The Food and Agriculture Initiative

A global think-tank focusing on food and agriculture sector

Committed to improving the state of food & agriculture,overcoming the challenges of feeding humankind in a sustainable manner

About Us

Shaping the future of food and agriculture sector

Seeks to develop a long-term strategy and thought leadership for food and agriculture sector through a market-based and multistakeholder approach

Evaluating innovative and impactful agri-technologies

Promoting groundbreaking technologies that can revolutionalize the food and agriculture sector

Making it happen

Establish an ecosystem of agri-innovation,facilitate stakeholder engagement for technology evaluation, transfers and developing strategies for transformation of food and agriculture sector

Our Insights

"We are entering a transformative phase in the agriculture sector" Etali Sarmah

We are entering an interesting phase of transformation in the agriculture sector, where the challenges of feeding the present 7 billion and anticipated 11 billion population by 2100 is driving stakeholders to innovate and take transformation to unprecedented levels.The fear of climate change, resource limitation and the responsibility of providing sufficient and nutritious food in the plate of every individual is bringing the thought leaders of the world together and helping them mend the cracks of differences in the wall of divergence and disagreement. Technology has surreptitiously creeped into our lives making us rethink and debate both its positives and the negatives. This process of discussion and debate is definitely necessary as the outcome of these changes would be long lasting and irreversible. The path we choose will not only take us towards a new direction, but also help our future generations live a better life. So we have to meticulously take calculated and strategic moves. But, we cannot ignore the fact that we have to welcome change when we know that the positive impact of change can do marvels. So it is our responsibility to keep a track of trends, choose the best and empower people to cope up with the new changes and carry on with this journey of innovation and engagement that has the capability of bringing in positive transformation to the way we live and exist. The new variable "technology" will help to change the agriculture development equation. Technology along with the right production system will help to feed the world. Cheers to innovation, empowerment and transformation!

"The burden of food waste can be offloaded soon with the right mix of solutions " Etali Sarmah

Everyday when we visit the food joints to see the left over tables loaded with food that was ordered but was not consumed. This makes us think of the unprivileged and the

environment. But does this let us rethink and calculate the amount of food we should order? According to Food and Agriculture Organization (FAO), more than 10 percent of the world's total energy consumption is for food that is lost and wasted. Almost 250Km3 of water and 1.4 billion hectares of land is devoted to producing food that is lost or wasted. Further, food loss and waste generates about 8 percent of global greenhouse gas emissions. The food waste we produce constitutes a considerable source of resource.Reducing this will require transformation of food system and the same would help improve resource productivity and emission levels. Prevention solutions in the upstream can include promotion of resource efficient and regenerative agricultural practices along with improved access to low-cost storage technologies. Wireless sensors can monitor the storage conditions of perishable food as it is transported and transmit real-time data. Food waste awareness can help alter consumer behavior and reduce waste. Mobile apps developed for crowd sourcing data on hunger spots which take requests for donation of excess food can have huge impact. Recycling solution to manage food waste can include compost, energy, biogas production or redistribution and diversion to animal feed or inclusions as organic manure and starch for household consumption. Implementing above strategies can help saves money for society; provide opportunity to feed and ease the pressure on natural capital.

"Undoubtedly, the next Agri-revolution would be a digitally enabled one" TFAI

Technology is disrupting all areas of agricultural value chain, driving countless opportunities and challenges .At the same time, growing demand for food and shifting food security needs are driving innovation in the resource space. World is now more inter-connected, spawning massive data and exploration of these data can help to drive decision making that can transform the farm source-to-consumer value chain. Agri-businesses are subject to numerous regulations and consumer requirements across their supply chain. Of the several touchpoints along the agri-value chain, each hold critical information that can help businesses make the most of their resources, provide greater transparency in their processes and protect consumers. Big Data has the potential to add value across each touchpoints starting from selection of right agri-inputs, monitoring the soil moisture, tracking prices of markets, controlling irrigations, finding the right selling point and getting the right price.Proliferation of

data offers unprecedented opportunities to understand consumer needs and preferences of farmers, and to deliver tailored services and products for organizations that can make sense of this data. Given all this, today is right time for agri-businesses to lead on defining what better practices on data use are available. There is need to formulate a business model wherein value can be captured from the scale of data being captured by different players in the agri-supply chain. Companies must act now to focus, simplify and standardize big data through an enterprise-wide data management strategy as Big Data poise to deliver the next revolution of farming by leveraging insights from people, equipment and technology.

"The big bosses of the Urban farms holds the future" Etali Sarmah

Many of the Generation Zs have always woken up to see the sunlight penetrating the curtains of their rooms through concrete jungles. We have seen urbanites feel the joy of walking in crop fields when they have a chance to visit one, very much similar to kids jumping on their trampoline cushion pads in play area. It is interesting to see many of the Generation Zs and millennials realizing their responsibility and committing themselves to initiatives like Garage farming, Vertical farming,Hydroponics, Aeroponics, LED farms, Personal Food Computers and many more modern farming practices adding up to the list . They have already realized the consequences if they do not shoulder this responsibility now. Cities which host over half the world's population have a strategic role to play in developing sustainable food systems and promoting healthy diets. The task of feeding cities will face multiple challenges driven by factors like resource scarcity, climate change, unsustainable production and consumption patterns; and food loss and waste. Urban agriculture, although not a solution for food insecurity, has the potential to provide millions with access to food and nutrition. It has the potential to become a vibrant sector that quickly adapts to changing conditions and demands, intensifying its productivity and diversifying its functions for the cities. The future of urban agriculture will depend on its contributions to the development of a sustainable and resilient city that is inclusive, food-secure, productive, and healthy thus establishing food smart cities. Figuring out an urban agribusiness model that captures value from available

data, integrates multiple revenue models and fosters partnership with relevant stakeholders will help move towards a new era of sustainable food production.

"Responsible organic agribusiness is an imperative necessity for India" TFAI

Is responsible food bussiness necessary? It should be as we are all food consumers and expect the best for our own consumption. India with its 650,000 organic producers, 699 processors, 669 exporters and 720,000 hectares under organic agriculture holds a unique position among the 172 countries practicing organic agriculture. With merely 0.4% of the total agricultural land under organic cultivation, the organic industry has a long journey to embark upon. Last year, the Indian organic export and domestic market has grown by 30 and 40 percent respectively. This growth will sustain primarily due to increasing number of affluent and health conscious consumers who are seeing growing incidences of food adulterations. As the industry continues to grow, it faces challenges across its value chain- due to relatively small volumes, cost of organic food products are high; high cultivation cost; supply demand mismatch; specialized farmer training cost, higher processing and inventory holding cost etc. Mainstreaming organic production with location specific hybrid production strategies can solve part of the problem.Investments in achieving operations excellence by companies will facilitate lowering the cost of organic food products. Focusing only on higher yields at the expense of other sustainability pillars (economics, environment and society) is not the food production system that India need. What India needs is an integrated system that gives equal importance to all sustainability dimensions across the value chain and thus help establish a healthy and well fed society.Organic agriculture is the best insurance policy that India can

have for its population with better performance on productivity, environmental impact, economic viability and social wellbeing.

"Value can be generated from degraded lands by using sustainable land management approaches" TFAI

Globally, there is an increasing demand for goods and services derived from finite land resources. Land available to feed one person has reduced from 0.45 hectares (1961) to just 0.20 hectares (2005). Climate change, population growth, globalization and poor land management practices has resulted in loss of provisioning and ecosystem services (e.g. carbon sequestration and nutrient cycling) provided by land.According to the Food and Agriculture Organization, one out of every three people on earth is in some way affected by land degradation. Further, a recent study estimates the annual cost of land degradation at the global level at approximately 300 billion USD.The global community has reacted with a goal to achieve a state of 'Land Degradation Neutrality' along with fulfilment of other ambitious climate and biodiversity commitments. To help achieve these commitments sustainable land management can play an important role.Transforming the way we think, value, use and manage our land resources can help build a more resilient and sustainable future. Sustainable land management practices, protects our natural capital and help populations adapt to climate change and build resilience. It can reduce the risk of migration and conflict while achieving food and energy security. Sustainable land management (SLM) holds promise to be the accelerator in achieving commitments set in the national and global sustainability agendas.Increasing soil carbon storage through land restoration and sustainable land

management represents a significant opportunity to mitigate climate change, particularly at a time when global community is falling short of the Paris Agreement and other global goals.

Featured Publications

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Agribusiness in Middle East region (PDF-682KB) (pdf)

Strategy for food and agriculture (PDF-378KB) (pdf)

Making cities food-smart and secure _ Business Line_June 2017 (pdf)

Big Data for the next green revolution _ Business Line_Jan 2017 (pdf)

Curbing food wastage in a hungry world _ Business Line_Oct 2016 (pdf)

The future lies in organic farming _ Business Line_Oct 2016 (pdf)

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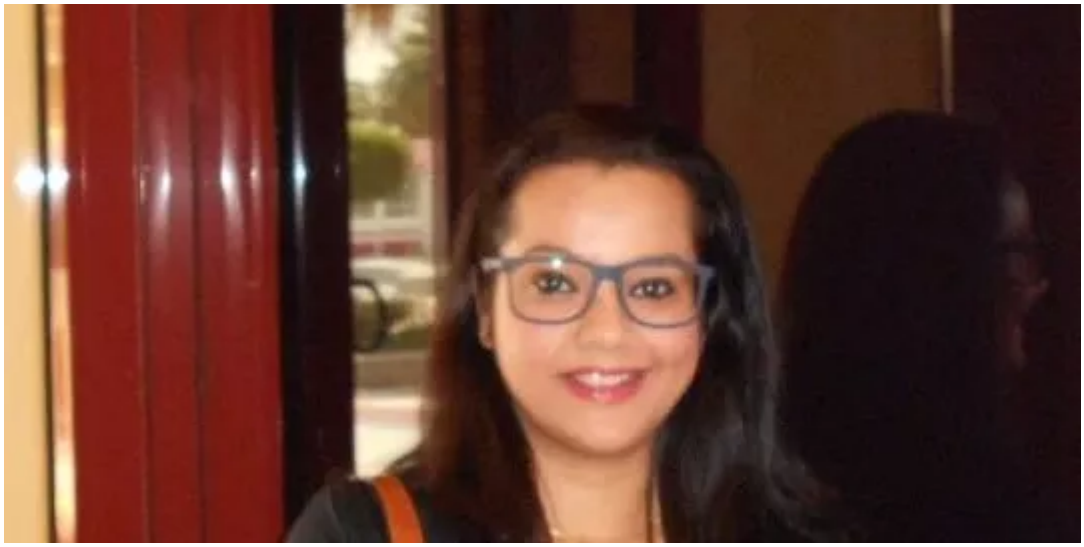

Etali Sarmah

Etali is the global co-leader of the Sustainability and Resource Productivity Practice, with deep expertise in the agricultural and food sectors. She is a partner in The Food and Agriculture Initiative (TFAI)'s MENA region and leads TFAI's work in food and agriculture crisis response. She serves private, public, and social sector clients to improve economic development and transform agricultural systems. She has substantive experience and competencies in business– agricultural, agribusiness, marketing and SME capacity development. She has broad experience in helping major organizations manage operational risk, stabilize crisis situations, and build resilience. She also brings deep expertise in shaping sustainability strategies. She has worked in varying capacities in the private sector and non-governmental organizations offering managerial, advisory and consulting services in a varied portfolio of integrated projects covering agricultural production, water sector development, rural development, women empowerment,agri-enterprise restructuring, participatory extension management, value chain strengthening efforts. Etali has also been involved with several local and international institutions in the development of sustainable growth initiatives focusing on creating an enabling environment and critical investments aimed at poverty alleviation. Etali has had over 11 years working experience in the Food and Agribusiness sector and has been at the forefront of advocacy initiatives on ensuring food security.

Published work

"Agribusiness in Middle East region," Arab Agriculture Year Book 2017, February 2017
"Energy use in agriculture industry," TERI Energy Data Directory & Yearbook ,September 2010
"The value of natural infrastructure," The Hindu BusinessLine, May 2017
"Making cities food-secure and smart", The Hindu BussinessLine, June 2017

Education

National Institute of Agricultural Extension Management (MANAGE)
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MSc, Agriculture (Plant Pathology Scholar)
Assam Agricultural University
BSc, Agriculture (Plant Pathology Scholar)

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