ICT4D Community Newsletter

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Editorial

ICTs can impact the lives of ordinary people in many ways and enable better planning, sharing of knowledge, and dissemination of information to the most remote areas and create new opportunities. As new challenges emerge, market systems become more complex. ICT can provide the solution to such challenges and facilitate, empower & bring changes to the ways we act, interact and react in the development eco-system. This issue covers how mobile technology is being used in irrigations scheduling in Bangladesh and how Sierra Leone is taking on the big data revolution for sustainable development. We also do see extensive discussion and action in IoT domain to address future agriculture in developing countries. This issue highlighted the institutional efforts of government of India on how to use satellite data for agricultural sector. Another aspect that we would like to highlight is that ICT is a force that can empower women- who are one of the most vulnerable and disadvantaged communities throughout the world, and provide them the means to achieve economic and social benefits. Thereby, this issue also includes exploration of ICTs impact on women's and girls empowerment and ICT4D events. To harness the benefits provided by ICT, it needs to be reached to the mass people. However, access to ICT is not an end in itself, but a means to an end and we need to keep on working towards achieving that end. Any feedback on the issue will be highly appreciated.

Md Shahid Uddin Akbar
Bangladesh Institute of ICT in Development (BIID)

Special points of interest:

- *Mobile technology for irrigation scheduling*
- *ICT for women empowerment*
- *Big data revolution for sustainable development*
- *ICT4D Events*

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"Government and policy makers should pay much more attention to develop mobile phone-based solutions to effectively disseminate information to the rural households."

Data Collection Survey of rural women at Patuakhali district, Bangladesh

Information and Communication Technologies (ICTs) have already been considered as one of the important tools that have changed the way we live and do business. Studies have documented ICTs' role in small scale farmers' economic gain and human capital development. However, very little is known about how ICTs influence rural women's empowerment, and whether they can help improve the farm families' health condition especially in terms of nutrition. Therefore, this study aims to identify i) the extent of rural women's use of ICT for farm and home purpose (including their preferences for information sources, and their ICT skills), ii) the influence of ICT on women's empowerment, and iii) the level of knowledge farm women have on family nutrition. Unlike the other study, empowerment was, in this study, modelled as a multi-order construct comprised of nine first order sub-dimensions that holistically capture farm women's economical, psychographic, social, political and legal empowerment status.

A cross-sectional survey methodology was adapted to collect the data. A total of 184 women were interviewed from 5-11 November, 2016 drawing from a larger population of 3,005 farm families from three unions of Kalapara upazila under Patuakhali district, Bangladesh. A proportionate random sampling technique was used. Partial Least Square (PLS)-based Structural Equation Modeling (SEM) (SmartPLS v.2.0) was used to test the hypotheses and SPSS (v.23) was used to calculate the descriptive statistics. The findings indicated that the respondents' use of ICT for their farming purpose was low and was not significant in terms of the contribution to women's empowerment. However, other ICT-related factors, such as ICT skill, ICT use for general purpose and preference for information sources were found to be statistically significant with women's empowerment, which explained 23.3% (R^2=0.233) of the variance of empowerment. While we did not find any direct relationship between ICT-related factors to respondents' knowledge on nutrition, empowerment significantly contributed nutrition knowledge and explained 14.1% (R^2=0.141) of the variance of nutrition. Based on the findings, we may conclude that with the increase of respondents' ICT skill and ICT use for home and work purpose and having a favorable attitude to receive farm and home related information through several ICT channels are positively related to respondents' empowerment. Such empowerment is associated with an increase in their nutrition knowledge as well. All but one respondents had at least one mobile phone and 71.2% of them used smart phone. However, their use of ICT for agricultural purpose was found low. Regarding respondents' preferences for information sources for receiving farm and nutrition-related information, traditional agent-based (i.e., face-to-face interaction) was found to be the most preferable media. However, among the electronic sources, voice call via mobile phone was ranked first followed by SMS and MMS/video call via mobile phone while Internet was found to be the least preferable media to rural households.

Government and policy makers should pay much more attention to develop mobile phone-based solutions to effectively disseminate information to the rural households. Given that high levels of mobile phone ownership, more awareness and motivational campaigns ought to be conducted to make them a more prominent source for agriculture and nutrition related information. Since empowerment expressed through respondents' economic, psychographic, social, political and legal rights that they value, more researches ought to be carried out to identify the limiting factors and ICTs' roles to overcome those factors.

(Source: This article has been presented by Dr. Md. Mahbubul Alam at the Regional Symposium on Integrating Gender and Nutrition in Ag Extension)

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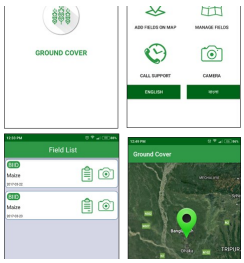
Ground Cover App to Drive Irrigation Scheduling Service in Delta Region of Bangladesh

Large tracts of land in the delta region of Bangladesh are left fallow or are cultivated with low input crops during the dry winter months. Surface water based irrigation opens up new opportunities for sustainable intensification by enabling the production of a high yielding crop. The Ground Cover App project has been implemented by Bangladesh Institute of ICT in Development (BIID), Dept. of ITC, University of Twente and CIMMYT and funded by Applied Research Fund of NWO-WOTRO. The project location is Barisal Sadar and Babuganj Upazilla of Barisal District of Bangladesh.

The objective of the project is to design and develop a user-friendly smartphone app that estimates the percent of ground covered by green leaves when seen from above and will enable farmers to estimate the ground cover of their fields by taking photos with his/her smartphone. To achieve this objective, two versions of the mobile application will be developed, farmer's version and researcher's version and through the research using these two versions, a final version will be developed which will be for the farmers.

The farmer's version of the application named as "Ground Cover app" has been developed by BIID. From the app, information of the field e.g. coordinate, photo, type of crop, sowing date and irrigation date will be collected. The app can operated both in Bengali and English to make it more user-friendly for the farmers of Bangladesh. The "Ground Cover App" has four features, named as, Add Fields on Map, Manage Fields, Call Support and Camera.

In the "Add Fields on Map" option, farmer will select the location of the field in the Google map from which coordinate of the field is taken. After selecting the point location in the map, a form will be automatically opened where Field name, Crop type, Sowing date and Irrigation date has to be inputted and saved in the system. In the "Manage Fields" option, farmers will be able to see the data that has been entered and will be able to capture photo of individual field. One farmer will be able to get irrigation advice for several fields at a time using this mobile application. Using the "Call Support" option, farmers will be able to give a missed call to an Agriculturist of the e-Krishok Extension and Advisory Service who will give a call to the farmer later and will give solution to the agriculture related problems of the farmers. There is an audio based system to regulate the photo capturing process. A voice will give farmers instruction to make photos so that farmer can take 15 photos at a time from the same field. After taking the photos, all the information and photo of the field is delivered to the server. An algorithm which is able to calculate percentage of ground covered by vegetation from RGB photos has been developed by Dept. of ITC. This algorithm will calculate ground cover value in the server and the result along with the field information will be sent to a model named as "PANI" which will generate and deliver the irrigation advice and schedule to the mobile application of the farmer. "PANI" model has been developed as an output of a previous project named as "STARS Project". Several field visit has already been done to examine the operation of the app. Before every field test, the officials of CIMMYT and BIID give training to the farmer's on how to use the mobile application. According to the feedback of the farmers, design and functionality of the mobile application is being revised. Farmers are eager to learn how to take ground cover photos and women and illiterate farmers are also being included in the training to make sure that they also get access to technology. Community awareness program and training sessions will be organized to ensure active engagement. Operation of a smartphone is a bit difficult for most of the farmers of Bangladesh. So the young family members of the farmers like son, daughter, younger brother or sister, are also being included in the training session so that they can help the farmers to get used to the operation of smartphone and the mobile application.



Screenshots of "Ground Cover App" mobile application for irrigation scheduling

RGB Photo of Maize field captured in field visit (Photo Credit: BIID)

"Farmers are eager to learn how to take ground cover photos and women and illiterate farmers are also being included in the training to make sure that they also get access to technology."

Farmers taking RGB photo of field with smartphone app using selfie-stick (Photo Credit: BIID)

Utilization of ICTs by Women in Food and Agriculture: A Case Study from Rural Areas in Bangladesh

Sustainable Development Goals

Information and Communication Technologies (ICTs) are playing greater role in all development efforts and are recognized as important tools to achieve the Sustainable Development Goals (SDGs), which are directly linked to the agriculture (No poverty, Zero Hunger, and Good Health). Against this backdrop, my presentation is about Gender, ICTs and their utilization for securing food and nutritional security. It is part of my doctoral work study recently submitted to the University of Dhaka. It is focused on the accessibility and utilization of ICTs in food and agriculture in the rural areas of Bangladesh (Dhaka, Chittagong, Rajshahi, Khulna, Barisal, Rangpur and Sylhet).

The study covered almost (42 of "4 districts) of the agro-ecological regions ranging from Southeast Rangamati to Northeast Netrokona and Southwest Satkhira to Northeast Sylhet.

During the interactions with the farmers, both male (88%) and female (12%), it was found that the women are now also into decision making in farming activities and regular visitors to the ICT centers (Agricultural Information Communication Center, Farmers' Information Advisory Center, Union Information Service Center, Community Information Center, Community Radio, Krishi Radio, Batighar, Plant Doctor etc.).

The study showed that 42% of the women preserve seed, 27% women process crops, 19% rear poultry and 11% women rear livestock. It is interesting to see that preserving seed dominates all four activities.

It was also found that 44% of the women took decisions related to the selection of nutritional vegetables; followed by the decisions on livestock's health care (32%), selection of crop varieties (10%) for fish varieties (9%), but least in marketing (5%).

This shows that as a homemaker, women are now playing a powerful role in selecting nutritional vegetables and supporting her family members nutritionally. Women are also seen as livestock keepers and are taking care of the animals like their family members.

It was observed that 75.29% of the women respondents have TV sets in their homes and all of them watch agricultural programs. However, when we look at the frequency of their visit to ICT centers, 42% of the female farmers visit the ICT centers every day compared to male farmers (56%).

There is a gender disparity is access to ICTs and utilization in Bangladesh and the agricultural sector is not exceptional to this.

As we see that all most all of the SDGs are linked to gender, there is a need for adequate sensitization of gender towards ICTs and need of policy maker's urgent attention towards Gender in ICTs.

In a focused group discussion with an IPM club (Alishor Mohila) organized during the study, it was found that the club members are all female members who organize and run the club in a cooperative manner with pay fund subscription. During the discussion on 'involvement of rural women in using ICT tools in their farming', the participants informed that they are very much aware of different ICT tools and they regularly use computers, multimedia and explore various websites related to agriculture to seeking agricultural information. The club women were more interested in using ICT tools for solving farming problems and have started applying technology based on these tools to gain benefits. Establishment of this kind of clubs, which have access to ICT tools will harvest knowledge and help the communities to learn technologies in agriculture. These clubs while reducing the information gap between farmers and the researchers, help them empowering with knowledge on food and agriculture.

Based on my study, an ICT based agricultural information management system model was developed which, if implemented in all the districts for sharing data, information and knowledge will empower women farmers to use and consume knowledge related to food and nutrition.

With the empowerment of women we will soon achieve the SDGs related to hunger, poverty, health etc.

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"The club women were more interested in using ICT tools for solving farming problems and have started applying technology based solutions on these tools to gain benefits."

Remote Sensing Data for Agricultural Planning in India

Agriculture is the backbone of Indian economy and the pivotal sector for ensuring food security. Timely availability of information on agriculture is vital for taking informed decisions on food security issues. India is one of the few countries in the world that uses space technology and land-based observations for generating regular updates on crop production statistics and providing inputs to achieve sustainable agriculture.

Satellite-based optical and radar imagery are used widely in monitoring agriculture. Radar imagery are especially used during monsoon season. Integrated use of geospatial tools with crop models and in-situ observation network enables timely crop production forecasts and drought assessment & monitoring.

Major Highlights

- Establishment of Mahalanobis National Crop Forecast Centre in Department of Agriculture & Cooperation, Ministry of Agriculture, Government of India, for operational use of space technology to provide in-season crop forecasts and assessment of drought situation
- Crop production forecasting for 8 major crops
- National agricultural drought assessment and monitoring
- Country-wide agricultural land-use mapping
- Horticultural crop inventory
- Agro-meteorological parameter retrieval and inputs to agro-advisory services
- Methane emission inventory & carbon accounting

Major Benefits

- Agricultural policy decisions
- Declaration of drought and shortfall in food grain and contingency planning
- Support to crop damage -assessment
- Advance crop planning and diversification
- Timely tailoring of agronomic practices
- Demand-based irrigation scheduling

Operational Products / Services

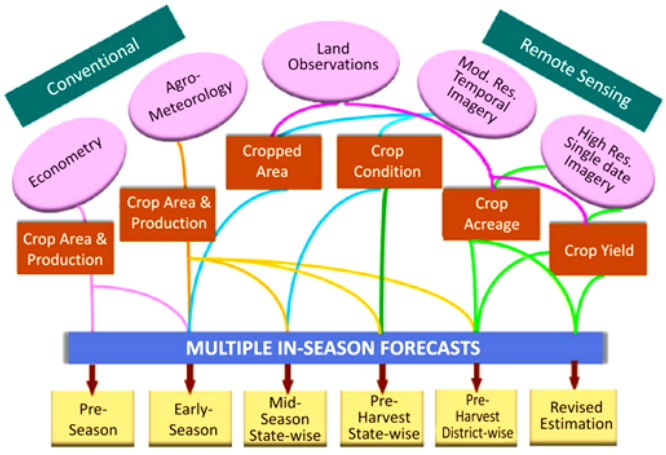
- Acreage and production estimates of 8 major crops rice, wheat, mustard, jute, cotton, sugarcane, potato, sorghum at district level periodic agricultural drought assessment in 13 states
- Annual agricultural land use mapping for crop intensification
- Horticultural crop inventory
- Cropping system analysis
- Satellite-based bio-geophysical products (vegetation index, rainfall, solar radiation) for agricultural crop monitoring and agromet-advisory services
- Capacity building in remote sensing & GIS applications for sustainable agriculture

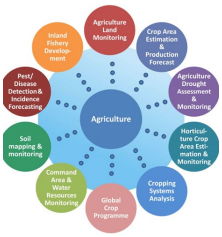
Forecasting Agricultural output using Space, Agro-meteorology and Land based observations (FASAL)

Well-planned programmes for crop acreage and production forecasts like Crop Acreage and Production Estimation (CAPE) and Forecasting Agricultural Output using Space, Agro-meteorology and Land-based Observations (FASAL) culminated in the establishment of a dedicated Mahalanobis National Crop Forecasting Centre (MNCFC) by Ministry of Agriculture (GoI), for crop inventorying and drought assessment. Crops covered are rice, wheat, cotton, mustard, sugarcane, etc.

(Source: https://nrsc.gov.in/Agriculture)

FASAL – Methodology Framework





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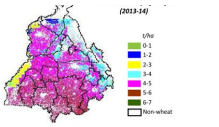
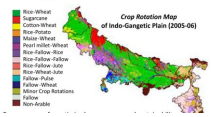
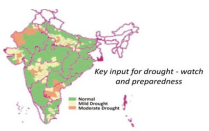
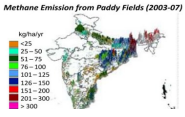
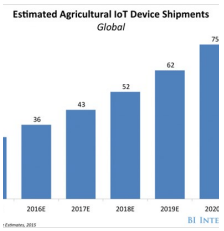








Why IoT, Big Data & Smart Farming are the Future of Agriculture?



Estimated Agricultural IoT Device Shipments

The farming industry will become arguably more important than ever before in the next few decades.

The world will need to produce 70% more food in 2050 than it did in 2006 in order to feed the growing population of the Earth, according to the UN Food and Agriculture Organization. To meet this demand, farmers and agricultural companies are turning to the Internet of Things for analytics and greater production capabilities.

Technological innovation in farming is nothing new. Handheld tools were the standards hundreds of years ago, and then the Industrial Revolution brought about the cotton gin. The 1800s brought about grain elevators, chemical fertilizers, and the first gas-powered tractor. Fast forward to the late 1900s, when farmers start using satellites to plan their work.

The IoT is set to push the future of farming to the next level. Smart agriculture is already becoming more commonplace among farmers, and high tech farming is quickly becoming the standard thanks to agricultural drones and sensors.

Below, we've outlined IoT applications in agriculture and how "Internet of Things farming" will help farmers meet the world's food demands in the coming years.

High Tech Farming: Precision Farming & Smart Agriculture

Farmers have already begun employing some high tech farming techniques and technologies in order to improve the efficiency of their day-to-day work. For example, sensors placed in fields allow farmers to obtain detailed maps of both the topography and resources in the area, as well as variables such as acidity and temperature of the soil. They can also access climate forecasts to predict weather patterns in the coming days and weeks.

Farmers can use their smartphones to remotely monitor their equipment, crops, and livestock, as well as obtain stats on their livestock feeding and produce. They can even use this technology to run statistical predictions for their crops and livestock.

And drones have become an invaluable tool for farmers to survey their lands and generate crop data.

As a concrete example, John Deere (one of the biggest names in farming equipment) has begun connecting its tractors to the Internet and has created a method to display data about farmers' crop yields. Similar to smart cars, the company is pioneering self-driving tractors, which would free up farmers to perform other tasks and further increase efficiency.

All of these techniques help make up precision farming or precision agriculture, the process of using satellite imagery and other technology (such as sensors) to observe and record data with the goal of improving production output while minimizing cost and preserving resources.

(Source: http://www.businessinsider.com/internet-of-things-smart-agriculture-2016-10)

Future of Farming: IoT, Agricultural Sensors, & Farming Drones

Smart agriculture and precision farming are taking off, but they could just be the precursors to even greater use of technology in the farming world.

BI Intelligence, Business Insider's premium research service, predicts that IoT device installations in the agriculture world will increase from 30 million in 2015 to 75 million in 2020, for a compound annual growth rate of 20%.

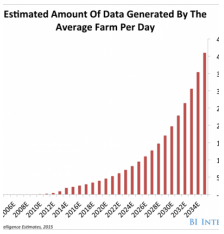
The U.S. currently leads the world in IoT smart agriculture, as it produces 7,340 kgs of cereal (e.g. wheat, rice, maize, barley, etc.) per hectare (2.5 acres) of farmland, compared to the global average of 3,851 kgs of cereal per hectare.

And this efficiency should only improve in the coming decades as farms become more connected. On Farm, which makes a connected farm IoT platform, expects the average farm to generate an average of 4.1 million data points per day in 2050, up from 190,000 in 2014.

Furthermore, On Farm ran several studies and discovered that for the average farm, yield rose by 1.75%, energy costs dropped $7 to $13 per acre, and water use for irrigation fell by 8%.

Given all of the potential benefits of these IoT applications in agriculture, it's understandable that farmers are increasingly turning to agricultural drones and satellites for the future of farming.

"Farmers can use their smartphones to remotely monitor their equipment, crops, and livestock, as well as obtain stats on their livestock feeding and produce."



Estimated Amount of Data Generated By The Average Farm Per Day

ICTs for Empowerment of Women and Girls: A Research and Policy Advocacy Initiative on Empowering Women on and Through the Web in 10 Countries

The World Wide Web Foundation was established by web inventor Sir Tim Berners-Lee to advance the open Web as a public good and a basic right. The World Wide Web Foundation operates at the confluence of technology and human rights, targeting three key areas: access, voice and participation. Although great expectations have been placed on information technology as a tool for transforming women's lives and as an alleged enabler for empowerment, relatively little is known about how, when, and why such transformations occur. The possibilities for greater women's empowerment via web-powered ICT demonstrate the nee for evidence based research based on how women currently access and use web-powered ICTs and the nature of the gender digital divide that persists despite growing global statistics on mobile phone and web-enabled ICT use. This project seeks to deliver evidence-based research on women and the web to facilitate policy dialogue on women's empowerment and ICT issues in 10 countries. Project outcomes aim to promote the commitment and incorporation of action plans on women's rights in ICT decision and policy-making spheres. Global, regional and national ICT governance and policy frameworks can either enable full participation in the information society or inhibit access to technology, information and knowledge. Representation of women's rights issues in policymaking spheres is, therefore, vital to creating conditions and regulations that will enable women to maximize possibilities of benefiting from the digital society. Policy dialogue on gender issues aims to encourage the commitment of institutions to gender and ICT policy action plans. Despite the opportunities that exist for supporting women's rights on and through the web, there is very little statistically relevant data on women and ICTs, and none of the major gender equality indices incorporate ICTs. The project addresses the call to action of the ITU Broadband Commission Working Group on Broadband and Gender to integrate gender and national ICT broadband policies, and to initiate action plans to achieve gender equality in access to broadband (2013). The project also addresses the call to action of the 5 UN Partnership on Measuring ICT for Development. This project rests on the premise that there is a need to look beyond descriptive statistics on individual and household ICT access and use, and to dive into analytical findings on the daily lived experiences of women accessing and using the web around the world.

(Source: World Wide Web Foundation in collaboration with SIDA (2014) "ICTs for Empowerment of Women and Girls: A research and policy advocacy initiative on empowering women on and through the web in 10 countries" Project Background Report)

"Although great expectations have been placed on information technology as a tool for transforming women's lives and as an alleged enabler for empowerment, relatively little is known about how, when, and why such transformations occur."

ICT4Ag 2017: New Technologies for Smallholder Farmer Communities

The ICT4Ag 2017 conference will be held on June 23, 2017 at FHI 360 in Washington, DC. This one-day conference will build on ICTforAg 2015 and 2016, bringing together 300 thought leaders and decision-makers in agriculture and technology from the international development community and the private sector. With community-driven sessions, we will examine how new innovations can empower smallholder farmers, and the communities that support them, through information and communication technologies (ICT). At ICTforAg 2017, the focus areas to find answers to the real challenges that smallholder farmers and agriculture value chain stakeholders will be Digital Financial Services, Digital Extension Services, Private Sector Partnerships and Climate Smart Agriculture. Like previous conferences, ICTforAg 2017 will be a community-driven event.

(Source: http://ictforag.org/)

Sierra Leone is Taking steps To Harness the Data Revolution for Sustainable Development

"Sierra Leone is among the first countries to reveal progress toward the Sustainable Development Goals at the 2016 High-Level Political Forum on Sustainable Development, hosted on July 11-20 by the United Nations in New York."

In June, the country's Right to Access Information Commission, with support from the Ministry of Finance and Economic Development (MoFED) and Statistics Sierra Leone as well as the Global Partnership for Sustainable Development Data, conducted a national workshop on Data Roadmaps for Sustainable Development. Sierra Leone is among the first countries to reveal progress toward the Sustainable Development Goals at the 2016 High-Level Political Forum on Sustainable Development, hosted on July 11-20 by the United Nations in New York. Sierra Leone is one of 22 countries volunteering to present their progress toward the SDGs, which world leaders agreed on last September as part of the historic 2030 Agenda for Sustainable Development. Sierra Leone is pursuing a multi-stakeholder and whole-of-government approach to meet an unprecedented demand for data through new technologies, data sources and methodologies. The Global Partnership for Sustainable Development Data is supporting these efforts by helping Sierra Leone connect the dots in pursuit of a comprehensive, country-led Data Roadmap for Sustainable Development.

The national workshop, which took place on June 14-15 in Freetown, built on significant recent achievements by Sierra Leone, including the work of the Open Data Council and the passage of the Agenda for Prosperity. As a multi-stakeholder, whole-of-government entity, the Open Data Council promotes the use of open data across Sierra Leone. The Agenda for Prosperity provides a framework for actions that are aligned with the country's SDG priorities.

Attending the workshop in Sierra Leone were government representatives as well as business and civil society leaders. In a series of expert presentations and spirited discussions, they shared country experiences and best practices, both local and international, and discussed about Alignment, collaboration and coordination, Data for impact, a vibrant data ecosystem, improving data and Funding.

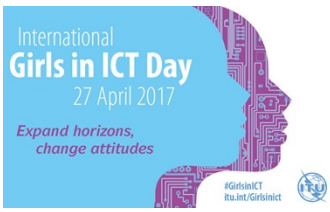
The workshop helped to crystallize near- and mid-term priorities that will inform Sierra Leone's work in the days ahead. The Global Partnership for Sustainable Development Data will continue to assist this process to ensure Sierra Leone achieves its ambitious plan to eradicate poverty and hunger, diversify its economy and ensure inclusive green growth that is beneficial to all Sierra Leoneans.

(Source:http://www.data4sdgs.org/master-blog/2016/7/13/sierra-leone-plugs-into-the-datarevolution-for-sustainable-development)

International Girls in ICT Day 2017

Expand horizons, change attitudes

www.girlsinict.org



International Girls in ICT Day, an initiative backed by all ITU Member aims to create a global environment that empowers and encourages girls and young women to consider careers in the growing field of ICTs, enabling both girls and technology companies to reap the benefits of greater female participation in the ICT sector. International Girls in ICT Day is celebrated on the 4th Thursday in April every year.

Organizers should feel free to create their own program for their event and can also look at past Girls in ICT Day events to get inspiration. The ITU Secretary General invites ITU Member States, Sector Members, Associates and Academia to organize events attracting as many girls and young women as possible. Ministries of ICT, Education, Labour, Youth, National ICT Regulatory Authorities, ICT companies, academic institutions, relevant UN agencies, NGOs and other stakeholders are all encouraged to join the global effort and celebrate International Girls in ICT Day.

To date, over 240,000 girls and young women have taken part in more than 7,200 celebrations of International Girls in ICT Day in 160 countries worldwide.

(Source: https://www.itu.int/)

Satellite Imagery Acquisition Planning

The Agriculture sector became a high-technology industry in Turkey. The growth in agriculture has been monitoring with the help of Geographical Information Systems and Remote Sensing Technologies in last years. In order to grow crops in their own habitats with maximum efficiency, to apply supply and demand equilibrium and for sustainable development, establishment of Cropping Pattern Detection projects are very important and prior. Determining Cropping patterns such as corn, wheat, barley, sunflower, cotton, etc., provides an accurate agricultural inventory and information about the future demands. In this study, first of all the data from the Agricultural Statistics have been analyzed in order to define the five dominant crops per province based on the production area of those crops. The phenological periods of those crops have been asked to the experts from the Provincial Directorates of Agriculture. Data obtained from Provincial Directorates have been transformed to a table that can also be used as GIS data which includes; planting, blooming and harvest start/end dates. By joining this tabular data with provinces, crop based analysis results are obtained. According to derived periods, satellite imagery acquisition plan have been designed. As a result, data in order to form a basis of the Cropping Pattern Detection projects, satellite imagery acquisition dates are determined in accordance with these analysis. The crops phenological calendar is prepared in order to have an accurate planning for satellite imagery acquisition in SPOT 6 and SPOT 7.

(Source: http://ieeexplore.ieee.org/document/7248146/)

"The phenological periods of those crops have been asked to the experts from the Provincial Directorates of Agriculture."

Pre-launching Program of WIFI Bangladesh, UN ESCAP- APCICT

Bangladesh launches the Women ICT Frontier Initiative (WIFI) with ICT Division, BCC, and Bangladesh Women in Technology (BWIT) and Bangladesh Institute of ICT in Development (BIID) in partnership with UN ESCAP – APCICT as part of their flagship programme for reaching SDG Goal 5. WIFI aims to promote women's entrepreneurship in Asia and the Pacific through enhancing capabilities of women entrepreneurs in ICT and entrepreneurship.

The overall goal of WIFI is to create socially and economically-empowered women through ICT-enabled entrepreneurship. And the mission is to –

- Strengthen capacity of women entrepreneurs to utilize information and communication technologies in support of their businesses;
- Strengthen capacity of government leaders and policymakers to create an enabling environment for ICT-empowered women entrepreneurs.

WIFI programme was officially launched in June, 2016 in Republic of Korea to develop the appropriate regional and national capacity development in support of the 2030 Agenda for Sustainable Development Goal. Under this programme Bangladesh has embarked on Training of women entrepreneurs nationwide. WIFI Bangladesh is expected to achieve the key objectives of strengthening capacity of women entrepreneurs to utilize information and communication technologies in support of their businesses; and strengthening capacity of government leaders and policymakers to create an enabling environment for ICT empowered women entrepreneurs.

This pre-launching of WIFI Bangladesh is an effort to celebrate *The International Women's Day 2017* theme "Women in the Changing World of Work: Planet 50-50 by 2030". The event was chaired by Hon'ble State Miniter, Mr. Zunaid Ahmed Palak, MP, ICT Division. **Hon'ble High Commissioner of Australian High Commission, Her Excellency Ms. Julia Niblett** has also attended in the event. The event held on March 15, 2017 at Bangladesh Computer Council.

(Source: *www.unapcict.org/wifi)*

Pre-launching event of WIFI, Bangladesh (Photo Credit: BIID)

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