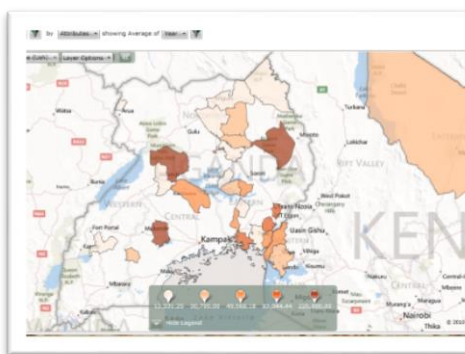


# Data Management, Analysis & **Sharing** (ICRISAT) CGIAR Research Program on Dryland Systems

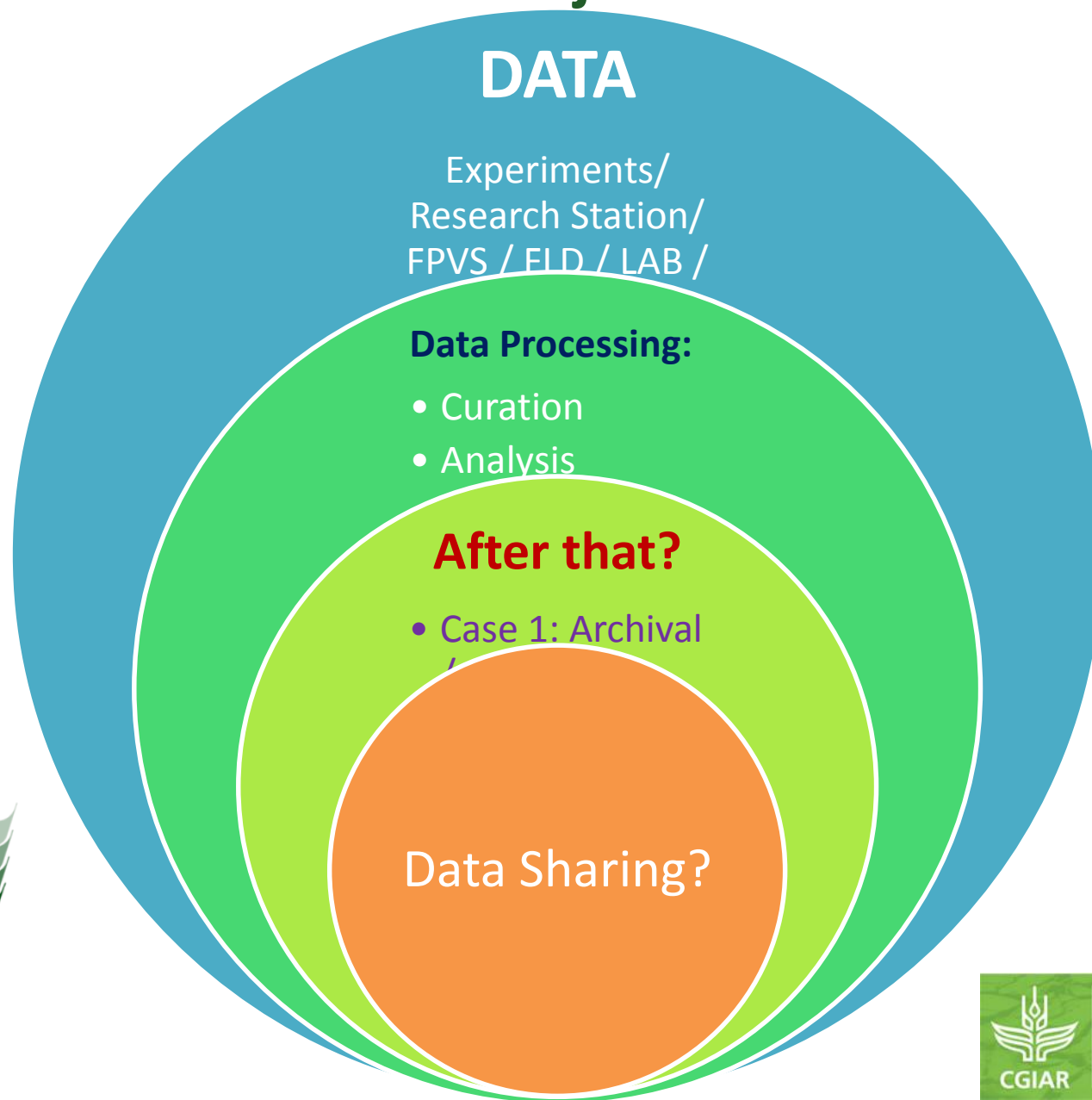
**29<sup>th</sup> September, 2014, Dubai, UAE**

Abhishek Rathore  
Senior Scientist (Biometrics)

Email: [a.rathore@cgiar.org](mailto:a.rathore@cgiar.org)



# Usual Project Dataflow



We Share Data!

## Most Common Requests by email?

- May not find when requested (After 3-4 years)!!!
- Very narrow user base for data
- Only active Googlers may find you (Through Publications?)
- High probability of data loss!



Research Resources &  
Generated Data Not Used to  
Full Potential !

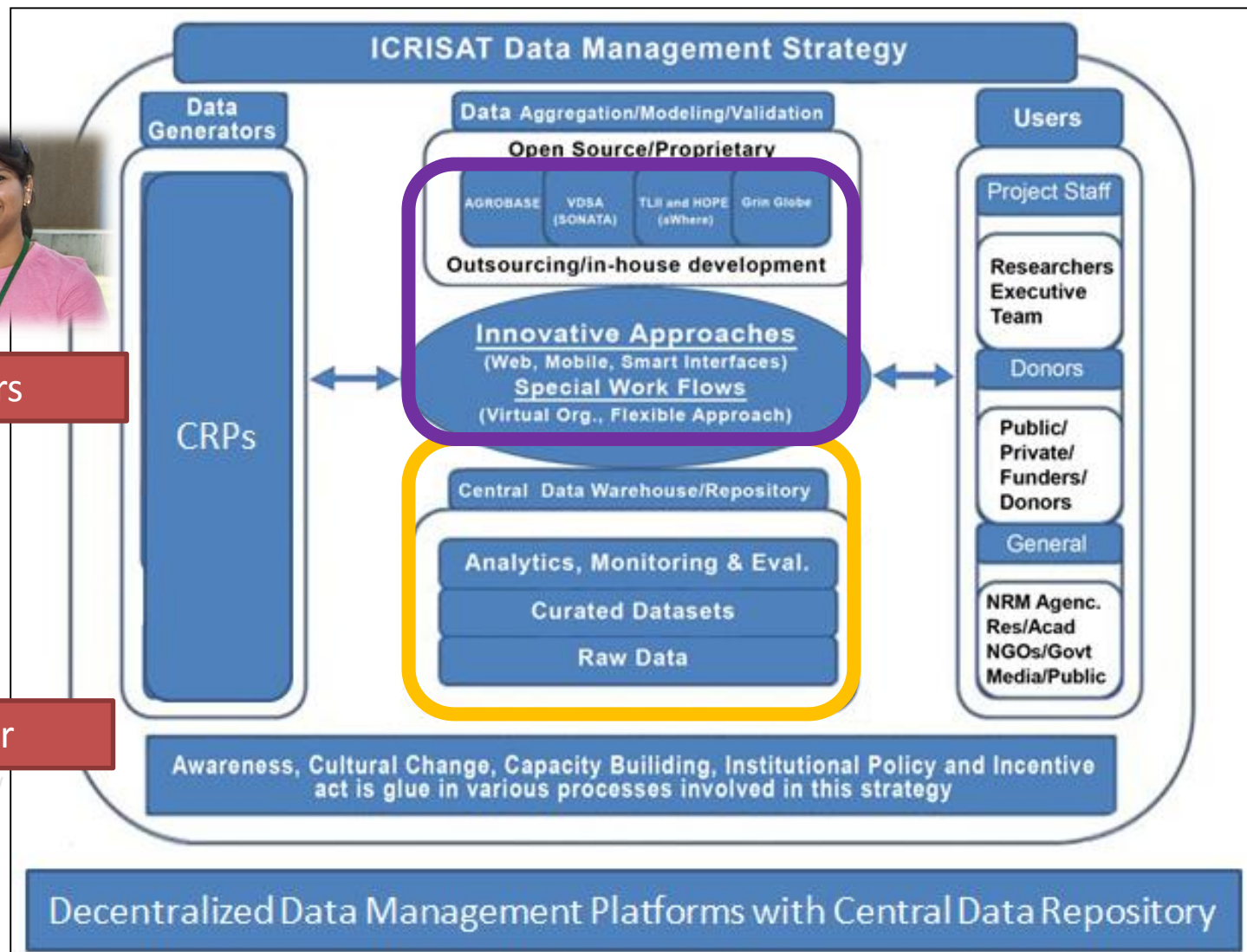
# ICRISAT Data Management Strategy



Data Curators



Data Manager



We Share Data!

GIGO

## Desired Way

- **Must Haves**

- Shared in online repositories
- Accessible to everybody as IPG
- Data Quality Ensured
- High Standards of Data Curation
- Compressed Files / Raw Data
- Links to Publications

60-70%  
Time

## Good to have

- Summary Tables (various perspectives)
- Data Querying Tool
- Say Success Story
- Point to Lesson Learned
- Show impact





We Share Data!

## Wish to have...

- A user friendly browse-able online system
  - Gives information in a glance
  - Graphical representation of Story
  - Complete insight in to data
    - With availability of Raw / Mean data
    - Subset selection and download
    - Maintenance free (PI submits & forget), Cloude?
    - User control over what is being shared?
      - Can share only few varieties for few location
    - And in what form (\*.xls, jpeg, pdf etc?)





*Must Have*  
*Good to have*  
*Wish to have*

# Achieved !!!

# Must Have CRP- DS Dataverse



POWERED BY THE **Dataverse  
Network™** PROJECT



The Institute for Quantitative Social Science  
HARVARD UNIVERSITY

# ICRISAT Dataverse Network - Open Source

The screenshot shows a web browser window with the URL <http://dataverse.icrisat.org/dvn/dv/crpdjsession>. The page title is "ICRISAT Dataverse Network > CGIAR - Drylands Production Systems Research Dataverse". Below the title, there is a search bar labeled "Search Studies" and a "Go" button. To the right of the search bar, there is a link for "Advanced Search Tips". Below the search bar, there is a "Sort By:" dropdown menu and a "Studies: 4" indicator. The main content area displays a list of four studies, each with a title, authors, and download statistics.

Study Title	Authors	Downloads	Last Released
Household Level Baseline Data for Dryland System Agricultural Production System Research in South Asian action Villages (BIJAPUR - District)	by Dr. Amare Hailelassie; Dr. Palanisami K; Dr. Abhishek Rathore; Dr. Craufurd Peter; Adinarayana G	6 downloads	Oct 15, 2013
Household Level Baseline Data for Dryland System Agricultural Production System Research in South Asian action Villages (RAJASTHAN - STATE)	by Dr. Amare Hailelassie; Dr. Palanisami K; Dr. Abhishek Rathore; Dr. Craufurd Peter; Adinarayana G	8 downloads	Oct 4, 2013
Household Level Baseline Data for Dryland System Agricultural Production System Research in South Asian action Villages (KURNOOL-District)	by Dr. Amare Hailelassie; Dr. Palanisami K; Dr. Abhishek Rathore; Dr. Craufurd Peter; Adinarayana G	14 downloads	Oct 4, 2013
Household Level Baseline Data for Dryland System Agricultural Production System Research in South Asian action Villages (ANANTAPUR-District)	by Dr. Amare Hailelassie; Dr. Palanisami k; Dr. Abhishek Rathore; Dr. Craufurd Peter; Adinarayana G	15 downloads	Oct 4, 2013



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# ICRISAT Dataverse Network - Open Source

The screenshot displays a web browser window with the URL <http://dataverse.icrisat.org/dvn/dv/crpdts/faces/st>. The page title is "ICRISAT Dataverse Network > CGIAR - Drylands Production Systems Research Dataverse". The main content area shows the dataset title "HOUSEHOLD LEVEL BASELINE DATA FOR DRYLAND SYSTEM AGRICULTURAL PRODUCTION SYSTEM RESEARCH IN SOUTH ASIAN ACTION VILLAGES (BIJAPUR - DISTRICT)" with the identifier "hdl:11038/10167" and release date "Version: 1- Released: Tue Oct 15 09:18:12 IST 2013". Below this, there are tabs for "CATALOGING INFORMATION", "Data & Analysis", "Comments", and "Versions". The "CATALOGING INFORMATION" tab is active, showing a section for "Data Citation" with a text box containing the citation: "Dr. Amare Hailelassie; Dr. Palanisami K; Dr. Abhishek Rathore; Dr. Craufurd Peter; Adinarayana G, 2013, 'Household Level Baseline Data for Dryland System Agricultural Production System Research in South Asian action Villages (BIJAPUR - DISTRICT)'. ICRISAT, CGIAR - Drylands Production Systems Research Dataverse". Below the citation box is a "Citation Format" dropdown menu and a "Print" button. A "Data Citation Details" section follows, listing various metadata fields: Study Global ID (hdl:11038/10167), Authors (Dr. Amare Hailelassie (ICRISAT); Dr. Palanisami K (ICRISAT); Dr. Abhishek Rathore (ICRISAT); Dr. Craufurd Peter (ICRISAT); Adinarayana G (ICRISAT)), Producer (Resilient Dryland Systems (ICRISAT)), Production Date (2013), Distributor (Dr. Abhishek Rathore (ICRISAT)), Distributor Contact (Dr. Abhishek Rathore (ICRISAT), a.rathore@cgiar.org), Distribution Date (2013), Deposit Date (October 15, 2013), Provenance (CGIAR - Drylands Production Systems Research Dataverse), and Time Period Covered (2012 - 2013). The page also includes a "Description and Scope" section.



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# ICRISAT Dataverse Network - Open Source

The screenshot shows a web browser window with the URL <http://dataverse.icrisat.org/dvn/dv/crpds/faces/st>. The page title is "ICRISAT Dataverse Network > CGIAR - Drylands Production Systems Research Dataverse". The main content area displays the dataset title "HOUSEHOLD LEVEL BASELINE DATA FOR DRYLAND SYSTEM AGRICULTURAL PRODUCTION SYSTEM RESEARCH IN SOUTH ASIAN ACTION VILLAGES (BIJAPUR - DISTRICT)" with the identifier "hdl:11038/10167" and release date "Version: 1- Released: Tue Oct 15 09:18:12 IST 2013". Below the title are tabs for "Cataloging Information", "DATA & ANALYSIS", "Comments", and "Versions". The "DATA & ANALYSIS" tab is active, showing instructions for downloading files and a list of files. The file list includes "Bijapur Datafile.xlsx" (application/octet-stream - 2 MB - 6 downloads) with a "Restricted Access" icon.

ICRISAT Dataverse Network >  
CGIAR - Drylands Production Systems Research Dataverse

HOUSEHOLD LEVEL BASELINE DATA FOR DRYLAND SYSTEM  
AGRICULTURAL PRODUCTION SYSTEM RESEARCH IN SOUTH ASIAN  
ACTION VILLAGES (BIJAPUR - DISTRICT)  
hdl:11038/10167  
Version: 1- Released: Tue Oct 15 09:18:12 IST 2013

Cataloging Information DATA & ANALYSIS Comments Versions

Use the check boxes next to the file name to download multiple files. Data files will be downloaded in their default format. You can also download all the files in a category by checking the box next to the category name. You will be prompted to save a single archive file. Study files that have restricted access will not be downloaded.

Access to some files is restricted, and those files are not available for downloading. Check the Terms of Use for more information. Send a Request if you would like to access the restricted files in this study.

☐ Select all files

☐ Bijapur Datafile.xlsx  
application/octet-stream - 2 MB - 6 downloads Restricted Access

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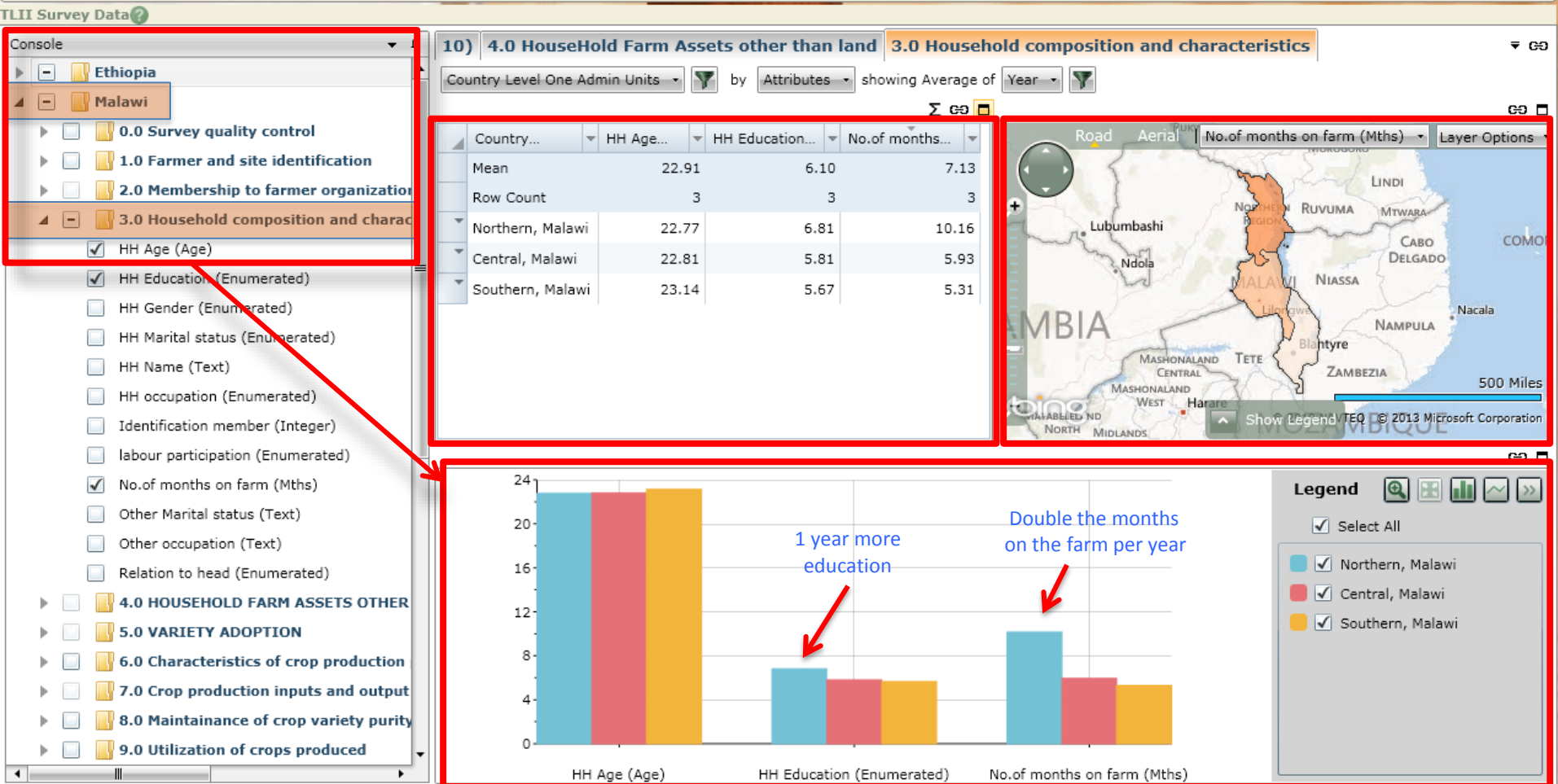
# Database @ ICRISAT Projects

Tropical Legumes-II



Navigation icons: New, Open, Properties, Add, Index, Calculate, Console, Charts, Maps, Tables, Default View, Advanced View, Share, Publish, Download, Copy Table, Help, Feedback.

Analysis Data Calculate View Share Export Support



# The Simultaneous Triple-View of any data: Table, Map, Chart

Navigation icons: New, Open, Properties, Add, Index, Calculate, Console, Charts, Maps, Tables, Default View, Advanced View, Share, Publish, Download, Copy Table, Help, Feedback.

Analysis | Data | Calculate | View | Share | Export | Support

TLII Survey Data?

**Console**

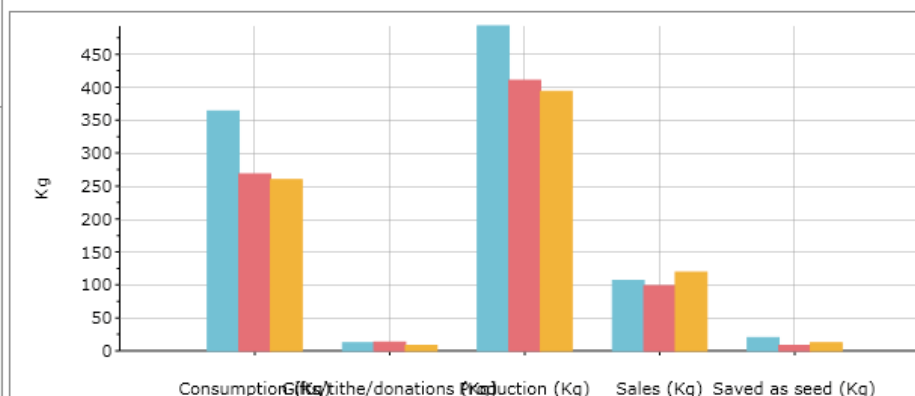
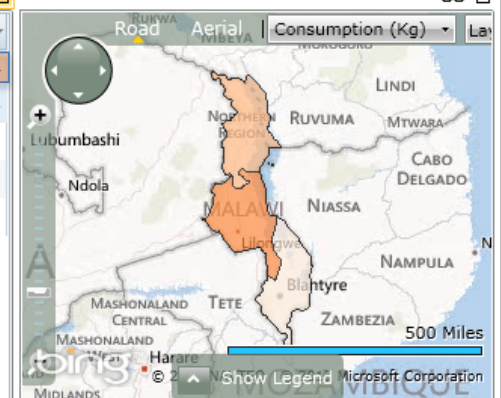
- 0.0 Survey quality control
- 1.0 Farmer and site identification
- 2.0 Membership to farmer organization
- 3.0 Household composition and characteristics
- 4.0 HOUSEHOLD FARM ASSETS OTHER
- 5.0 VARIETY ADOPTION
- 6.0 Characteristics of crop production
- 7.0 Crop production inputs and output
- 8.0 Maintenance of crop variety purity
- 9.0 Utilization of crops produced**
  - ☐ Amount (Kg)
  - ☒ Consumption (Kg)
  - ☐ Crop (Enumerated)
  - ☒ Gifts/tithe/donations (Kg)
  - ☒ Production (Kg)
  - ☒ Sales (Kg)
  - ☒ Saved as seed (Kg)
- 10.0 Crop marketing
- 11.0 Comparison of groundnut buyers
- 12.0 Comparison of pigeonpea buyers
- 13.0 Choice of groundnut selling time
- 14.0 Livestock production activities
- 15.0 Livestock maintenance costs
- 16.0 Selling and buying of livestock, live

ing 2006-2007 planting season | **10.0 Crop marketing** | 10.0 Marketing of crops

Country Level One Admin Units by Attributes showing Average of Year

Coun...	Production...	Consumption...	Sales (Kg)	Saved as seed...	Gifts/tithe...
Mean	432.31	297.05	107.85	13.26	11.04
Row Coun	3	3	3	3	3
Central, M	492.89	363.77	106.41	19.91	11.96
Northern,	410.37	267.89	98.24	8.13	13.21
Southern,	393.66	259.49	118.90	11.74	7.93

**9.0 Utilization of crops produced**



**Legend**

☒ Select All

- ☒ Central, Malawi
- ☒ Northern, Malawi
- ☒ Southern, Malawi

# Malawi Baseline Survey: Crop Utilization

Navigation icons: New, Open, Properties, Add, Index, Calculate, Console, Charts, Maps, Tables, Default View, Advanced View, Share, Publish, Download, Copy Table, Help, Feedback.

Analysis Data Calculate View Share Export Support

TLII Survey Data?

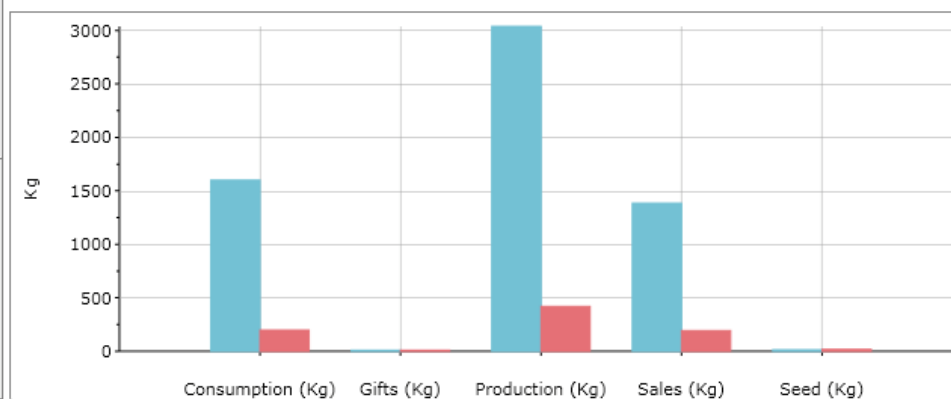
Console

- 1.0 Farmer and site identification
- 3.0 Household composition and charac
- 4.0 HOUSEHOLD FARM ASSETS
- 5.0 TARGET LEGUMES VARIETY KNOW
- 6.0 Characteristics of crop production
- 7.0 Crop production in 2006-07 and 20
- 8.0 Utilization of crps produced**
  - ☒ Consumption (Kg)
  - ☐ Crop name (Enumerated)
  - ☒ Gifts (Kg)
  - ☒ Production (Kg)
  - ☐ Questionnaire number in Round1 (Integer)
  - ☒ Sales (Kg)
  - ☒ Seed (Kg)
- 10.0 Marketing of crops from 2006-07
- 11.0 COMPARISON OF BUYERS
- 12.0 Choice of selling time for pigeo
- 13.0 Maintenance of varietal purity
- 15.0 Live stock production activities
- 16.0 Live stock maintenance costs(Jan
- 17.0 Selling and Buying of live stock, li
- 18.0 ACCESS TO INFORMATION AND T
- 19.0 GRADES AND STANDARDS
- 20.0 Other sources of income

10.0 Crop marketing 10.0 Marketing of crops 9.0 Utilization of crops produced **8.0 Utilization of crps produced**

Country Level One Admin Units by Attributes showing Average of Year

Country...	Production...	Consumption...	Sale...	Seed...	Gifts (Kg)
Mean	1,728.77	899.34	790.35	16.57	10.41
Row Count	2	2	2	2	2
Arusha, Tanza	3,038.20	1,599.99	1,385.47	14.41	9.55
Dodoma, Tanz	419.33	198.69	195.22	18.72	11.27



Legend

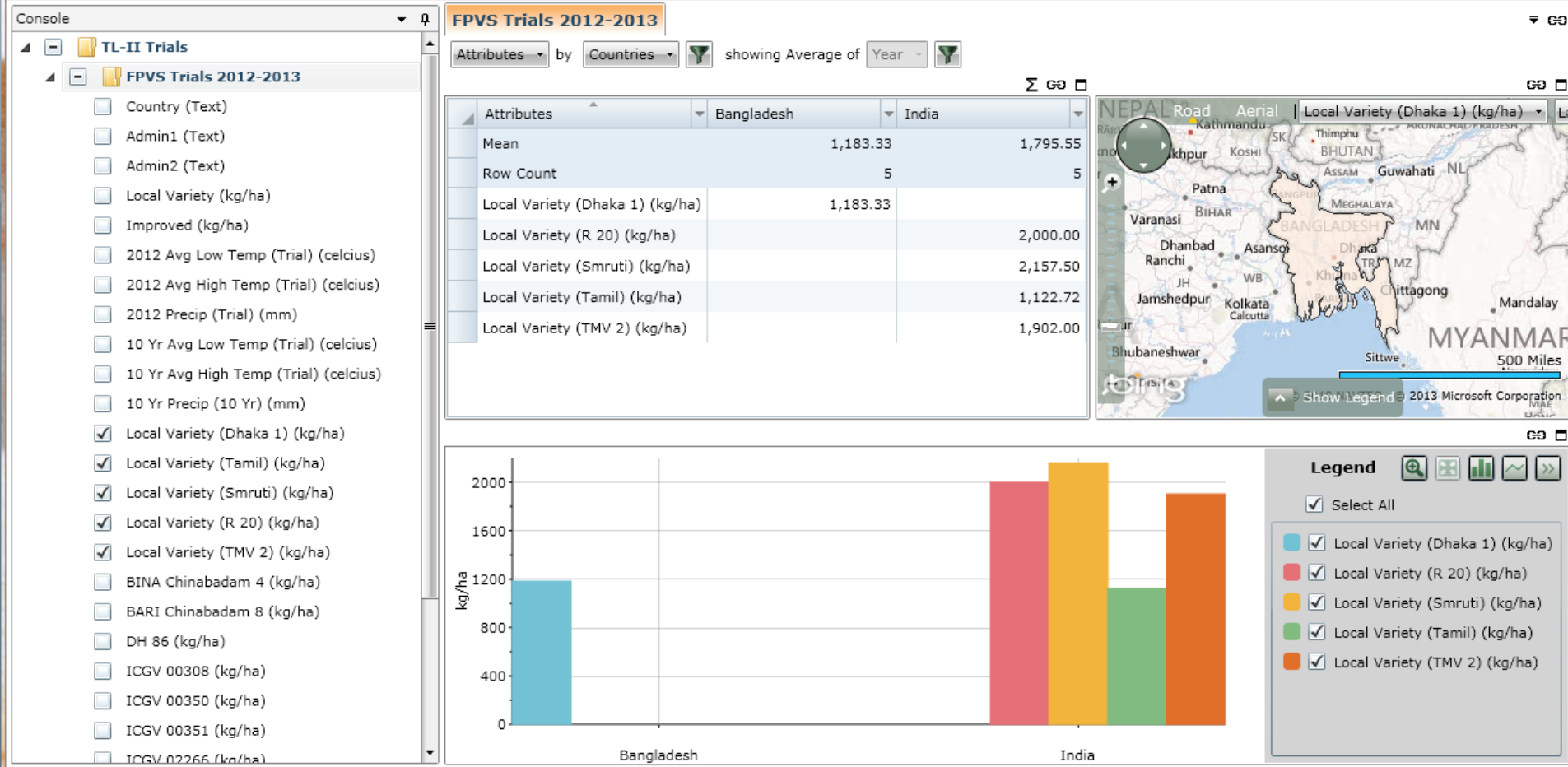
- ☒ Select All
- ☒ Arusha, Tanzania
- ☒ Dodoma, Tanzania

# Tanzania Baseline Survey: Crop Utilization

# TL-II Trials (Station/FPVS)



TLII FPVS Trials Demo?



# India & Bangladesh Trials

## Comparing LOCAL variety performance summary.

Navigation tools: New, Open, Properties, Add, Index, Calculate, Console, Charts, Maps, Tables, Default View, Advanced View, Share, Publish, Download, Copy Table, Help, Feedback.

Analysis | Data | Calculate | View | Share | Export | Support

TLII FPVS Trials Demo

**FPVS Trials 2012-2013**

Attributes by Countries showing Average of Year

Attributes	Bangladesh	India
Mean	1,691.67	2,085.52
Row Count	13	13
BARI Chinabadam 8 (kg/ha)	1,866.67	
BINA Chinabadam 4 (kg/ha)	1,516.67	
DH 86 (kg/ha)		2,200.00
ICGV 00308 (kg/ha)		1,907.50
ICGV 00350 (kg/ha)		2,254.00
ICGV 00351 (kg/ha)		1,670.50
ICGV 02266 (kg/ha)		2,475.25

Map showing trial locations in Bangladesh and India. Legend: BARI Chinabadam 8 (kg/ha), BINA Chinabadam 4 (kg/ha), DH 86 (kg/ha), ICGV 00308 (kg/ha), ICGV 00350 (kg/ha), ICGV 00351 (kg/ha), ICGV 02266 (kg/ha).

Bar chart showing yield (kg/ha) for various varieties in Bangladesh and India. The chart compares the performance of different varieties across the two countries.

**Legend**

Select All

- ☒ BARI Chinabadam 8 (kg/ha)
- ☒ BINA Chinabadam 4 (kg/ha)
- ☒ DH 86 (kg/ha)
- ☒ ICGV 00308 (kg/ha)
- ☒ ICGV 00350 (kg/ha)
- ☒ ICGV 00351 (kg/ha)
- ☒ ICGV 02266 (kg/ha)

# Improved Varieties

## Summary of Improved Variety Performance

Navigation icons: New, Open, Properties, Add, Index, Calculate, Console, Charts, Maps, Tables, Default View, Advanced View, Share, Publish, Download, Copy Table, Help, Feedback.

Analysis Data Calculate View Share Export Support

TLII FPVS Trials Demo?

Console

- TL-II Trials
  - FPVS Trials 2012-2013
    - Country (Text)
    - Admin1 (Text)
    - Admin2 (Text)
    - ☒ Local Variety (kg/ha)
    - ☒ Improved (kg/ha)
    - 2012 Avg Low Temp (Trial) (celcius)
    - 2012 Avg High Temp (Trial) (celcius)
    - 2012 Precip (Trial) (mm)
    - 10 Yr Avg Low Temp (Trial) (celcius)
    - 10 Yr Avg High Temp (Trial) (celcius)
    - 10 Yr Precip (10 Yr) (mm)
    - Local Variety (Dhaka 1) (kg/ha)
    - Local Variety (Tamil) (kg/ha)
    - Local Variety (Smruti) (kg/ha)
    - Local Variety (R 20) (kg/ha)
    - Local Variety (TMV 2) (kg/ha)
    - BINA Chinabadam 4 (kg/ha)
    - BARI Chinabadam 8 (kg/ha)
    - DH 86 (kg/ha)
    - ICGV 00308 (kg/ha)
    - ICGV 00350 (kg/ha)
    - ICGV 00351 (kg/ha)
    - ICGV 02266 (kg/ha)

**FPVS Trials 2012-2013**

Attributes by Countries showing Average of Year

Attributes	Bangladesh	India
Mean	1,437.50	1,897.64
Row Count	2	2
Improved (kg/ha)	1,691.67	2,036.80
Local Variety (kg/ha)	1,183.33	1,758.49

Map: Road, Aerial, Improved (kg/ha), Layer Options

2500 Miles

Show Legend © 2009 Microsoft Corporation

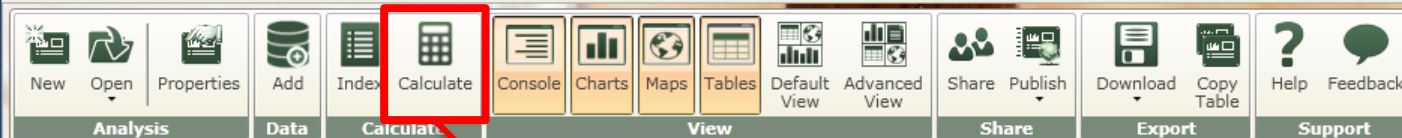
**Legend**

☒ Select All

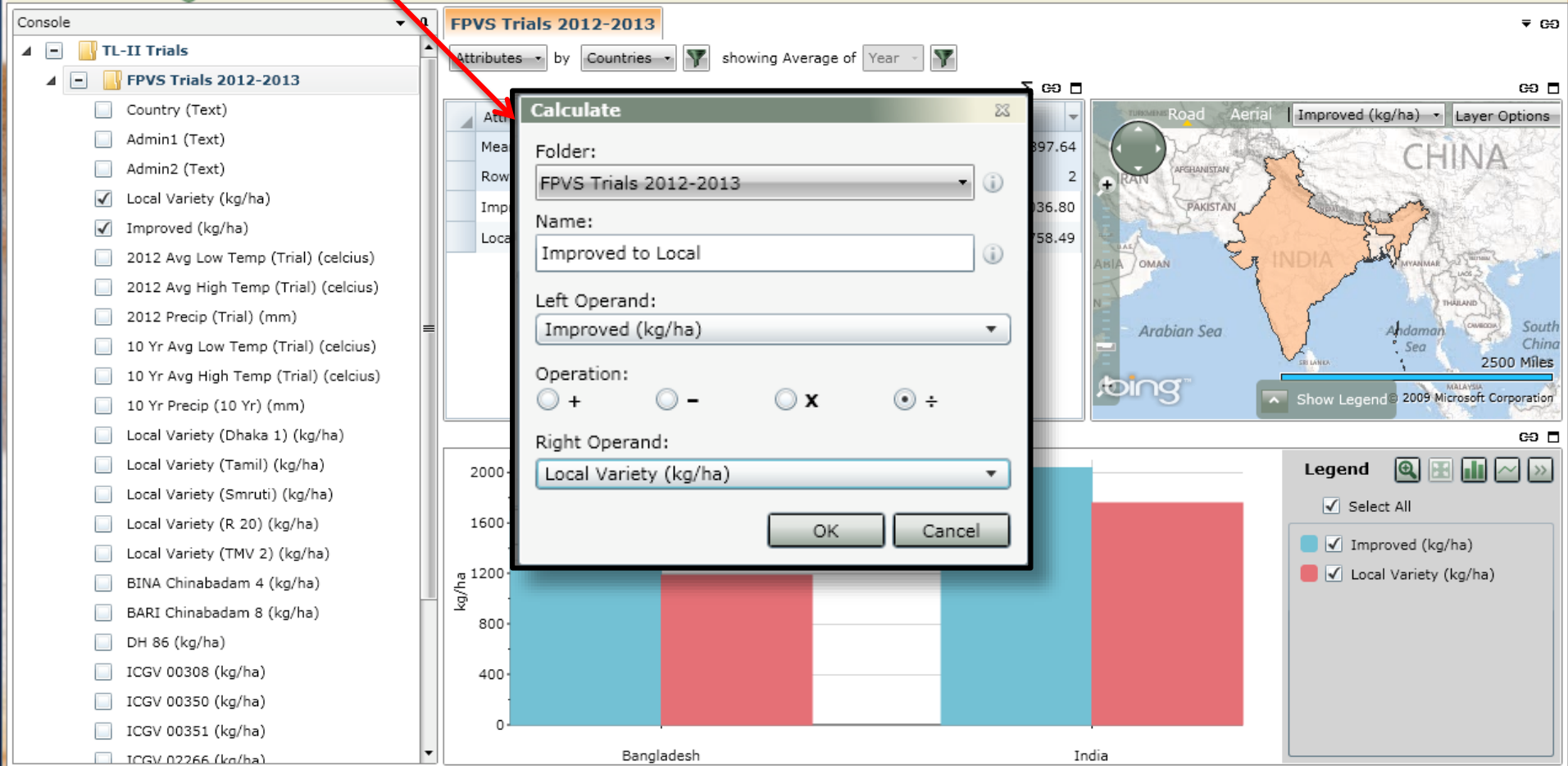
- ☒ Improved (kg/ha)
- ☒ Local Variety (kg/ha)

Country	Improved (kg/ha)	Local Variety (kg/ha)
Bangladesh	1,691.67	1,183.33
India	2,036.80	1,758.49

# Create LOCAL and IMPROVED Summary Variables



TLII FPVS Trials Demo?



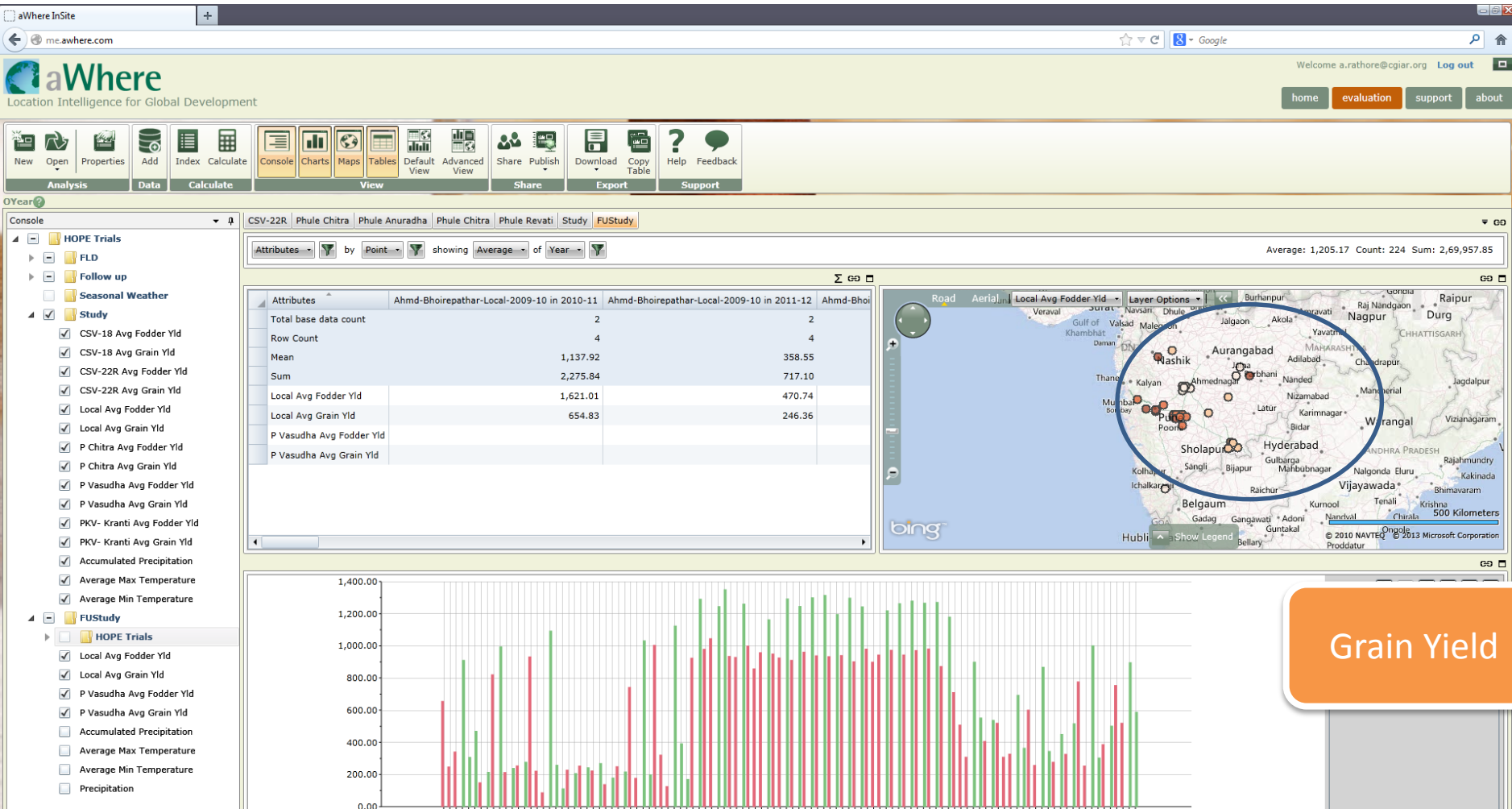
# Calculate Comparisons: Improved to Local Performance Ratio

# Database @ ICRISAT Projects

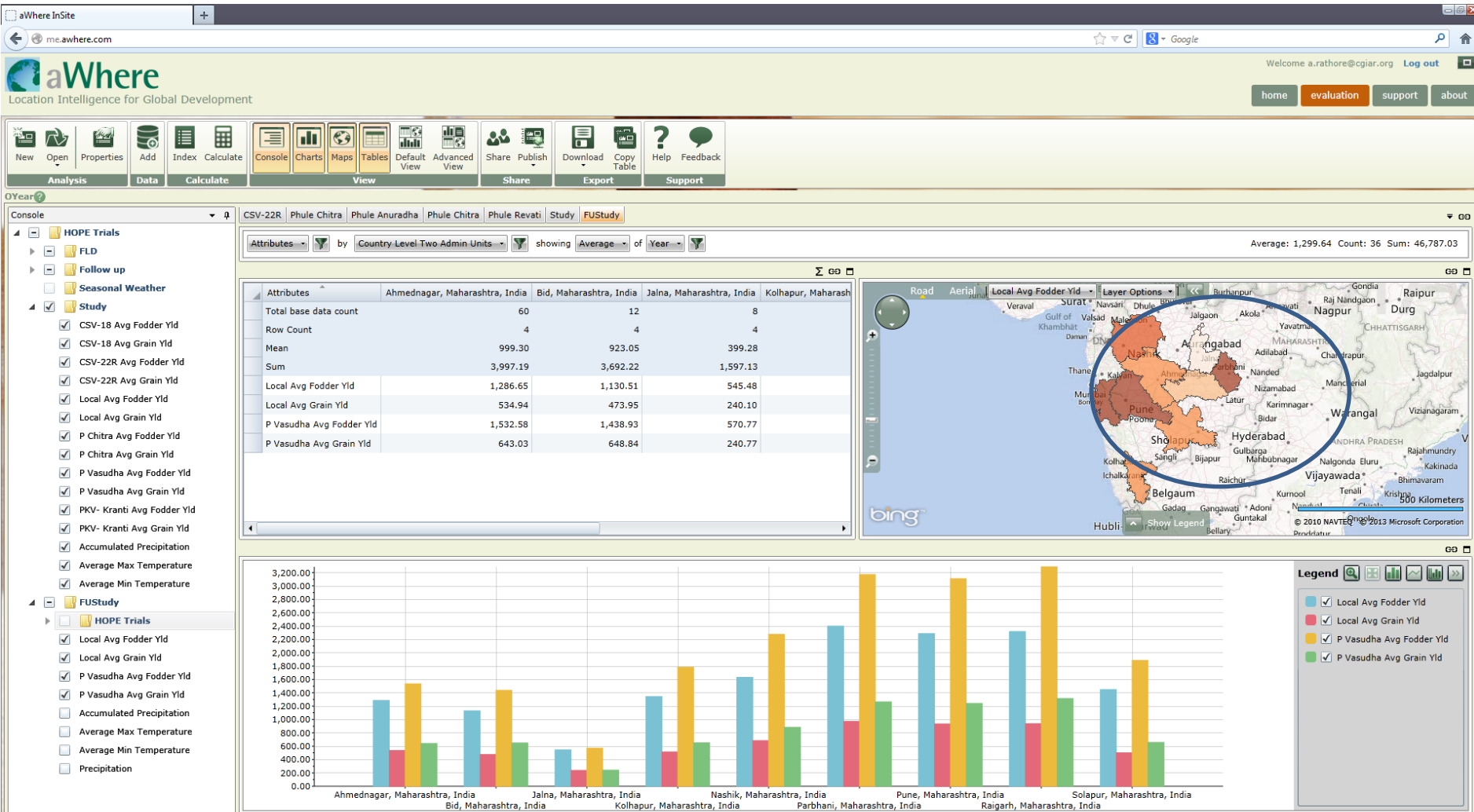
HOPE



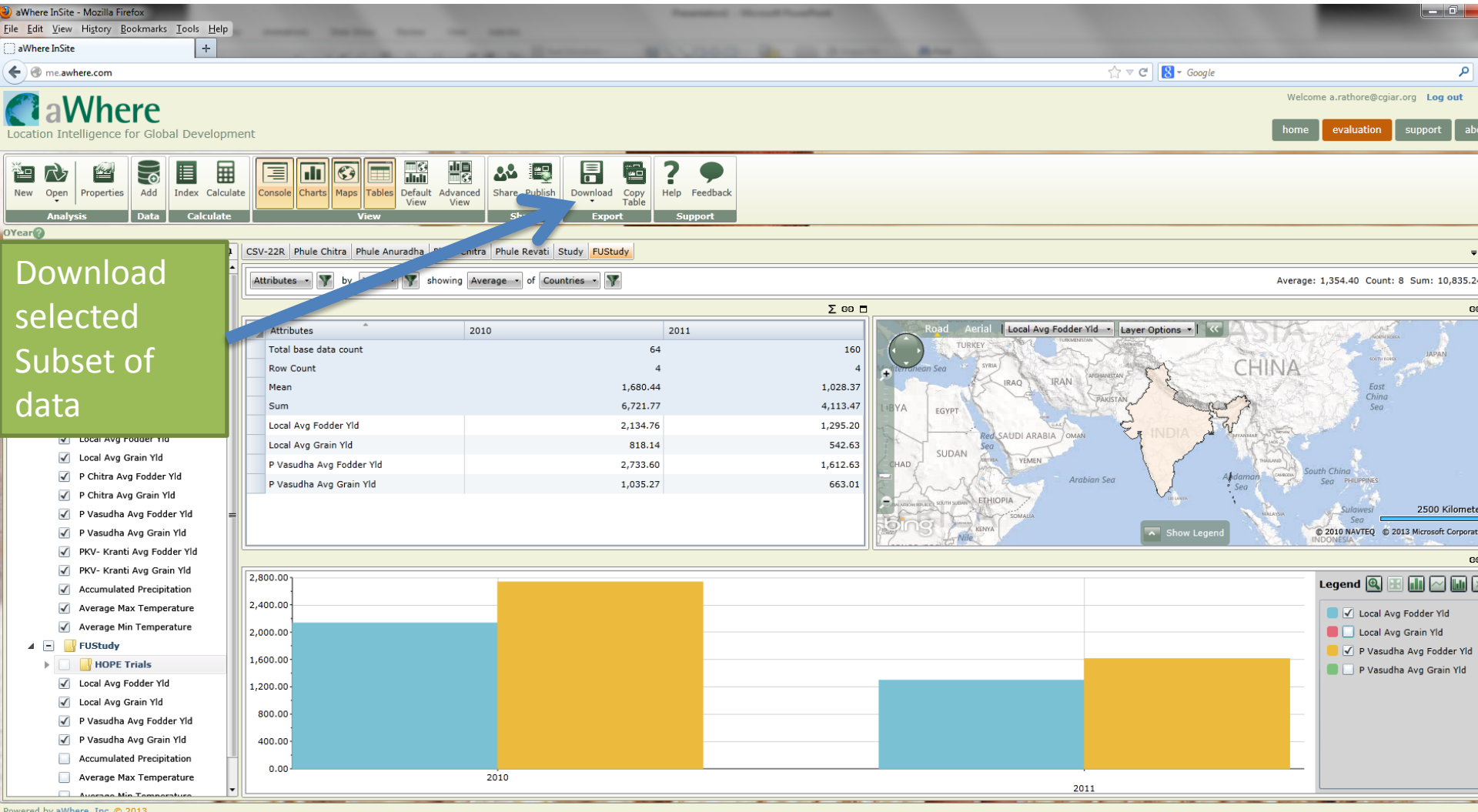
# Village wise local vs Improved varieties



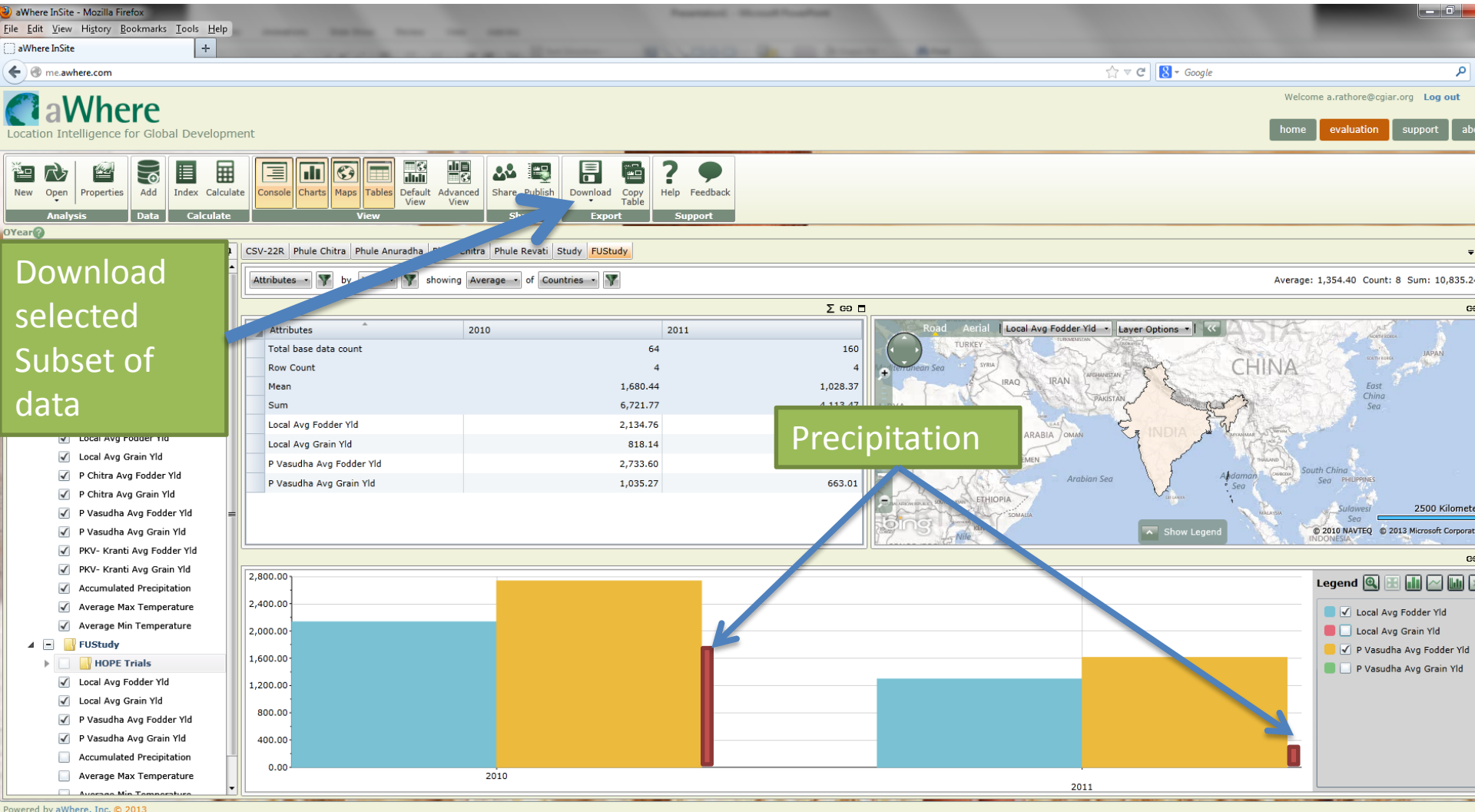
# Follow-up (Pooled over Districts) local vs Improved varieties



# Follow-up (Year Wise) local vs Improved varieties



# Follow-up (Year Wise) local vs Improved varieties



# Good & Wish to Have CRP- DS aWhere



PALETTE

Economy

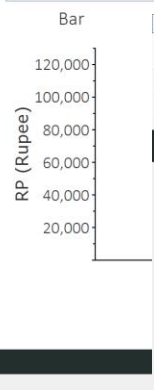
- ☒ Raj\_AP-Twostates
- ☐ Crop input- Share (%)
- ☐ Crop inputs- Distance
- ☐ Crop outputs- Distan
- ☐ District (admin2)
- ☐ Household head edu
- ☐ Household head gen
- ☐ Household ID (Numb
- ☐ Income from crop (%)
- ☐ Income from livestoc
- ☐ Income from off farm
- ☒ Institutional Credit (t
- ☐ Labour Available (co
- ☐ Land Holding Size cu
- ☐ Land Labour Ratio (N
- ☐ Livestock input-Shar
- ☐ Manure Applied (kg/
- ☐ Membership in Social
- ☐ No. of times the farm
- ☐ No'of Crops Grown (
- ☐ Quantity of DAP use
- ☐ Quantity of other fer
- ☐ Quantity of Urea use
- ☐ Social events-Share (

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GROUP TABLE MAP CHART VIEW

Geography (Admin 2) Time (Year) Count Institutional Credit... Total Investme...

Mean			51,513.15	57,255.15
Units			RP	RP
Anantapur	2013	256	42,945.31	25,985.98
Barmer	2013	35	61,271.43	22,185.71
Jaisalmer	2013	161	39,052.80	83,345.18
Jodhpur	2013	60	82,183.33	130,313.33
Kurnool	2013	248	32,112.90	24,445.56



PALETTE

IncomeComparison

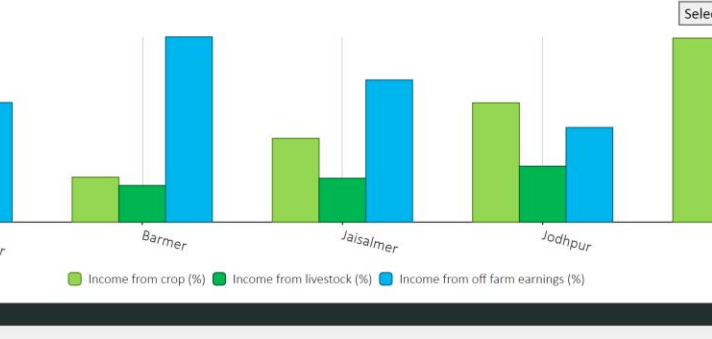
- ☒ Raj\_AP-Twostates
- ☐ Crop input- Share (%)
- ☐ Crop inputs- Distance
- ☐ Crop outputs- Distan
- ☐ District (admin2)
- ☐ Household head edu
- ☐ Household head gen
- ☐ Household ID (Numb
- ☒ Income from crop (%)
- ☒ Income from livestoc
- ☒ Income from off farm
- ☐ Institutional Credit (t
- ☐ Labour Available (co
- ☐ Land Holding Size cu
- ☐ Land Labour Ratio (N
- ☐ Livestock input-Shar
- ☐ Manure Applied (kg/
- ☐ Membership in Social
- ☐ No. of times the farm
- ☐ No'of Crops Grown (
- ☐ Quantity of DAP use
- ☐ Quantity of other fer
- ☐ Quantity of Urea use
- ☐ Social events-Share (

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GROUP TABLE MAP CHART VIEW

Geography (Admin 2) Time (Year) Count Income from... Income from... Income from...

Mean			41.92	11.99	45.60
Units			%	%	%
Anantapur	2013	256	49.50	5.75	44.30
Barmer	2013	35	16.66	13.54	68.66
Jaisalmer	2013	161	31.02	16.24	52.71
Jodhpur	2013	60	44.22	20.72	35.07
Kurnool	2013	248	68.23	3.69	27.28



Quantity of Fertilizer Used:

<http://apps.awhere.com/reader/Default.aspx?id=wSSIU7DkTE6L6O-enOxanQ>

Income Comparison:

<http://apps.awhere.com/reader/Default.aspx?id=KFCQG-O3e0i9lQsbbwerjA>

Economy:

<http://apps.awhere.com/reader/Default.aspx?id=VwkQAtCdAEmIRPOZiHN94w>

Land Size:

<http://apps.awhere.com/reader/Default.aspx?id=ThKD4aciLEGkYksBFDaszg>

Crop Input/Output Distance:

<http://apps.awhere.com/reader/Default.aspx?id=7pxWd3P3N0GKdjseBnq31A>





# Thanks...

For more details please contact:

Dr. Abhishek Rathore  
[a.rathore@cgiar.org](mailto:a.rathore@cgiar.org)

