Feed The Future, USAID, features ICRISAT’s Digital Agriculture work as a case study

As part of a series on the integration of digital technologies into agricultural programs, ICRISAT’s work on digital agriculture was featured as a case study in a USAID publication. The case study examines different approaches to adoption and how digital tools impact organizational culture, operations, and programs.

The study on ICRISAT traces the organization’s journey in use of digital tools which began in 2009 and went on to become a critical component of the organization’s mission in 2014 with the launch of Digital Agriculture research theme. This theme is now weaving digital tools across the organization’s research and implementation work which include the following initiatives.

The **Sowing app** and the **Intelligent Agricultural Systems Advisory Tool (ISAT)** deliver targeted and timely SMS messages to farmers about sowing and other farm management practices. The Sowing app is a partnership between ICRISAT, Microsoft India, and the Government of Andhra Pradesh. It is currently being scaled up in 13 districts. The ISAT pilot is in its second year and focuses on 700 groundnut farmers practicing rainfed agriculture in sandy soils with low rainfall.

The **iHub** is an incubator program at ICRISAT for agricultural technology start-ups. There are currently twelve of them including **Plantix** – a free mobile crop advisory app that successfully identifies common plant diseases in India and **Kalgudi** – a free online platform which creates feedback loops between farmers and researchers.

The **LeasyScan** is a phenotyping platform that automatically measures important characteristics related to leaf surface area and water stress of plants. It uses eight laser triangulation scanners and scales to create a database of 3D plant images and weights for up to 4,800 plants multiple times a day. The **HarvestMaster** records highly accurate measurements of grain weight and moisture characteristics for development of new varieties.

Besides the case study publication, do take a look at ICRISAT’s work on digital agriculture.
Can we change global diets so they get smarter - more nutritious and more environment friendly with Smart Food? This was the pitch of ICRISAT’s Assistant Director General Joanna Kane-Potaka at the Crawford Fund annual conference 2018. Held at the Parliament House in Australia, Kane-Potaka said Smart Food, like millet and sorghum could tackle some of the biggest global issues of today.

“Smart Food - food that is good for you, the planet and the farmer – can have a major impact on the mega-global issues of malnutrition, poverty and environmental degradation,” said Kane-Potaka, also Executive Director of the Smart Food initiative. Smart Food was on display at the conference in the Mural Hall of Parliament House and the initiative was selected as a top global food innovation in a competition run by Australia’s Department of Foreign Affairs and Trade and USAID, according to a media release issued on the occasion.

The Crawford Fund’s annual conference has for close to 30 years drawn focus to issues for attention in Australia and globally on agricultural development and food security. The ‘Reshaping Agriculture for Better Nutrition: The Agriculture, Food, Nutrition, Health Nexus,’ the 2018 annual conference focuses on how we can we feed the world’s increasing population with a nourishing diet that promotes good health and at the same time minimizes further environmental impact? Key speakers at this year’s conference included, Julie Bishop MP, Minister for Foreign Affairs, John Anderson AO, Chair of the Crawford Fund, Alessandro Demaio, CEO, Eat Foundation, Dr Jessica Fanzo, Bloomberg & UN FAO, Prof Andrew Campbell, CEO ACIAR and many key leaders in agriculture and food security.

In her speech, Julie Bishop recommended innovative solutions for better nutrition in the world and specifically referred to the Smart Food initiative of ICRISAT calling it an exciting breakthrough and one of the innovations that could really make a difference.

On the role of Australia in promoting Smart Food, Kane-Potaka said the country had the right agroecology to be a leader in spreading this movement to benefit from what could be a new food trend. Explaining that millets and sorghum are traditional foods of many countries across Asia and Africa, they survived well in hot dry marginalized lands and were suitable for Australia’s agroecology, especially in time of minimal rainfall. She encouraged Australians to consume more millets and sorghum, for their health benefits. Finger millet has three times more calcium than milk, pearl, little and barnyard millet have 2-4 times iron than meat and all millets and sorghum are gluten free with low glycemic index.

“The world needs to reduce the reliance on rice, wheat and maize which provide 50% of the world’s calories and protein but crowd out other nutritious, naturally climate-smart foods. Smart Food when eaten as staples in developing countries can have a major impact on the leading global issues.”

The Smart Food global campaign founded by ICRISAT is a global campaign for foods that ensure well-being of people and the environment along with better incomes for smallholder farmers of Asia and Africa.
Women smallholders’ limited access to mobile phones and call credits could derail use of climate information services (CIS) for adapting to climate change risks, a study in Ghana suggests.

According to the researchers, although CIS could help smallholders make informed decisions on use of strategies to become resilient to climate change, research on its use and impact among women and men smallholders in Sub-Saharan Africa is limited.

The objective of the study conducted in two districts of Ghana’s Upper West region was to assess the extent to which perceptions of climate change and access to CIS differ among men and women smallholders.

In November 2016, researchers randomly surveyed 900 smallholders, including 51 per cent who accessed climate information through mobile phone voice alerts and text messages delivered by Esoko, an information and communication technology company in Ghana, according to the study published in the journal Climate Change last month (5 July).

The researchers from Ghana and Mali also organised four focused group discussions, with each group having 20 participants and a mix of men and women smallholders to generate comments on perceptions and access to climate information.

The study found that men and women had similar perceptions about climate change such as increased strong winds, temperatures, drought and flooding.

But according to the findings, those with access to telephones were about 12 times more likely to use CIS compared with those who did not have telephones.

“The higher probability that men will use climate information may be related to their ability to easily access telephone devices,” the researchers note in the paper. “A more significant number of men (about 35 per cent) than women (20 per cent) had access to mobile phones.”

Samuel Partey, study co-author and Mali-based researcher with the Research Program on Climate Change, Agriculture and Food Security (CCAFS) of the International Crops Research Institute for the Semi-Arid Tropics, tells SciDev.net that there is a need for exploring various dissemination channels that address the constraints such as lack of credits from the banks, farming tools and seeds experienced by women.

“This will help improve women’s access and use of CIS so that they can play important roles in household climate change adaptation planning,” Partey says.

Robert Zougmoré, a co-author of the study and regional programme leader of CCAFS, Mali, adds, “Women’s limited access to farm resources and the telephone device ... is a threat to their ability to adapt to climate change risk.”

Mavis Akuffobea, a research scientist at Ghana’s Council for Scientific and Industrial Research, agrees with the findings but says that women recognise the threat posed by climate change as a serious problem than men do.

“Government policies addressing climate change should include gender-transformative approaches at all levels to support adaptation options for each unique climate distress event that reduce vulnerability of the different gender groups in times of crisis,” Akuffobea adds.

By: Francis Kokutse (This piece was produced by SciDev.Net’s Sub-Saharan Africa English desk.)
The largest producer of millets in the world, India, will launch an intensive campaign to promote these ‘nutri-cereals’ all across the country, on the 28th of September. This was announced by Dr Ashok Dalwai, IAS, CEO, National Rainfed Area Authority at the Indian Institute of Millets Research here at the meeting to prepare roadmap for the national millet mission. The Union Agriculture Minister will formally flag off this campaign for the National Year of Millets, in Pune which will be followed by a number of activities over the next few months.

Calling it a ‘historic’ day, Dr Dalwai said “We need to place some things on a pedestal to gain support. The mission will include focus on resource-poor farmers and the nutrition status of the country. However, we should ensure that the national campaign retains the advantages of millets as climate smart and environment friendly crops. Our decisions can lead to a new Green Revolution” he said.

Announcing plans for seed hubs for all millets millets, with Dr. B Rajender, IAS, Joint Secretary, National Food Security Mission said “The state governments will be involved in a big way, both for nutrition security, not just income security. Also there will be communication plans rolled out at the district and the local level to scale up this campaign.”

Sharing details of the roadmap for the national millet mission, Dr Vilas A Tonapi, Director, Indian Institute of Millets Research (IIMR) shared data on how the productivity of millets has shown a good increase across the country, in spite of pressure on land. The activities through the year would be spearheaded by IIMR in partnership with International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), State Agricultural Universities (SAU), National Institute of Nutrition (NIN) and many other non-governmental, private and international organizations. Dr B Dayakar Rao, Principal Scientist IIMR presented details of the ‘road map’ of activities for India’s Year of Millets.

Dr Kiran K Sharma, Deputy Director General (Research), ICRISAT shared his concern about linking farmers and the markets. “By simply grading, cleaning and packaging, farmers could get double the income for millets. Now, there is a high increase prices of millets in stores; however, is the farmer getting the benefit?”

A number of representatives including from government research institutions, non-governmental organizations, scientists, processors and private companies participated in this day-long consultation. At the open session in the meeting all participants shared their ideas and inputs for the roadmap for implementation of the millet mission. Ideas range from requirement for high-tech machinery to addressing shelf life of millets to need for more research allocation to add to the campaign.

A book of recipes in Hindi for millet based cuisine was released on the occasion. An MoU that had been signed between Nourish Inc technology and IIMR on licencing of millet value added products was also formally handed over at the program.
Water impact: When over 15,000 tanks were restored, how did lives of smallholder farmers change?

Soil, water and socio-economic impact of Telangana state government’s Mission Kakatiya to be assessed by ICRISAT scientists

A unique mission of the state government of Telangana in India, that aims to restore over 46,000 tanks across the state, will now be assessed for its impact. ICRISAT will carry out a scientific assessment of the restoration of over 15,000 tanks that has been completed and also assess how lives of smallholder farmers have been impacted by this initiative.

The ‘Mission Kakatiya’ of the Government of Telangana aims to improve minor irrigation infrastructure, strengthening community based irrigation management and with a comprehensive program for restoration of tanks. This scheme aims to restore around 46,531 tanks enumerated by the irrigation department. In Phase 1 and 2 of the project over 15,000 tanks have been restored.

An agreement for a scientific assessment of the impact of the first two phases of this initiative, was signed in August 2018, between the Ministry of Irrigation, Government of Telangana and ICRISAT.

Speaking at the formal signing, the Minister for Irrigation, Government of Telangana, T Harish Rao said, “There are a number of reported benefits including reports on in-bound migration following the desilting of water tanks. We look forward to understand also how the change in availability of water has affected reverse migration. We need to look at many parameters including sustainability, more than just in monetary terms.”

The partnership was signed by G Malsur, Commissioner Common Area Development Authority, Ministry of Irrigation and Dr Kiran K Sharma, Deputy Director General, (Acting), ICRISAT. “ICRISAT very much values the partnerships with the Government of Telangana in its development agenda,” said Dr Sharma. “This partnership project has immense significance in enumerating various benefits of the Mission Kakatiya Project, especially in promoting soil fertility and productivity, and the associated benefits on livelihoods of the smallholder farmers of Telangana.”

The two-year project will carry out economic assessment of benefits of ‘Mission Kakatiya’ to smallholder farmers to understand nutrient return to the soil and the productivity and profitability. Through stratified sampling, nutrient content of silt from across 30 districts will be assessed. Demonstration trials will be undertaken with different levels of silt along with balanced nutrient management for major crops. Overall 750 sites will be examined for soil and water health, besides crop diversity and impact on livelihood. Dr Girish Chander, Scientist, ICRISAT – IDC, who has been working on towards this initiative will work with the team to also analyze the silt made available for application on its suitability for and impact on farming in this region.
India’s tribal population is generally at risk of malnutrition owing to its dependence on primitive agricultural practices, poverty, illiteracy, and poor personal and environmental hygienic practices. Lack of access to healthcare, poor communication, traditional beliefs and customs aggravate the situation. Our conversations with adolescents belonging to the Gond tribes from the erstwhile Adilabad district, in Telangana, have focused on nutrition outcomes, common dietary habits, and understanding nutrition and health behavior.

Adolescence is a nutritionally crucial period, when dramatic increases in physical growth and development put greater pressure on the need for nutrients. In fact, call it a second opportunity to catch up on growth that will determine the rest of one’s adult life. So what is the level of nutrition knowledge and practices among tribal adolescents and how willing are they to participate in enhancing them?

A baseline survey conducted as part of the “Nutri-Food Basket” project implemented by ICRISAT in partnership mode and funded by the Government of Telangana and National Rural Health Mission, collected information on 16 villages, 79 anganwadi centers (rural mother & child care centres) and 1710 households in Utnoor mandal (administrative unit), where about 70% of the adolescent girls were underweight and 40% were anaemic. Following established protocols, discussions with them revealed that both boys and girls lack basic awareness about food, nutrition health and overall well-being. When asked which foods contained energy, vitamins or proteins, none of the adolescents who participated in the focus group discussions (FGDs) were able to properly categorize the different foods according to their nutrients.

The discussions also gave us an insight into the changed dietary preferences of people living in the tribal areas of Adilabad district. The supply of subsidized rice through the Public Distribution System (PDS) has led to a shift in consumption from highly nutritious millets to rice, which could also be attributed to a shift in cropping pattern from subsistence to commercial crops. Hardship in hand processing of millets, coupled with the absence of millet processors, and psychological factors such as the status associated with consuming rice over millets have led to a decrease in food diversity. Where a decade ago not much of outside or packaged food was consumed, now they are more commonly eaten by young children and adolescents, especially boys.

The FGDs and individual interviews conducted revealed the lacunae in nutrition knowledge among adolescents, their parents and their anganwadi teachers. The data collected reinforced the fact that lack of knowledge about nutrition was a reason for the prevalence of malnutrition in the area. Affordability also came up many times as a barrier to eating a diverse diet. While nutritional messaging may not directly affect the issue of affordability, creating awareness will make nutrition a priority for families once they are in a position of financial stability.
Tying up with one of China’s oldest agri-science academies to accelerate modern research pursuits

To foster joint academic and research pursuits and to explore future collaborative ventures, the Zhejiang Academy of Agricultural Sciences (ZAAS), a non-profit agricultural research Institution, signed an MoU with ICRISAT. The agreement facilitates the exchange of scientific materials, publications and information. Academic, research and other staff will participate in teaching, training, research for development programs and other agreed activities, especially in the fields of Genomics, Molecular Breeding and Phenomics...

For more:

China’s crop scientists keen on greater genomic research collaboration with ICRISAT

Accelerating the development of improved varieties of select crops using genomic technologies was one of the key topics discussed by China’s leading crop scientists during a recent trip made by ICRISAT’s Genetic Gains team to the country.

Great interest was expressed in deploying modern genomics-based breeding and low-cost marker technology developed by ICRISAT in their crop breeding programs by Prof Shubo Wan, President of Shandong Academy of Agricultural Sciences (SAAS) and Shandong Peanut Research Institute (SPRI)... For more.

Three sorghum varieties released in Nigeria

Nigeria’s National Committee on Variety Naming, Registration and Release on 26 July 2018, approved the registration and release of two medium-maturing sorghum varieties, SAMSORG 47 as ZAUNA-INUWA, SAMSORG 48 as KAURA BORNU, and an early medium-maturing variety, SAMSORG 49 as CF35:5, in Nigeria. Read more...

This work was carried out as part of the Harnessing Opportunities for Productivity Enhancement of Sorghum and Millets II (HOPE II) project funded by the Bill & Melinda Gates Foundation under the CGIAR Research Program on Grain Legumes and Dryland Cereals (GLDC).
Meetings and conferences

East African Community Vision 2050: Is it water-proof?

At a recent project planning meeting with the Lake Victoria Basin Commission at the East African Community, participating members agreed to quantify water security in the Victoria Basin until 2050, given dramatic changes in demography, food demand and climate. The Lake Victoria and its rivers are the lifeline for 35 million people but water resources degrade, with reasons also in agriculture. While the International Institute for Applied Systems Analysis (IIASA) will deploy their macro models to the lake basin across five countries, ICRISAT explores the nexus between future water availability, rain-fed agriculture and fragility/resilience at meso and micro-level. Such foresight provides critical inputs to trans-border innovation and scaling of water-proof food production in future. Important lever: Direct links with policy and governance through the Council of Ministers.

Picture shows Dr Ali Said Matano, Commission Executive Secretary (third from left) with IIASA and ICRISAT staff. The meeting was attended by Dr Michael Hauser (extreme right), Theme Leader, Markets, Institutions, Nutrition and Diversity.

CSIRO and ICRISAT to team up for nutrition via better agricultural value chains

A team of scientists from the Commonwealth Scientific and Industrial Research Organisation (CSIRO), Australia, visited ICRISAT to develop a joint work plan for collaborating on ‘Nutrition-oriented value chain interventions in developing countries’ on 20 August. Dr Brad Ridoutt, Principal Research Scientist; Dr Lilly Lim-Camacho, Senior Research Scientist; and Dr Jessica Bogard, Nutrition Systems Scientist from CSIRO met with the Markets, Institutions, Nutrition and Diversity team.

Dr Lilly Lim-Camacho (second from left) and Dr Jessica Bogard (far right) with women farmers at Aurapalle, Telangana, India.
Trainings and Workshops

Enhancing potential of African partners in the food processing sector

As part of an initiative of the Government of India under India Africa Forum Summit III, ICRISAT’s Agribusiness and Innovation Platform organized three training programs to enhance the potential of African partners in the food processing sector. The trainings were for senior and middle level technical staff and management personnel from the food and agricultural sector from government departments, ministries and food processing industries.

Modern, cutting-edge, collaborative – management of breeding data receives a boost across Africa

A hackathon, data migration and capacity building – it was a busy month for ICRISAT’s efforts to modernize databases and strengthen breeding data management. Crop breeding programs can be much more effective with modern data management tools. This is just what a workshop series across Africa with National Agricultural Research System (NARS) partners and ICRISAT staff aimed to do... For more.

New@ICRISAT

Introducing David Johnson – Director of Corporate Services

Mr David Johnson joined ICRISAT on August 6 as Director of Corporate Services. He is a UK national, certified auditor and accountant with over 17 years international experience, with oversight in risk management, governance and control systems. He has extensive experience in emerging economies and fragile country environments in a diverse range of organizations, including international institutions, private sector, civil society and the United Kingdom Government. He is a leader with proven experience of productive and constructive engagement at senior levels with governance bodies, governments, donor partners and international agencies to enhance and improve business processes.

Prior to joining ICRISAT, David was working as Visiting Research Fellow, Institute of Development Policy, University of Antwerp, Belgium. Before that he worked as Director of Internal Oversight of the United Nations, World Food Programme, Italy, as well as Head of Department, Department for International Development, Government of UK.

David will be leading two portfolios within ICRISAT – Finance and Operations.

We welcome David to Team ICRISAT.
New publications

Mapping rootable depth and root zone plant-available water holding capacity of the soil of sub-Saharan Africa
Authors: Leenaars JGB, Claessens L, Heuvelink GBM, Hengl T, Ruiperez González M, van Bussel LJI, Guilpart N, Yang H and Cassman KG
Published: 2018, Geoderma (TSI), 324. pp. 18-36. ISSN 00167061.
http://oar.icrisat.org/10533/

Mental models of soil management for food security in peri-urban India
Authors: Friedrichsen CN, Daroub SH, Monroe MC, Stepp JR and Wani SP
Published: 2018, Urban Agriculture & Regional Food Systems, 3 (1). pp. 1-16. ISSN 2575-1220
http://oar.icrisat.org/10534/

Minerals content of extruded fish feeds containing cricket (Acheta domesticus) and black soldier fly larvae (Hermetia illucens) fractions
Authors: Irungu FG, Mutungi CM, Faraj AK, Affognon HD, Tanga C, Ekesi S, Nakimbugwe D and Fiaboe KKM
Published: 2018, International Aquatic Research. pp. 1-13. ISSN 2008-4935
http://oar.icrisat.org/10535/

Vegetation changes in the Miombo Woodlands in Northwestern Zimbabwe: A case study of Nkayi District 1990 to 2017
Authors: Chirima A, Mundy P, Ncube N and Van Rooyen AF
http://oar.icrisat.org/10536/

Pattern of genetic inheritance of morphological and agronomic traits of sorghum associated with resistance to sorghum shoot fly, Atherigona soccata
Authors: Riyazaddin M, Ashok Kumar A, Munghate RS, Gaddameedi A, Kavi Kishor PB and Sharma HC
Published: 2018, Euphytica (TSI), 214(2) (32). pp. 1-20. ISSN 0014-2336
http://oar.icrisat.org/10537/

Pearl millet (Pennisetum glaucum) contrasting for the transpiration response to vapour pressure deficit also differ in their dependence on the symplastic and apoplastic water transport pathways
Authors: Tharanya M, Sivasakthi K, Barzana G, Kholova J, Thirunalamundai T and Vadez V
Published: 2018, Functional Plant Biology (TSI). pp. 1-18. ISSN 1445-4408
http://oar.icrisat.org/10538/

Postharvest insect resistance in maize
Published: 2018, Journal of Stored Products Research (TSI), 77. pp. 66-76. ISSN 0022474X
http://oar.icrisat.org/10539/

Protein, calcium, zinc, and iron contents of finger millet grain response to varietal differences and phosphorus application in Kenya
Authors: Wafula WN, Korir N, Ojulong H, Siambi M and Gweyi-Onyango J
Published: 2018, Agronomy (TSI), 8(2) (24). pp. 1-9. ISSN 2073-4395
http://oar.icrisat.org/10540/

Stress inducible overexpression of AtHDG11 leads to improved drought and salt stress tolerance in peanut (Arachis hypogaea L.)
Authors: Banavath JN, Chakradhar T, Pandit V, Konduuru S, Guduru KK, Akila CS, Podha S and Pulii COR
Published: 2018, Frontiers in Chemistry (TSI), 6 (34). pp. 1-22. ISSN 2296-2646
http://oar.icrisat.org/10541/

Towards defining heterotic gene pools in pearl millet [Pennisetum glaucum (L.) R. Br.]
http://oar.icrisat.org/10542/

Genetic variability studies in forage type hybrid parents of pearl millet
Authors: Govintharaj P, Gupta SK, Maheswaran M and Sumathi P
Published: 2018, Electronic Journal of Plant Breeding, 8 (4). pp. 1265-1274. ISSN 0975-928X
http://oar.icrisat.org/10544/

Improving pearl millet for drought tolerance – Retrospect and prospects
Authors: Yadav OP, Singh DV, Vadez V, Gupta SK, Rajpurohit BS and Shekhawat PS
Published: 2018, Indian Journal of Genetics and Plant Breeding (TSI), 77 (4). pp. 464-474. ISSN 0019-5200
http://oar.icrisat.org/10545/
New projects

Utilization of introgression lines derived from wild Cajanus species for pigeonpea (Cajanus cajan) improvement

Funder: Norwegian Development Cooperation (NORAD) through Global Crop Diversity Trust (GCDT)
Grant Period: 1 July 2018 - 30 September 2020
Principal Investigator: Dr Shivali Sharma

Quest for Resilience of (Agro) pastoral Communities in the AFAR through Water Spreading Weir-based Farming and Land use

Funder: Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ)
Grant Period: 1 July 2018 – 27 February 2021
Principal Investigator: Dr Tilahun Amede

Farming System-specific Biofortification for Increased Yield and Improved Human Nutrition in the Ethiopian Highlands

Funder: Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ)
Grant Period: 1 July 2018 – 30 June 2020
Principal Investigator: Dr Tilahun Amede

Identifying the genomic regions and genes for drought and heat tolerance in groundnut

Funder: Indian Council of Agricultural Research (ICAR) - National Agricultural Science Fund (NASF), Government of India
Grant Period: 1 August 2018 – 31 July 2021
Research Program: Genetic Gains
Principal Investigator: Dr Manish K Pandey

Enhancing Groundnut Productivity in Andhra Pradesh and Karnataka through Farmer Acceptable Climate Smart Strategies and Weather Based Crop Management Advisories

Funder: Earth System Sciences Organization (ESSO), Ministry of Earth Sciences (MoES), Government of India through Indian Institute of Tropical Meteorology, Pune
Grant Period: 1 August 2018 – 31 July 2021
Research Program: ICRISAT Development Center, Asia
Principal Investigator: Drs AVR Kesava Rao and Sreenath Dixit

Economic Assessment of Mission Kakatiya in terms of Plant Nutrients Equivalent, Increased Yields and Farmers Income

Funder: Irrigation and Command Area Development Department, Government of Telangana
Grant Period: 3 August 2018 – 2 August 2020
Research Program: ICRISAT Development Center, Asia
Principal Investigator: Dr Sreenath Dixit
**In the media**

**ABC**

Ancient grain millet has potential to tackle drought, obesity and malnutrition, researcher says

It is the ancient grain that researchers hope could help farmers battling dry conditions, while also helping to tackle global obesity and malnourishment.

Millets are a cereal crop that have largely been forgotten by the developed world, where in recent decades the crop has been grown more for animal feed than human consumption. For more. ABC.net, ABC Radio

**BBC**

Are forgotten crops the future of food

Just four crops - wheat, maize, rice and soybean - provide two-thirds of the world’s food supply. But scientists in Malaysia are trying to change that byreviving crops that have been relegated to the sidelines. For more.

**mizzima**

Water project offers hope to farmers in Myanmar’s central dry zone

When Colombo, Sri Lanka-founded IWMI in partnership with the German NGO Welthungerhilfe (WHH), India-based International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) and Myanmar’s National Engineering and Planning Services arrived in December 2016 with funding of approximately $1.1 million, giving farmers an incentive to work together where none had existed before presented a huge challenge. For more.

**farmonline**

Growing the list of cropping staples to fuel the world

ICRISAT assistant director general Joanna Kane-Potaka with a collection of Smart Foods made of sorghum and millet at the Crawford Fund annual conference in Parliament House, Canberra. For more.

**DH**

India Millet Mission campaign to begin in September

India, the largest producer of millets in the world, will launch an intensive campaign to promote the ‘nutri-cereal’ across the country starting from September 28, in Pune. At a meeting held at the Indian Institute of Millets Research in Hyderabad to prepare a roadmap for the national millet mission, Dr Ashok Dalwai, CEO of the National Rainfed Area Authority, announced the campaign... For more.

**THE TIMES OF INDIA**

Nutri cereals to be promoted across the country from Sept 28

HYDERABAD: An intensive campaign to promote nutri-cereals’ across the country will be launched on September 28. This was announced Ashok Dalwai, CEO, National Rainfed Area Authority at the Indian Institute of Millets Research here at the meeting to prepare roadmap for the national millet mission... For more.

**BusinessLine**

ICRISAT to study impact of Mission Kakatiya

ICRISAT will make a comprehensive study on the three phases of Mission Kakatiya and submit a report to the Telangana Government.