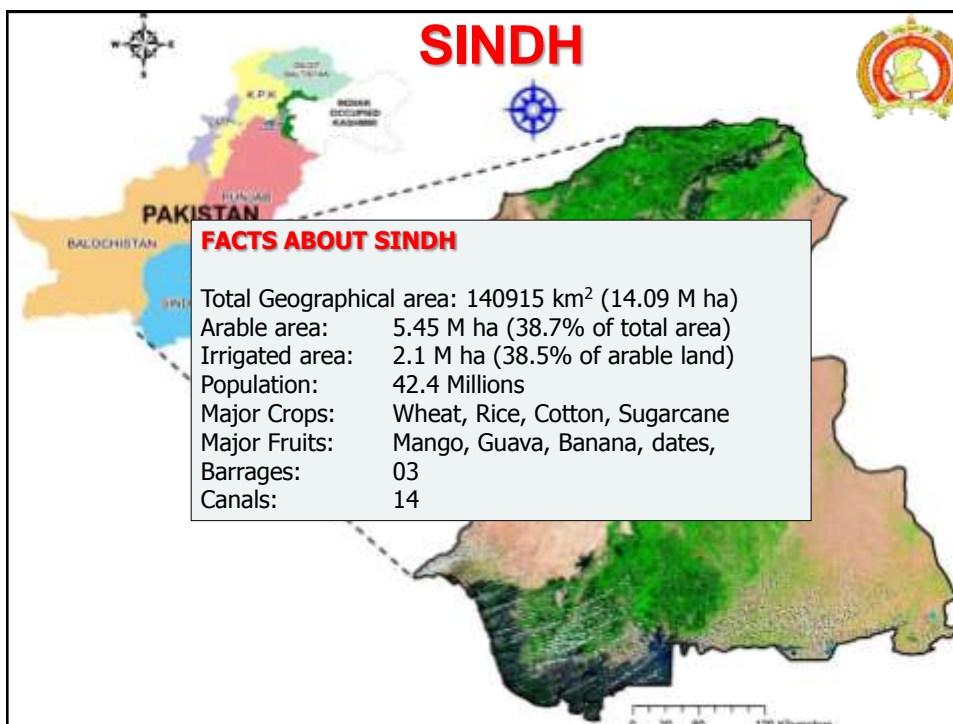


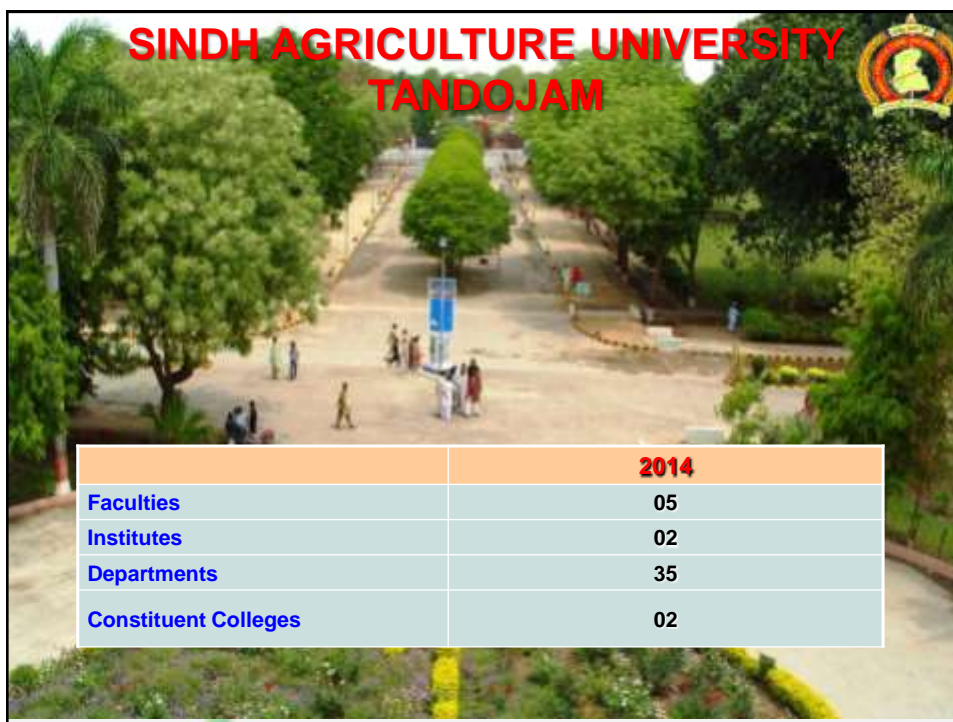
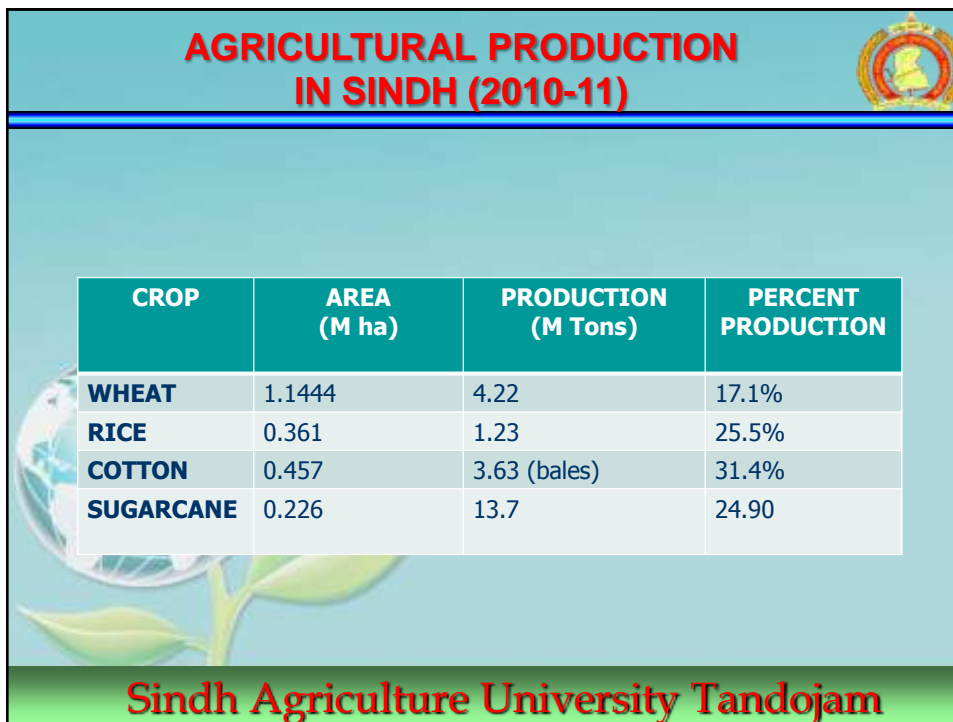
**ROLE OF SINDH AGRICULTURE UNIVERSITY TANDOJAM
IN
AGRICULTURE INFORMATION SYSTEM**



PROF. DR. ALTAF ALI SIYAL
CHAIRMAN
DEPARTMENT OF LAND AND WATER MANAGEMENT

Sindh Agriculture University Tandojam





WORKING GROUPS



1. MANAGEMENT GROUP

- i. Prof. Dr. Muhammad Safar Mirjat, Dean, Faculty of Agricultural Engineering
- ii. Prof. Dr. Altaf Ali Siyal, Professor & Focal Person of FAO Project
- iii. Dr. Abdul Ghafoor Siyal, Associate Professor (Irrigation Specialist)

2. TECHNICAL GROUP

- i. Prof. Dr. Altaf Ali Siyal, Focal Person (Hydrologist)
- ii. Dr. Abdul Ghafoor Siyal (Irrigation Specialist)
- iii. Dr. Abdul Samad Chandio (Irrigation Specialist)
- iv. Syed Baig Shah (IT Expert)

Three meetings are held regarding planning and implementation of project objectives and expected outcomes.

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ESTABLISHMENT OF REMOTE SENSING AND GIS LAB



- RS and GIS Laboratory was established at Sindh Agriculture University Tandojam in April, 2014 in collaboration with USDA and FAO For building capacity of teacher and taught.

S#	Item	Quantity
1	a) Dell PowerEdge T620 Server	01
	b) 19 inch Monitors	02
2	a) Dell precision T3500 Workstations (Intel Xeon Processor)	03
	b) 24" monitors	06
3	APC Symmetra UPS 6KAV	01
4	HP A3 Color laser Printer- CP552dn	01
5	Networking Equipment (Switch 28 ports)	01
6	Samsung Glaxy Note 2	04
7	PTCL Evo Nitro (9.3 Mb)	04

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USAGE OF RS AND GIS LAB



- The laboratory is being extensively used by the undergraduate and postgraduate students as well as teaching faculty.
- Lab focuses on real time crop monitoring, area estimation and yield forecasting as well as Monitoring of other natural resources and disasters in Sindh.



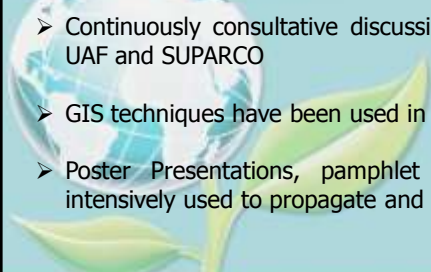
Sindh Agriculture University Tandojam

USAGE OF RS AND GIS IN LAB & FIELD



Following targets have so far been achieved:

- Hundred students were trained in application of RS & GIS in Agriculture
- Twenty faculty members have been given orientation on application of RS & GIS
- Farmer's Desk has been established to support, guide and disseminate crop and land use information for future practices
- Continuously consultative discussions have been made with CRS Sindh, UMD, UAF and SUPARCO
- GIS techniques have been used in field for acquiring geo-referenced Data
- Poster Presentations, pamphlet distribution and social media have been intensively used to propagate and disseminate the information



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USAGE OF RS AND GIS IN LAB & FIELD



- Since establishment of Lab in April, 2014 and in the period of six months, out of 28 districts, 05 districts (Hyderabad, Matiari, Tando Allahyar, Umerkot and Larkana) were selected for crop area and yield estimation using RS & GIS
- Two groups (10 students in each) of undergraduate students and three postgraduate students were engaged to work on crop area estimation and yield forecast using RS & GIS



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روزانه کاوش

24 پھبر 20 مارچ 2014 بمطابق 27 مئی 1435 ھ مطابق 12 صبح 2014

امریکی یونیورسٹی جی پی پی سی کے ساتھ مل کر پاکستان میں سائنس اور ٹیکنالوجی کی تعلیم کو فروغ دے گا

امریکی یونیورسٹی جی پی پی سی نے پاکستان میں سائنس اور ٹیکنالوجی کی تعلیم کو فروغ دینے کے لیے ایک نیا منصوبہ شروع کیا ہے۔ اس منصوبے کے تحت امریکی یونیورسٹی جی پی پی سی کے ساتھ مل کر پاکستان میں سائنس اور ٹیکنالوجی کی تعلیم کو فروغ دیا جائے گا۔



THE DAILY IBRAT

روزانه عبرت

56



Daily Sindh Express

روزانه سندھ ایکسپریس

56

سندھ کے لیے پی پی سی کے ساتھ مل کر سائنس اور ٹیکنالوجی کی تعلیم کو فروغ دے گا

امریکی یونیورسٹی جی پی پی سی نے پاکستان میں سائنس اور ٹیکنالوجی کی تعلیم کو فروغ دینے کے لیے ایک نیا منصوبہ شروع کیا ہے۔ اس منصوبے کے تحت امریکی یونیورسٹی جی پی پی سی کے ساتھ مل کر پاکستان میں سائنس اور ٹیکنالوجی کی تعلیم کو فروغ دیا جائے گا۔



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سیلاب مت لیکنلاجی جو زامت و استعمال باختر اقصاء

سندھ کے لیے پی پی سی کے ساتھ مل کر سائنس اور ٹیکنالوجی کی تعلیم کو فروغ دے گا۔

FUTURE PLAN FOR EFFECTIVE USAGE OF RS & GIS

- All the students will be trained in application of RS & GIS in Agro-informatics
- All the faculty members will be given orientation on application of RS & GIS
- Trainings will be offered to the identified Farmers' Associations to support, guide and disseminate crop and land use information for future practices
- Efforts for the structural collaboration will be taken with CRS Sindh, UMD, UAF, FAO, USDA & SUPARCO
- Series of poster Presentations, pamphlet distribution and social media interaction will be managed to propagate and disseminate the information
- Print and electronic media will specially be focused for the said purpose by writing articles, TV talk-shows etc.

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FUTURE PLAN FOR EFFECTIVE USAGE OF RS & GIS

- Remaining districts of the Sindh are targeted for crop area and yield estimation using RS & GIS
- **CRS Sindh will be asked for the training in the areas:**
- Crop monitoring, area estimation and yield prediction using RS and GIS tools
- Preparation of crop masks of all major crops grown in Sindh
- Preparation of area frames and NDVI calculations and interpretations for different crops
- Use of "GLAM", "CROP INFORMATION" and "GEONETWORK" web portals
- Development of statistical yield forecasting models and preparation of Crop News Bulletins

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APPLICATION OF RS & GIS IN ACADEMIC RESEARCH



Research Papers = 03

Presentations = 01

BE Projects = 02

ME Thesis = 03

1. Paper Presentation on "*Floods 2010 and 2011 in Sindh: Climate Change or Bad Governance*" in 10th Annual Fulbright & Humphrey Alumni Conference, November 22-24, 2013, Lahore Pakistan
2. A research paper entitled "*Remote Sensing and GIS Based wheat Crop Acreage and Yield Estimation of District Hyderabad, Pakistan*" accepted for publishing in Mehran University Research Journal of Engineering & Technology (HEC Recognised in X Category)
3. A research paper entitled "*Rice yield estimation using Landsat ETM+ Data*". Jan Dempewolf and Inbal Becker-Reshef from UMD are co-authors of paper. The paper is ready for submission to Cambridge Journal "The Journal of Agricultural Science".
4. A research paper entitled "*Spatial and temporal vegetation dynamics of Pai Forest, Sindh, Pakistan using Remote Sensing and GIS*" is under Review in Journal of Forestry Research.

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APPLICATION OF RS & GIS IN ACADEMIC RESEARCH



1. A post-graduate thesis entitled, "*Estimation of area under major crops and corresponding irrigation requirements in district Tando Allahyar using field, historical and satellite data*".
2. A post-graduate thesis entitled, "*Estimation of area under major crops and corresponding irrigation requirements in district Umerkot using field, historical and satellite data*".
3. A post-graduate thesis entitled, "*Study of soil, water and cropping pattern of Danstar Wah (Manchhar Lake) command area using field and Landsat 8 imagery/data*".
4. An undergraduate research project entitled, "*A Geo-referenced Survey of trees at Sindh Agriculture University Campus*".
5. An undergraduate project on "*Estimation of area under major crops in district Hyderabad using geo-referenced field and satellite data*"
6. An undergraduate project on "*Estimation of area under major crops in district Matiari using geo-referenced field and satellite data*"

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APPLICATION OF RS & GIS IN ACADEMIC RESEARCH



1. Spatial and Temporal vegetation dynamics of Kot Dhingana Forest, Sindh, Pakistan using Remote Sensing and GIS.
2. *Spatial and Temporal assessment of impact of sea water intrusion on Indus Delta using Space Technology*'.
3. Development of hydraulic model based on relationship between Indus flood discharge and flooded Riverine area between Guddu-Sukkur reach using Remote sensing and GIS”.



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