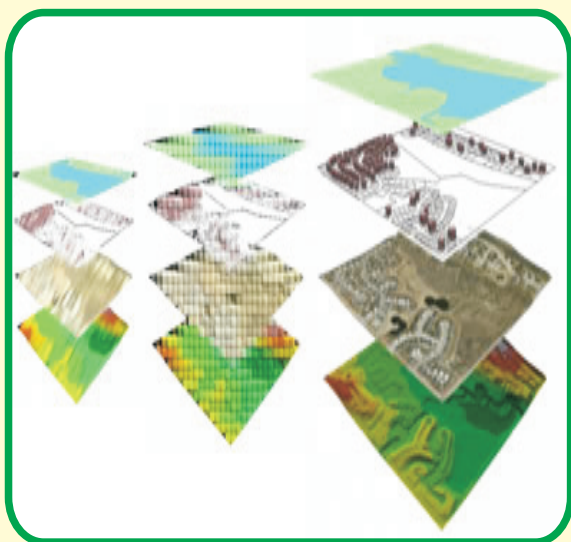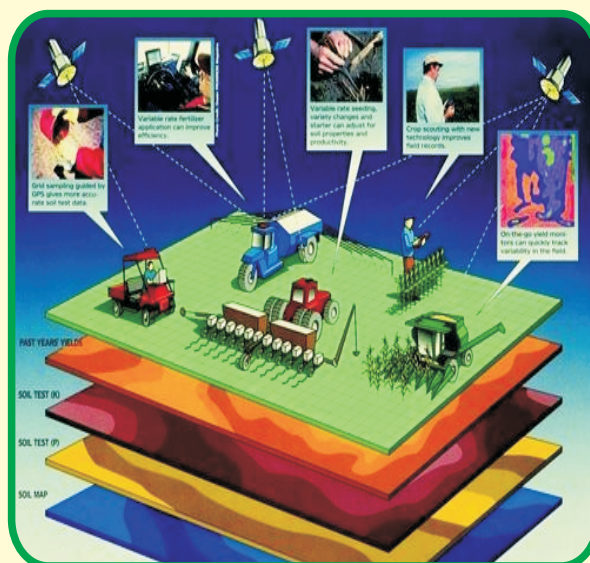National Agriculture Higher Education Project (NAHEP CAAST)
Centre of Excellence for Digital Farming Solutions for Enhancing Productivity by
Robots, Drones and AGV's (DFSRDA)
Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani (M.S.) INDIA

One-week Hands on Training
on

GIS AND REMOTE SENSING APPLICATIONS IN AGRICULTURE

20-25 January, 2020

About:

National Agricultural Higher Education Project (NAHEP) of Indian Council of Agricultural Research (ICAR), New Delhi, and Government of India established since 2019 in coordination with World Bank for three years duration. Centre of excellence for Digital Farming solutions for Enhancing Productivity by Robots, Drones and AGV's **(DFSRDA), VNMKV, Parbhani** is organizing a **One Week Hands on Training on "GIS and Remote Sensing Applications in Agriculture"during 20-25, January, 2021**. One of the main objectives of this centre is the capacity Building among the PG/Ph.D students and faculties of VNMKV, Parbhani about recent advances in agricultural science and technology.

Background:

This training is proposed to develop basic understanding of GIS and RS software for PG/Ph.D. students and faculties from VNMKV, Parbhani. The GIS software is useful for PG/Ph.D. students in their research work.

A Geographic Information System (GIS) is a computer assisted system designed to capture, store, manipulate, analyze, manage, and present all types of spatial or geographical data. New emerging technologies like Geographic Information Systems (GIS) and Remote Sensing (RS) helps in solving complex man made world issues and touching all aspect of life. The role of a Geospatial expert is becoming more and more important in the decision making process. A practical knowledge is very crucial in order to understand the concept deeply to explore the innovative use of the technology and its application areas. The efficiency and accuracy of data are improved when remote sensing data products and GIS are used. Spatial tools such as the Global Positioning System (GPS), Geographic Information Systems (GIS) and Remote Sensing (RS) for storing and analyzing spatial data can help us make better decisions in agriculture, land development, environmental protection and restoration. Specifically this decision making tools can be used in the context of agriculture in assessment of crop area extent, management of water resources, identification of pest attacks and diseases, yield assessment studies, land suitability assessment for agriculture disaster management and precision agriculture.

Participants will apply their new skills to one of several case studies in topics on agriculture, pest management, crop monitoring, water resource management and risk assessment among others. This training will offer a mixture of lectures, demonstrations and hands-on exercises using open source GIS and RS software.

AIM:

The main aim of organizing this hands-on training to develop a basic skillin the various applications of Remote Sensing and GIS in digital agriculture.

This training will introduce the students to the state-of-the-art concepts and practices of remote sensing and GIS. It starts with the fundamentals of remote sensing and GIS and subsequently advanced methods will be covered. This training is designed to give comprehensive understanding on the application of remote sensing and GIS in solving the research problems. Upon completion, the participants should be able to use remote sensing (Satellite images and Field data) and GIS in their future research work.

Objective:

- Fundamental awareness of GIS and Remote Sensing technology.
- Basics of QGIS.
- Hands on training in GIS and RS Software.
- Agricultural Applications and crop wise field case studies.
- Understand GIS and RS applications in watershed management, disease/pest management and agriculture resource planning etc.
- Analyze geo-information problems encountered in professional domain and develop, apply the appropriate methods for studying and/or solving the problems.

Target Audience:

PG, Ph.D Students, Faculties, Scientists and NAHEP Staff of Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani in the area of Agromet, Soil Science, Agronomy, Plant Physiology, Horticulture, Agril Engg. etc. are eligible to register and are requested to take advantage of the training course during.

Registration:

Free Registration to all Participants. The list of selected candidates will be displayed on the (https://nahep.vnmkv.org.in/)

Registration is open till 20nd October, 2020, up to 05.00 PM

For Registration Kindly SCAN QR CODE:

Communication about the selection:

The selected candidates will be informed at least Four days before the start of the training programme and all the communications regarding the training programme will be done individually. Alternatively, the candidates can keep accessing the CAAST- VNMKV website (https://nahep.vnmkv.org.in/) regarding the selection, preferable on the day before the start of the training programme.

Instructions:

- The training will be conducted by strict following rules and regulations directed by GOI, GOM during Covid-19 situation.
- Participants need to register on google doc sheet link mentioned above with their complete information (Email & Whatsapp no) for further communication.
- Own Laptop with preloaded open source QGIS Software is compulsory for participation
- Daily lectures will be conducted along with discussions and tutorials.
- Certificates will be issued to those participants who will complete all sessions and assignments/tutorials.
- A participant has to make their own accommodation and Food.

Training Schedule

Date	Time	Subject
Day-1 20/01/2021	10.30	Inauguration Session
	11.15 onwards	Introduction to GIS and using QGIS
Day-2 21/01/2021	10.30 onwards	Introduction to Remote sensing satellite data, how to download and use (Hands on)
Day-3 22/01/2021	10.30 onwards	Introduction to collecting GIS data with Mobile app and integration with GIS (Hands on)
Day-4 23/01/2021	10.30 onwards	Collecting data around campus (Field)
Day-5 24/01/2021	10.30 onwards	Plotting the collected data and making maps (Hands on)
	03.30 onwards	Valedictory Session
Day-6 25/01/2021	10.30 onwards	Discussion about Project formulation of students and faculties

About Prof P. Chinnasamy:

Prof. P. Chinnasamy
CTARA, IIT, Bombay

Prof Pennan Chinnasamy currently working as Assistant Professor at CTARA, Indian Institute of Technology, Bombay and Director, Rural Data Research and Analysis (RuDRA) Labs which focuses on enhancing sustainability in water, energy and food for rural regions. He had experience teaching undergrads at Wesleyan University (CT, USA) during his Master's program and at the University of Missouri (MO, USA) during Ph.D. He was handling field, lab and theoretical courses during his tenure as a teaching assistant. After getting research and teaching experiences in USA, he moved to Asia to contribute to important large-scale research projects with the World Bank, ADB and ACIAR funds. He led projects funded by World Bank, ACIAR, ADB and local government funds in India, Sri Lanka and Nepal. In particular he has 8 years of field experience in field hydrology and modelling, and hence can adapt a model to suit the micro climatic variations that occur at site scale. Over the past years, he had fruitful collaborations with many professors, scientists and water policy makers in reputable organization. He also specializes on groundwater issues in India, where groundwater extraction is the highest in the world. His current research areas are Surface Water and Groundwater Modelling, Water Accounting and Budgeting, Remote Sensing, Climate Change Impact on Water Resources.

PATRON

Dr. A. S. Dhawan
Hon. Vice-Chancellor
VNMKV, Parbhani

Dr. R. C. Agrawal
National Director
NAHEP, New Delhi

CHIEF CONVENOR

Dr. Prabhat Kumar
National Co-ordinator
NAHEP, New Delhi

Dr. D. N. Gokhale
DI & Dean F/A
VNMKV, Parbhani

CONVENOR

Dr. G.U. Shinde
Principal Investigator
NAHEP-CAAST-DFSRDA
VNMKV, Parbhani

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Dr. R.P. Kadam
Co-Principal Investigator
NAHEP-CAAST-DFSRDA
VNMKV, Parbhani

JOINT ORGANIZING SECRETARY

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Professor, Dept. of SSAC
COA, VNMKV, Parbhani

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Er. Shivanand Nalgire
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