



भारतीय कृषि एवं खाद्य परिषद्
INDIAN COUNCIL OF FOOD AND AGRICULTURE

10TH GLOBAL AGRICULTURE LEADERSHIP SUMMIT 2017

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Agriculture to Agribusiness



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SUMMIT DAY 1

INAUGURATION OF THE SUMMIT



Indian Council of Food and Agriculture took the opportunity to discuss the constraints and opportunities for a global momentum towards making agriculture high-tech, market linked and value added for best returns to farmers and to all stake-holders across the food value chain. This may require collective efforts, taking on board the Governments, inter-governmental organizations, trans-national corporations, industry, NGOs, FOs, financial and technology institutions for increased flow of knowledge, technologies, investments and market access. The national governments need to create enabling policy environment for effectively translating the potential of agriculture through agribusiness, and thus empowering farmers. Towards this end, ICFA brought together eminent personalities of Indian and global agriculture, food and agribusiness sectors on one platform on the event of 10th Agriculture Leadership Summit 2017. The experience was combined with the presentation of 10th Global Leadership Awards and the launch of Agriculture Year Book 2017.

The leadership summit aimed to bring all the key stakeholders at one platform, like Prof. MS Swaminathan, Hon'ble Minister of Commerce and Industry, Sh. Suresh Prabhu, Hon'ble Minister of State Agriculture and farmers' welfare, Sh. Parshottam Rupala, President World Food Prize Foundation, Ambassador Kenneth Quinn, and Chairman ICFA, Dr. MJ Khan inaugurated the two days summit on 5th September 2017.

Prof. MS Swaminathan, Father of Green Revolution in

India, underlined the role of youth to transform agriculture. Youth needs to be attracted to transform agriculture as they have zeal and enthusiasm to do work and give the best from everything. He also pointed out that credit system could not be sustained through loan weaving. As loan weaving is not a solution to the problem for the farmers. Rather there should be ways for using technology, knowledge and data are given in the finest and accurate form to the farmers. He talked about the malnutrition in India and how to overcome the challenge of Zero hunger, while highlighted some of the facts relating to the alarming state of the malnutrition in India.

- India ranks 97 out of 118 countries in the 2016 Global Hunger Index
- 39% of children under 5 are stunted
- 48% of women of reproductive age are anemic

Thus, there is a need to bring together agriculture, health and nutrition through Farming System for Nutrition (FSN). He also discussed five pillars of zero hunger challenge, which need to be taken in consideration (a) 100% access to adequate food all year round (b) Zero stunted children less than 2 years of age (c) All food systems are sustainable (d) 100% increase in smallholder productivity & income and (e) Zero loss or waste of food. Further, he mentioned the three approaches for combating Zero Hunger Challenge through bio-fortification, which are (a) Naturally occurring bio-fortified plants like moringa, sweet potato, nutri-millets and fruits and vegetables, as well as milk, eggs and other forms of animal protein, (b) Bio-fortified varieties selected by breeding and selection, e.g., iron rich pearl millet and zinc rich rice and (c) Genetically bio-fortified crops like Golden Rice and iron rich rice (after appropriate regulatory clearance).

India is one of the most diversified countries across the globe in almost every aspect, such as geography, language, customs and culture, including food. Thus, India has culinary diversity which can be used to cope up with the problems from sea water farming to reform malnutrition in the country.

Lastly, he suggested the possible action plan for malnutrition free India:

- Eliminating under-nutrition or calorie deprivation through the effective implementation of the provisions of the National Food Security Act, 2013. Under this Act, not only wheat and rice, but also nutri-millet like ragi can be provided at a very low cost.
- Including pulses in the PDS in order to ensure that protein hunger is eliminated. The production of pulses has gone up in the country; however, farmers are facing the problem of marketing.
- Overcoming hidden hunger caused by the deficiency in the diet of micronutrient such as vitamin-A, iron, iodine, zinc, vitamin-D etc. This can be done by integrating agriculture and nutrition through bio-fortified plants. Genetic gardens of bio-fortified plants which can provide the specific missing micronutrient in the diet can be organized in every block. KVKs should take this knowledge to the field and also help to train a cadre of 'community hunger fighters', well-versed with information on the missing micronutrients and the crops that can provide them.
- Effective steps should be taken to avoid food losses and to ensure food safety, particularly with reference to aflatoxins in food. This will require the safe storage of grains under low moisture conditions.
- Finally, the programme may include attention to the provision of clean drinking water, sanitation, nutritional literacy and primary health care including immunization.
- For all the above to be sustainable, it is essential that the social engineering aspects of programme design and implementation, are given attention.

He concluded with the statement that Goal of New India should be eradication of food scarcity to nutrition and security.

Hon'ble Minister of Commerce and Industry, Sh. Suresh Prabhu underlined the paradox of production and prices, as increased production in the country results in lower prices to farmers. He also expressed his serious concerns about the challenge of feeding increasing population as there is an increase in the

disposable income of individuals as a result there is an upsurge in the purchasing power along with the climatic changes, which is adversely affecting the agricultural produce.

He also discussed about the opportunity for agriculture diversification. Trade practices should be relooked as they become the means of final source of income for farmers and initiatives should be taken to ensure better prices to farmers in the global market. Also, he felt that the major challenge is to ensure better returns to farmers and proposed developing Agricultural Parks in the country on the line of established industry clusters to realize the cherished dream of doubling farmers' income. Finally, he concluded by stating that agriculture should be looked through farmers' prospective and not from the industry's perspective as then only benefits to the farmers can be ensured in the best possible way.

Ambassador Kenneth Quinn, President, World Food Prize Foundation, USA, while addressing the august house over the function, fondly recalled the great Indian effort spearheaded by doyens like Norman Borlaug, C. Subramainam and Prof. Swaminathan against hunger. He declared that the Norman Borlaug Medallion for Government of India in Honour of late Sh. C. Subramaniam, for his prominent leadership in paving way for green revolution in India, which will be bestowed upon Prime Minister Sh. Narendra Modi. Also, he urged for replicating the similar success in Africa and making it self-sufficient. However, according to him, Africa and India will face biggest challenge in next 30 years if poverty is not brought under control by taking corrective measures such as bringing green leadership in India and focusing on how to increase the quantity as well as quality of crops. Lastly, he underlined the role of agriculture and food security for ensuring world peace.

Shri. Parshottam Rupala, Minister of State Agriculture and Farmers' Welfare, during the inauguration revealed that nearly 10- 15% decline in usage of fertilizers is reportedly observed after implementation of Soil health Card scheme in the country. He pointed out that there are two types of farmers 20% well equipped and 80% small holders. Therefore, crop planning and trade planning should be taken into consideration, specifically for small holder farmers. For this purpose, development and promotion of Agribusiness, export, import for the welfare of the farmers should be emphasized along with strengthening of contract farming in India.

He mentioned that PGS, with low direct costs and the heavy emphasis placed on involvement of the farmers and local consumers is well suited to small farmers selling more locally. Furthermore, because PGS procedures are more flexible they tend to be more inclusive and appropriate for the local social context they serve. Also, he brought to notice that India suffers from the deficit of edible oil, while being one of the largest producers of oil seeds, which is a major loss for the economy. Lastly, he emphasized the need for up gradation of data relating to agriculture, crop insurance, risk management, water management, soil management as this can help in dealing and removing the major hindrance for the farmers. According to him,

organizations and alliance like ICFA should take initiative and guide government in data relating to agriculture sector.

The 10th Agriculture Year Book 2017 by Agriculture Today was launched during the function which is an important vehicle of information dissemination for the agriculture community and the agribusiness industry. Moreover, the release of Book on Eco-Agriculture Revolution by Dr. MH Mehta added to the knowledge in the event.



TECHNICAL SESSIONS

Climate Smart Agriculture for Global Food Security



Climate Smart Agriculture (CSA) is an approach for transforming and reorienting agricultural systems to support food security under the new realities of climate change. Widespread changes in rainfall and temperature patterns threaten agricultural production and increase the vulnerability of people dependent on agriculture for their livelihoods. Climate change disrupts food markets, posing population-wide risks to food supply. Threats can be reduced by increasing the adaptive capacity of farmers as well as increasing resilience and resource use efficiency in agricultural production systems. It promotes coordinated actions by farmers, researchers, private sector, civil society and policymakers towards climate-resilient pathways. Thus, a brainstorming session was conducted with the purpose to interact face to face and talk over the issues, challenges and opportunities relating to Climate Smart Agriculture, chaired by **Prof. Kadambot Siddiqui**, Director, UWA Institute of Agriculture, The University of Western Australia, Perth.

Prof. Kadambot Siddiqui welcomed all the participants and provided a snapshot on innovations in adaptation to climate change in dry land agriculture. Adaptation is defined as “adjustments made in response to stress”. According to him, adaptation should be based on the process to minimize the potential negative impacts on variable climate. Successful adaptation enhances a system’s ability to deal with uncertain future change. He emphasized that zero tillage can be adopted which will be the key to conservation, cropping minimum soil disturbance,

stubble retention which is widely adopted around the world mainly in developed countries. The yield benefit of zero tillage over conventional tillage has many benefits, especially, dry lands in relation to soil water conservation. It has the strong benefit of early sowing, higher yield potential, savings - time, machinery, fuel, better soil structure (OM), better soil-water dynamics (porosity), better nutrient recycling (NPK), improved traffic ability, less pollution and less erosion.

Understanding past changes and past adaptation help in the improvement in systems understanding, quantifying impact of change along with understanding future climate change (regional downscaling, uncertainty & risk management). At the end he concluded his speech by quoting that ‘Communicating with farmers what is known to us and delivering it to the farmers is the final key to success for the authority as well to the farmers’.

Dr. Manjit Mishra, Director, Seed Science Centre, Iowa State University, USA, introduced the seed science center of Iowa State University and highlighted some of the unique features such as (a) It is the first land grant university (1858), (b) Introduced agriculture extension (1903), (c) The university had Worlds’ first electronic digital computer (1937) (e) It has the World’s largest public seed lab with over 36,000 students from all 50 states and 100 countries. He quoted Henry David Thoreau saying “I have great faith in a seed. Convince me that you have a seed there, and I am prepared to expect wonders”. According to him, it is crucial for farmers to have access to quality seed as it can ensure food security of the world with particular sensitivity to women and children. 80% of farmers in many developing countries are not using quality seed. Average yield of maize in Africa is 1.5 tons/hectare compared to 5 times as much in developed countries, with the difference largely attributable to inadequate use of quality seed. Almost 50% of the farmers are women, yet they earn 10% of the income and receive 5% of all technical assistance in agriculture. Therefore, there is great need to invest in science, agriculture and in the development of the seed technology and industry which will make good seed, good people and compassion. Lastly, he expressed that a hungry, thirsty, warm and crowded planet will continue to pose a critical challenge for years to come due to climate change.

Ms. Cristina Rumbaitis Del Rio, Regional Programme Manager, Action on Climate Today, discussed about the economic impact of extreme weather events in India, which incurred the losses of approximately US\$9-10 billion annually, nearly 80% of it are uninsured losses. She also mentioned that productivity of major crops could decrease by as much as 10%-40% by 2100 unless farming adapts to climate change or induced changes in weather. In addition to yield decreases, climate change related extremes may increase post-harvest losses, disrupt food access (transportation and distribution) and affect nutritional quality (Macronutrients & micronutrients), food absorption and farmer health, which can be addressed by (a) Identifying crops with high resilience and high growth potential, (b) Identifying crops relevant to target population, (c) Analyzing value chain using traditional approaches to identify blockages in the value chain and opportunities to overcome them and (d) Higher potential for scaling through the market. In the end, she pointed out that climate smart agriculture may look like "normal" agriculture but includes, asking the climate question, looking for options to build resilience in the farming & livelihood system and focuses attention on the most vulnerable.

Thus, it was concluded that despite uncertain involvement of climate impact on crop, it is clear that climate impacts on food security will be serious, and thus more research is required that directly informs the actions needed to tackle food security challenges. While food systems will need transformative options in the coming decades, challenges can be identified. In order to meet these challenges, science must work hand in hand with practitioners and policy-makers, to devise sensible options that meet current needs and capacities, try out best bets, and learn from experience.

Doubling Farmers Income by 2022



Doubling farmers' income by 2022 is an initiative started by Sh. Narendra Modi, current Prime Minister of

India which aims to make agriculture profitable and improve the socio-economic status of farmers. It was started in order to ensure that all eligible farmers are provided with hassle free and timely credit for agricultural operations. In fact, government introduced Kisan Credit Card scheme which enables them to purchase agricultural inputs like seeds, fertilizers, pesticides and draw cash to fulfill their consumption needs. However, there are still various issues and challenges faced by the government while trying to achieve this goal. This session aimed to discuss various shortcomings along with the possible opportunities and way outs to improve, chaired by **Ms. Pooja Singhal, Pr. Secretary - Agriculture, Jharkhand**.

Ms. Pooja Singhal, Pr. Secretary- Agriculture, Jharkhand, spoke of doubling farmers' income as one of the most important missions undertaken by the government. She discussed a few measures to benefit farmers and for the development of farming community and agricultural sector.

'MedhBandi'- Farm Bunding is important in the field of agriculture. It helps in restoring and maintaining the water content in the soil at a particular area. It not only helps in safeguarding from unwanted animal but also from other factors which destroy crops. All the farmers should adopt farm bunding which will help in doubling the income of the farmers by adding value to the crop.

Farmers should not solely depend on their main crops rather should practice other economic activities, simultaneously, such as animal husbandry, fishery, piggery, goat rearing and etc., so as to earn extra income.

As India lack its production target for seeds of pulses and edible oil should be fixed to 5,000 quintal. The increased productivity will help in generating more profits with the increased production.

The government and the institutes need to understand the problems faced by the farmers' so as to resolve them. With this view, Krishi Jagrati Abhayan scheme was launched where the concerned authority goes door to door to meet the farmers and try to understand their problem and issues.

Registration with Panchayat level is also suggested as panchayat can act as the mediator between the farmers and the government authorities. Panchayat can convey the problems and issues faced by the farmers to the government and can spread awareness about various policies and scheme among farmers in large scale, helping the government in achieving its goal.

Lastly, she said that doubling farmers' income by 2022 is not an impossible mission, only if right measures and initiatives are taken by the concerned authorities along with proper execution.

Mr. Ramesh Deshpande, Convener, IAG International, Washington DC, stated that India is now the World's fourth largest economy and has witnessed a landmark revolution in agriculture transforming the nation from its chronic dependence on grain imports during fifties and sixties, to a net exporter of food, especially certain types of grains. Despite major transformation from dependence on food aid to becoming a consistent net food exporter, India's agriculture has underperformed relative to its potential. Maintaining India's hard-won food security and achieving shared food prosperity is still a challenge. On the one hand, there exists widespread under nourishment and other hand, record production levels of food and overflowing stocks. He suggested ten key areas for specific actions:

- Establishing Krishi Cabinets at the National & State Levels;
- Preparing Time-bound Action Plans for implementing policy and program reforms in support of Doubling Farm Income by 2022.
- Prioritizing various recommendations for actions at national to village levels.
- Making state governments accountable for performance;
- Promoting intensive Crop diversification;
- Expanding Farmer Access to Credit.
- Other Priority Areas for NABARD
- Expanding role of RBI and the retail banking system in Agricultural Transformation;

- Implementing Agricultural Marketing Reforms and Infrastructure Development across states;
- Requiring State Governments adopt Model Laws on Land Leasing and Contract Farming;
- Restructuring/Reorganizing Agricultural Research, Education and Extension

Introducing Landscape Approach to Climate-smart Agriculture.

However, more needs to be done for agricultural growth to accelerate and help increase farmer incomes. Agriculture faces many risks and requires subsidies and disaster relief causing much burden on already stretched fiscal resources. GOI and state governments are therefore expected to do continuous monitoring of the above programs from local to national levels and correct any gaps to ensure implementation that is well funded, inclusive and efficient.

Dr. Gopal Aggarwal, National Spokesperson, BJP, talked about the MSP (Minimum Support Price) issues, which needs to be tackled. MSP is the minimum price paid to the farmer for procuring food crops. The increasing market orientation and reforms in the input sector have resulted in a substantial rise in input costs. There exist intervention schemes to undertake the procurement of commodities whose market prices go below the MSP, but on most occasions the marketing season of bumper crops gets over by the time a bureaucratic decision on procurement is taken. Ultimately, the farmers are left at the mercy of unscrupulous traders to sell at whatever price they offer, with resultant repercussions such as the burning of the entire crop or throwing the harvested produce on roads in protest.

Hence, there is a need to develop single domestic market, where the farmers can sell their crops at minimum support price. It offers an assurance to farmers that their realization for the agricultural produce will not fall below the stated price. He also mentioned that lack of advancement in local market is not only leading to farmers loss but also decrease in export of many items. There is a serious need of creating the local market to national market with the help of implementation of GST, removing state barrier and providing subsidies.

Mr. R G Agarwal, Chairman, Dhanuka Group, compared the agricultural sector of India and China. China with inadequate resources such as less rain, less dams and lack of other facilities is doing really well in the field of agriculture. The major reason for their achievement is technology – ‘Jai Javan, Jai Kisan, Jai Vigyan’ is the mantra which they follow. A lot more importance was given to seed and the roots which are the base of agriculture. The base of the crop is seed; using best quality seed gives best result. However, India faces various challenges, specifically relating to the upliftment of farmers, which needs to be addressed. The most important issue which needs to be resolved is the income generated by the farmers. The middle men charge high prices in the market and generate large profits, which are not transferred to the farmers, who barely get their cost of production. Thus, market barriers for the farmers like dealers and middleman should be abolished. They should be in direct contact with market and get the maximum profit for the production and output from the market. Once the farmers are connected to the market they can get the maximum value for the hard work put in for cultivation.

Thus, doubling farmer's income is not a difficult task to complete it can be achieved by using high quality seed, best technology, appropriate knowledge about crops & weather, help of concerned institutes and government. However, government is putting rigorous efforts to achieve the mission of doubling farmers' income by 2022 by enhancing the Minimum Support Price (MSP) to provide price support to farmers for not only helping to survive but to live a good and happy life.

Technologies for Yield and Quality Management



Agriculture in India is the core sector for food security, nutritional security, sustainable development and for poverty alleviation. Milestones in agriculture development in India includes: Green revolution,

Evergreen revolution, Blue revolution, White revolution, yellow revolution, Bio technology revolution and the most recent one is Information and communication technology revolution. IT supports new methods for precision agriculture like computerized farm machinery that applies for fertilizers and pesticides. Farm animals are fed and monitored by electronic sensors and identification systems. Thus, if farmers stack agricultural technologies in order of crop production schedules, the combination of agricultural technologies and practices could reduce food prices. With advances in technology, farmers can more efficiently produce more with less manpower, aiming increased yields while using fewer inputs and getting the best quality products. In order to discuss the various opportunities and challenges, the session was conducted, which was chaired by Mr. Bakshi Ram, Director, Sugarcane Breeding Institute.

Dr. Bakshi Ram, Director, Sugarcane Breeding Institute, fondly recalled the establishment of Sugarcane Breeding Institution in 1912 in Coimbatore, Tamil Nadu and it being the only institute subject in its name “Breeding”. He brought to the notice that the CO205 was first release of the institute during 1918 and in 2018 it will complete 100 years and to celebrate the same a function was already organized on 29th August, 2017 at New Delhi. He further informed the house about international symposium being organized at Coimbatore on 18th – 21st September 2017. The variety released from the institute are used in various states like Uttarakhand, Punjab, UP, Bihar etc. and increase in yield, sugar recovery has been observed. All the farmers who have adopted these seed their income has doubled and the success rate for the crops have increased tremendously.

Dr. Sumitra Das, Director, India Zink, briefed about her organization and talked about food security, which is the major focus area of the organization. She underlined that production is not a challenge but real challenge in our country is to keep that produce safe for consumption. She also highlighted the importance of zinc for the crops. About 40% of Indian soils are deficient in zinc and gradually is becoming a global issue. Zinc is an essential nutrient for human health, and every human needs zinc to survive. Ensuring adequate levels of zinc intake is a key component in efforts to reduce child illness, enhance physical growth and decrease mortality in developing countries. 8 lakh people die annually due to zinc deficiency (WHO), of which 4.5 lakh are children under the age of five.

Zinc deficiency in crops and humans is a global challenge, which can be resolved by using zinc fertilizers. The increased use of zinc fertilizers in balanced fertilizer with the support of micronutrients fertilizer policy by government can help in ensuring soil health, food security and nutritional security as it is essential for maintaining DNA.

Dr. Anoop Karla, Executive Director, Ayurveda Limited, focused on issues like food scarcity, declining soil fertility, water scarcity and global warming. He stressed that to overcome these challenges and problems few things are to be kept in mind, such as each drop of water is important, each inch of land is important and every minute is important. Waste to wealth that is Vermicompost should be adopted by biogas plant which will give fuel for cooking, electricity generation, and rich bio fertilizers. He brought to light that Ayurveda Limited has started Hydroponics Transplantation 'Seed to Feed in 7 Days'. The seeds are grown in special conditions giving the best environment for growth under observations and then after 7 days they are shifted to the land for further growing. This technique conserves biodiversity and in the remaining land medicinal plant are cultivated which gives nutrients to the soil and raise farmers income.

Also, he pointed out that health of farmers is to be kept good in order to keep our selves healthy. Quality products should be produced working with knowledge, science and technology. The mixture of these three is an accurate blend to get the best result from agriculture. In spite of large production levels, high ratio of malnutrition is observed in the country. The main reason behind this is, fruits and vegetables being consumed are majority unfit because of their perishable nature.

Mr. Kaushal Jaiswal, Managing Director, Rivulis India Limited, stated that usable fresh water accounts for approximately 0.56% of the total water on the planet. However, the irrigation efficiency by flood is 40%-60%, furrow 50%-70%, sprinkler 70%-85%, centre Pivot 80%-90% and drip 90%-95%. He also mentioned that Rivulis has Introduced 'Manna Irrigation', which will focus on "When to irrigate and how much to irrigate". Manna Irrigation is a leading provider of irrigation intelligence software solutions: proprietary satellite models and sensor-free cloud-based software, that provide growers with a high- resolution, integrated view of the entire field. It is advancements in agriculture technology which is an important contributor to a more sustainable agriculture system that promotes continuous

improvement and less resource use. The advantages are that it is reliable based on deep agronomic knowledge with irrigation specialty, simple – no equipment, accessible and easy to use, affordable – no CAPEX, low-cost subscription and global. Satellite is used as the main source of data because it is almost free data as data is becoming more accessible, has high resolution, suitable for intra-field variability detection, has high frequency i.e., revisit every five days and soon every day and multi-spectral data that allows for advanced agronomy modeling. According to him, technological advancements in food and agriculture are making it possible to improve the health and wellbeing of millions of people worldwide. It is necessary to enable the world to produce more food with fewer resources and less land.

Mr. Ravinder Singh, CEO, Agri Innovative Limited, briefed about Agri Innovative Limited, which is a 'for profit' company owned by Government of India, under the administrative control of DARE, Ministry of Agriculture and Farmers Welfare. There are many institutes and research projects for crop science, horticulture science, natural resource management, animal science, fisheries science, agricultural engineering and agricultural extension. Their main focus is:

- To produce, market and popularize of ICAR's products, processes and technologies in India and Abroad.
- To provide consultancies, contract research, contract service, customized capacity building in India and Abroad.
- To provide technical support for turnkey projects on production and processing plants
- To create public-private partnerships in research, education and other capacity building endeavors.
- Technology Management and Licensing
- Consultancies and Contract Research & Services
- Strategic Collaborations and Turn-key Projects
- Customized Capacity Building
- International Projects

Further, he brought to the notice that enhancing pace of agricultural development through efficient use of innovations and human resource will make the future of agriculture brighter in the coming years.

Thus, it was concluded that technology for yielding crops and maintaining the quality of crops will give a boost to agriculture sector in the coming years. Science and technology along with improved human capital will be powerful enough to drive the positive change in the performance and evolution of farmers.

Policy Initiative and Role of States in Agriculture



Agriculture plays a vital role in the Indian economy. Over 70% of the rural households depend on agriculture. It contributes about 17% to the total GDP and provides employment to over 60% of the population. Indian agriculture has registered impressive growth over last few decades. At the state level, government agencies promote local agricultural products; provide food safety and inspection services, soil conservation and environmental protection. State policies regulate the production, transportation, processing, and marketing of commodities. Many state-funded universities and community colleges provide agricultural education, research and extension services important to the health of the industry. Thus, state plays an important role in the policy initiatives introduced by the government. This session focusing on the challenges faced by the state governments while formulating a policy initiative was chaired by **Mr. Sanjay Prasad, Pr. Secretary – Agriculture, Gujarat.**

Mr. Sanjay Prasad, Pr. Secretary – Agriculture Gujarat, pointed out that focus should not only be on production of crops but majorly on the income of the farmers. Soil efficiency on land conservation, use of cow-dung for eradication of soil salinity are some of the concerns to

be taken care off. Over the time, many schemes have come up for loans, price support to farmers time to time and schemes to provide incentive to the farmers. These schemes are helping in the field of horticulture, agro industry policy, mixed farming and corporative society agro-forestry.

Also, he brought to the notice that technology has played very vital role in the development of agricultural sector such as, Direct Transfer Benefit (DBT) in fertilizers, solar energy through solar panels, collection of data through satellite which helps in doubling the already doubled income of the farmers. All the components if combined together will definitely give boost in agriculture.

Sh. Mani Shankar Aiyar, former Union Minister, elaborated on the pros and cons of the green revolution. He mentioned that green revolution helped to grow pest resistant crops on a massive scale, assisted farmers in growing and exporting cash crops for profit, created jobs opportunities in the agricultural and industrial sector yet contributed to food scarcity as staple food crops were replaced by cash crops to be exported. Moreover, constantly replanting crops without restoring soil health lead to increased use of fertilizers to keep the nutrient in the soil and replenish it, resulting in negative effects on crop production because of soil degradation. Also, industrial farming equipments became expensive for small farmers, resulting the loss in production of fruits, vegetables and pulses.

Thus, there is desperate need of new technology as old technology is not competent in present time to give high productivity from limited resources. Mythology of dissemination to millions of people can be done through panchayat raj. This is because panchayati raj is a state subject. State government has linked its activities with panchayati raj. There are approximately 32 lakh representatives and 15 lakh women are elected for the welfare of farmers. There is a need to go to the dry areas to build the gap between the people who hold authority and the farmers. He quoted that Haryana government has taken an initiative to introduce education institution to spread awareness and give knowledge, especially agriculture. Different schemes have come up like gram sabhas, habitation sabhas and special sabhas for women and children. He also brought to the notice that schemes have also been formulated even at the university level. For instance, students of Punjab University went to the villages of Punjab and reached out to the farmers, creating awareness among them about various subjects, such as technical know-how, irrigation methods and etc.

Mr. Om Prakash Dhankad, Agriculture Minister, Haryana, mentioned about various initiatives taken by the Haryana government in order to help farmers in the state. He pointed out that Haryana government is promoting A2 milk (cow milk) while trying to connect farmers with different markets at local and national level. The government is focusing on making of the brand (Haryana Fresh Brand) in the villages, which is not only safe and healthy but will give additional fund to farmers. This is because branded products are the most purchased and trusted commodities in the market. Individuals get attracted towards brands and tend to buy products with brand names. This step will increase micro economy of the farmers.

He quoted that agriculture output or the income will increase when input is to its best. Balance of output and input needs to be taken into consideration otherwise farmers may incur losses as their livelihood depends on the produce. Moreover, workshops, seminars and etc., should be regularly undertaken so as to teach them the art of selling products as they know their products much better than any other person along with its actual cost and value. This will help them to generate maximum benefit or profits for their hard work.

Thus, it was be concluded that states play a crucial role in supporting and developing solutions for agriculture. State governments are required to initiate policies and take real steps in implementing the same. At the local level, county and municipal governments promote agricultural education in schools and through civic organizations. They also regulate the size of farming operations permitted in their respective communities, and approve laws related to farmers' markets, community gardens, and food assistance programs.

Partnering for African Agriculture Development



The agricultural sectors in India and Africa share common characteristics from diversity of climatic regions to similarities in farming systems. Given these

similar sectorial characteristics and complementary developmental priorities, there exist collaboration between India and Africa. There is significant scope for the agricultural sector in Africa to benefit from the Indian experience and on the other hand Africa offers one of the most attractive and large untapped markets for Indian farmers. In order to identify the possibilities, this session was conducted and was chaired by **Dr. Jeremy Tinga Ouedraogo, Head, African Biosafety Network of Expertise, NEPAD, Dakar**.

Dr. Jeremy Tinga Ouedraogo, Head, Agriculture Biosecurity Network of Expertise, NEPAD, Dakar stated that given the two important instruments 1) African Union Agenda 2063 and 2) Malabo Declaration, Africa is very clear on what they want. He mentioned that Africa is very clear and decisive on the urgency and concreteness to address sustainably the issue of malnutrition and hunger. He revealed that the goal to zero hunger by 2023 is not emotional but a decision with determination and commitment viewing the trends of hunger and malnutrition in Africa. He underlined that Africa is making efforts to boost agricultural growth and ensure food safety for its inhabitants.

H.E Mr. W.H. El- Sreihin, SG, African Asian rural Development Organization, stated that agriculture remains the backbone for India – Africa partnership for food production. With the changing global landscape for agriculture and food, India and Africa have emerged as key partners in contributing to global food security. He also mentioned that there is a requirement of globalizing market with agriculture products, fertilizers, pesticides etc. There is real need to invest in agriculture by public sector, focusing on pre and post activities of farming and value addition in farmers' income which may also facilitate the partnership with various countries

He also emphasized on capacity building through seminars, sessions, strategies and policy forming with the financial assistance from the government and other institutional bodies. Moreover, countries have started emphasizing on agricultural sector which is uniting the countries and making the sector flourish successfully.

Prof. Karim Maredia, Director, Africa Partnership Program, Michigan State University, briefed about the Michigan State University, which is a Land-Grant University with a vision towards building global knowledge partnerships and the three fold mission, research, teaching and extension/outreach. He informed about the programmes and initiatives taken by the university. ABNE (African Biosafety Network of Expertise) network, training program being done each year and short courses offered in Africa and at MSU. In fact, study tours, workshops, one-on-one Technical Assistance, study tours to India were organized.

He brought to the notice that in the last decade more than US\$100 million were invested in Africa for improvements of food security crops such as maize, cassava, banana, cowpea, sorghum, sweet potato, rice, potato, etc. through modern biotechnology. He also mentioned the key areas which need to be addressed, as insects and disease resistance, drought tolerance, nutritional enhancement, nitrogen use efficiency and salt tolerance.

Dr. H Rahman, South Asian Director, International Livestock Research Institution, introduced ILRI as national organization working in South Asia – Africa with the motto of providing food to all. He pointed out that 70% of the world's rural poor relies on livestock for livelihoods. About 600 million poor livestock keepers are in the world, of which around two-thirds are rural women who contribute about 40% to the Agricultural GDP. In the poorest countries, livestock manure comprises over 70% of soil fertility while 90% of animal products are produced and consumed in the same country or region and over 70% of livestock products are sold 'informally'. Thus, some of the measures which should be taken into consideration are:

- Ensuring decent livelihood for livestock keepers
- Enhancing productivity to narrow yield gaps within specific farm systems
- Adjusting to pressure on ecosystems, natural and genetic resources, tackling environmental externalities
- Adapting to climate change and extreme weather events, and reducing Green House Gases (GHG)
- Improving food and nutritional security
- Identifying policies and actions to contribute to sustainable agricultural development

He suggested few strategies which can be adopted in accordance to achieve the above mentioned goals include networking, policy and institutional arrangement, targeting, capacity strengthening, larger presence in South Asian countries. Working with farmers and partners may provide knowledge and help in the development of relevant mitigation options and strengthening productivity and resilience of food systems.

Dr. Ruth Mbabazi, Research Associate Professor,

MSU, mentioned that Africa is facing the global emerging challenges of climate change, rising food insecurity, political volatility, population explosion, mounting environmental pressures, leading to an urgent need to produce more food & fiber and provide clean water. He pointed out some of the corrective measures, which needs to be taken into consideration:

Need for policy reforms and creation of enabling environment for investment and participation by private sector, (a) Enabling policies – IPM, extension services and (b) Right infrastructure for research.

- Capital investment by private sector, establishment of various value chains
- Formulation of policies which allow upstream investments – agricultural input investments
- Adoption of improved technologies – climate smart agriculture in a necessity for Africa
- Increased investment into enabling infrastructure – ICT
- Appropriate policies and regulation to foster agribusiness – effective land tenure system to encourage private investment (friendly land registration schemes)

He also mentioned about the need for the public private partnership to (a) provide the right business environment to attract capital investment, and (b) ensure that investments support national targets, such as upgrading research infrastructure; improving professional and technical competencies; and promoting entrepreneurship and innovation.

Therefore, India's commitment to engage with Africa is a reinforcement of the political and economic cooperation. Both the economies are determined to work together and achieve the common goals of food security, improved health and nutritional conditions, capacity building and skill development, technology transfer, and other parameters that have an impact on the economic condition of people. The similar consumer markets in India and Africa provide great opportunities to work together and meet various global challenges.

International Cooperation for Agriculture Growth



Agriculture has brought many countries together who have joined hands for the expansion of agriculture of all the countries by resolving issues and achieving missions. This session was conducted for exploring such possibilities and identifying hindrances for the same with **H.E. Mr. Petko Doykov, Ambassador of the Republic of Bulgaria as the chair.**

H.E. Mr. Petko Doykov, Ambassador of Republic of Bulgaria, stressed that the role of international cooperation could be best seen in figures for example in case of Bulgaria. Trade of agriculture goods constitute around 15% of the total commercial exchanges on an annual basis. As a member state of European Union, Bulgaria's commercial exchanges are mainly with European Countries and accounts for nearly 80% of exchange. Though gradually trade with India is pacing up and it is expected that in 2018 goods in large quantity will be exchanged between the two nations. He expected that working hand in hand with India will boost the exchange of goods and services to a great extent.

Mr. Rene Van Berkel, UNIDO Indian Representative, introduced UNIDO as a specialized agency of the United Nations that supports industrialization in its member developing country states as a contribution to the realization of 2030 Sustainable Development Goals (SDGs). Achieving the global goals creates at least US\$12 trillion in opportunities by 2030, just in four major economic systems, i.e., Food & agriculture, cities, energy & material and health & well-being, of which food and agriculture alone accounts for US\$ 2.3 trillion. In Asia, these four systems create at least US\$5 trillion in opportunities and pursuing those opportunities could create almost 230 million new jobs in the region by 2030, equivalent to 12% of the Asian labor force. The main role of UNIDO is to build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.

Dr. Mustapha El Hamzaoui, Director, Food Security Officer, USAID, mentioned that ever since 1980s goal was to fasten agriculture productivity because of which agriculture has been increasingly integrating with global market spreading its roots rapidly. Rewarding relation in the field of development and to address program to overcome agriculture productivity has proved to be a great step in terms of agriculture. Training program for triangular partnership may bring countries together. In fact, in India, 1000 students received education under IAP project, regarding agriculture innovation partnership with upgraded curriculum which changed their mind set towards agriculture. He also pointed out that international cooperation plays a vital role in tackling global issues.

Dr. Chakib Jenane, Lead agro Economist, World Bank, stated that the World Bank is an international financial institution that provides loans to countries of the world for capital programs with the official goal of reduction of poverty. He pointed out that one of the major key challenges faced by India is the low productivity in the agriculture sector due to cumulative degradation of resource base (water and soils), reliance on low value cereals, low farm efficiency and unfavorable climate change. He expressed that India will have highest population with 1.7 billion people in the world. Thus, to feed the growing population, the food supply would need to increase.

He also talked about the possibility of doubling farmers' income. He referred to the Crucial World Bank study findings and quoted economic efficiency of typical farm, which was estimated to be 33% and is very low as about half of the income is forgone due to technical inefficiency (technical advisory services) and other half due to crop choice or production structure – incentive driven by current policies. Thus, there is a plenty of scope to double or even triple typical farmer's income. Hence, there is a need for forging a resource-efficient growth path, which may include:

- De-linking subsidy from: (i) input use and (ii) production of water thirsty crops.
- Shifting expenditures to public investments in R&D, irrigation systems, rural infrastructure (roads), cold storage facilities and markets.
- Considering direct income support, which requires a delivery architecture and experimentation to design and build coalitions of support.



- Building resilience through R&D for innovations in climate-smart-agriculture.
- Complementary agenda to grow the rural non-economy, so that agriculture does not remain the reservoir of last resort occupations.
- Also, there is a need to accelerate the transformation process – increase the Agribusiness-to-Agriculture ratio i.e. income multiplier effect.
- Further, he discussed about the resilient inclusive growth and suggested a few areas
- Agriculture Diversification towards High-Value Agricultural Commodities (HVAs)
- Agribusiness and value chain development
- Agro-industry and logistics
- Irrigation technologies for water use efficiency
- Climate smart practices
- Drought tolerant varieties
- Soil health management
- Support for rural non-farm economic opportunities
- Skills Development for better quality jobs
- Supporting the production of quality and safe food
- Making agriculture more nutrition-sensitive.
- Developing a functional food quality, nutritional, traceability and safety assurance infrastructure.

Dr. Mio Oka, Director (ENRA DIV) Asian Development Bank, recalled that in 1960s the Asian Development Bank was known as Agriculture Development Bank but over the time bank expanded its span and provided services to not only agricultural areas but to other sectors as well, thus is named Asian Development Bank as of now. Also, one of the top clients for the bank is India. The bank helps in driving the growth in agriculture sector and adds value chain. He also pointed out the services provided by the bank in south

Asia, which are:

- Providing infrastructure
- Partnership with private sector
- Focus on rural development
- GAP, food crops, fisheries development, piggery development.

In fact, a project in Maharashtra is one of the successes by the bank in India. However, there are certain questions which still need to be answered, such as the role of public sector, new technologies which India need and possibility of fishery market in India.

Mr. G. James Gonzalez, Agriculture Counselor, Chile, deliberated upon the trade of food commodities between India and Chile. He pointed out that in 2017 few commodities along with walnuts have been imported to India, which are phosphine approved, instead of methyl Bromide. Moreover, Chile got market access for sea food, while new import conditions for blueberries and avocados were imposed. He also brought to the notice that walnuts, coco/coirpith, Jatropha seeds are being exported to Chile from India. Moreover, the countries have come in the agreement regarding mangoes, while lentils and mung beans first shipment is being currently processed. Both the countries are looking forward for more trade as both have reduced tariff on various food items and have also expanded the Preferential Trade Agreement (PTA).

Relationship between India and Chile in terms of agriculture has given a platform for both the countries to unite and do business on large scale. Countries are getting market to sell their commodities and citizens are getting benefit of enjoying products of other countries. It is a platform to build relation of business, peace and security.

Thus, international cooperation is very crucial since strong international business relations will result in better growth of economy as well as this sector. The mandate of international cooperation should be to foster mutually beneficial partnerships with other countries of the world in a multilateral as well as bilateral format.

LAUNCHES AND SIGNING OF MoUs

Signing of MoUs

Signing of MoU between ICFA and German Agribusiness Alliance



Indian Council of Food and Agriculture (ICFA) signed a Memorandum of Understanding with German Agribusiness Alliance (GAA) with the aim to promote trade, technology and business cooperation in food and agriculture sector of the two economies by providing policy advocacy, promoting investments. GAA is an initiative of leading associations and companies in the agro-food industry which aims towards improving fundamental national and international framework conditions for facilitating economic activities in and with the partner countries. Ms. Alina Gumpert and Mr. Alok Sinha on behalf of GAA and ICFA respectively signed the MOU. ICFA is an apex policy research and advocacy body for food and agriculture sector. This collaboration will make efforts to accelerate the growth of Indian Agriculture and will address to various issues that may facilitate greater cooperation between India and Germany and generate reciprocal awareness among the industries, investors, Government and other stakeholders about each other country for better understanding and cooperation. ICFA is a national level platform in India with the mandate for policy research and advocacy, trade, technology and investments facilitation in food and agriculture sector towards empowering the farmers and addressing the issues of agriculture development, global food security and environmental sustainability. e for years to come due to climate change.

Signing of MoU between ICFA and Iowa State University, USA



Indian council of Food and Agriculture collaborates with Iowa State University Seed Science Centre for better quality seeds in India. A Memorandum of Collaboration was signed by Indian Council of Food and Agriculture (ICFA) with Iowa State University Seed Science Centre for better access to quality seed, encouraging seed exchange, and initiate cutting-edge research projects in seed sector to boost sustainable agriculture. The Seed Science Center at Iowa State University (ISU-SSC) is a center of excellence in Seed Science, Technology and Systems nationally and internationally. Mr. Manjit Misra and Mr. Alok Sinha signed the document. This collaboration will make efforts to accelerate exchange of knowledge and enhance cooperation to boost sustainable agriculture the growth of Indian Agriculture. ICFA is a national level platform in India with the mandate for policy research and advocacy, trade, technology and investments facilitation in food and agriculture sector towards empowering the farmers and addressing the issues of agriculture development, global food security and environmental sustainability.

Launches

Launch of ICFA Parliamentary Forum

Indian Council of Food and Agriculture launched a Parliamentary forum comprising of 25 Member of Parliament to strengthen the parliamentary focus on farm and farmers related issues supported with



researched ground level information. The forum is being chaired by Sh. Tariq Anwar, Senior MP and Former MOS (Agriculture) and convened by Sh. Ravi Verma, MP. This forum aims to represent the interests of the key stakeholders, importantly the farmers and channelize bonafide collective voice to the farmers at nation level and act as a platform for policy research and advocacy to relieve farm distress through developmental initiatives for better economic growth and rural social transformation.

Launch of Book “Eco Agri Revolution Practical Lessons & the Way Ahead” authored by Dr. MH Mehta



A book on Eco Agriculture Revolution, by Dr. MH Mehta was launched during the inaugural ceremony of the 10th Global Agriculture Leadership Summit and Awards, 2017. This book is about moving from ‘Know How’ to ‘Do

How’ and brings about rich experience in industrial research and farm scale demonstrations in different parts of the world to show the practical aspects of Eco agriculture.

Launch of International Agro Trade and Technology Fair (IATF 2018)

In a bid to introduce contemporary agriculture – Horticulture, Dairy Farming, Food processing technologies etc , along with their best practices that can inevitably help countless farmers and platform owners, Indian Council of Food and Agriculture, Delhi is fully geared up to floor their next edition of IATF 2018. IATF will be an eye opener for the growers, wholesalers, importers, exporters and all other stakeholders of every segment of Agriculture and Farm Machinery, Equipment and allied sectors who want to expand and diversify their business and activities. On the theme of - Building Global Competitiveness, the event will showcase the best and latest in Indian Agriculture and Allied Sectors produced, manufactured and practiced in India and abroad, making it a significant platform for business partnerships worldwide. The platform will be an outstanding opportunity where local, regional and international investors can engage and evaluate promising investment opportunities.



Launch of India-US-Africa Partnership Platform



ICFA launched India-US-Africa partnership platform in response to changing dynamics of geopolitics and to mobilize resources for African Agriculture Development. With the aim to end hunger and ensure access to safe and nutritious food by all and translating sustainable development goals for transforming African agriculture has observed unprecedented growth though agricultural growth and population growth widening the gap between mouths to be fed and food availability. Leveraging upon the vast bio and climatic diversity, Africa can increase productivity, and

achieve food self-sufficiency in a decade.

India as well as United States of America have historically been involved in African continent and have huge commitments for Africa. Both the countries in recent years have increased their funding through flagship programs; India under South-South Cooperation and US under Feed the Future Program. This Partnership Platform (USIAP) will mobilize Indian and US expertise and resources to translate their commitments into action to bring about food and nutritional security in Africa. The prime motto of this platform is to end hunger and ensure access by all people, in particular the poor and vulnerable, to safe, nutritious and sufficient food in Africa through sustainable food production systems and implementing resilient agricultural practices.



10TH GLOBAL LEADERSHIP AWARDS

Policy Leadership Award - Mr. K. Chandrasekhar Rao, Chief Minister of Telangana State.



The first Chief Minister of Telangana, Mr. K. Chandrasekhar Rao, took many path breaking initiatives that created far-reaching impact on the rural sector of the state and touched the lives of millions of farmers. Popularly known as KCR, Mr. Rao has been allocating the highest-ever funds of over Rs.25,000 Crore every year in the Budget to redesign and construct projects to irrigate one core acres. The Budget for irrigation was less than Rs.10,000 Crore for all of undivided AP earlier. He also has announced a scheme to extend financial assistance of Rs.8,000 per acre per year to the farmers from 2018. Under his leadership, the government has taken a decision to create crop colonies in the state to ensure farmers grow suitable crops in their fields depending on local climate conditions. As part of the efforts to revive the farm sector in the State and also to revamp the rural economy, traditional activities such as, sheep-rearing, fisheries, dairy, among other activities are being actively promoted. Mr. Rao took the initiative in waiving outstanding agricultural loan of Rs.17,000 crore benefitting more than 35 lakh farmers in the State. His visionary leadership and bold policy measures of hugely investing into infrastructure projects are paving the path of reviving the agriculture sector and economically empowering farmers of the State.

Research Leadership Award - Professor Kadambot Siddique, Director, UWA Institute of Agriculture, University of Western Australia, Perth



Professor Kadambot Siddique, with more than three decades of pioneering work in agricultural research, research training and management in Australia and globally, has made outstanding contributions to agriculture science. His research on the adaptation, physiology, genetics and agronomy of crops has boosted cereal and grain legume production in dry-land environments. His major contribution to dry-land agriculture has been the release of 13 new grain legume cultivars. His education and research training initiatives span many regions, including Australia, Asia, Africa and the Middle East. Professor Siddique has made outstanding contributions to several areas of crop science as demonstrated by authoring 350 papers in international peer-reviewed journals, 46 books and book chapters and 78 conference proceedings. He has conducted research on adaptation of crops to water deficits and the phonological, morphological, physiological, biochemical and genetic traits that enable crops to cope with various abiotic stresses. Professor Siddique's research leads have made new inroads into developing dry-land agriculture thereby increasing its production and increased gains to farmers.

Academic Leadership Award - to Dr. Manjit Mishra, Director Seed Science Centre, IOWA State University, USA

Dr. Manjit Misra, a renowned academician and currently the Director of the Seed Science Center at Iowa State University, USA, the largest public seed laboratory in the world, has been providing leadership to the faculty, staff and graduate students through innovative academic courses. The Center administers the USDA National Seed Health System which is



instrumental in the export of \$1.2B of seed from USA each year. Misra's true passion lies in mentoring future leaders of the seed industry for which he conceived and developed an innovative "Global Curriculum on Seed Science and Business Management" that combines science with business acumen. The curriculum which is delivered online via distance technology has enrolled 104 graduate students from 21 states in USA and 11 other countries. He also developed a new graduate course on Seed Technology and Business titled "Seed Conditioning Management" and taught the course via distance education technology. Dr. Misra has relentlessly worked towards developing human capital for seeding a food-secure future

Farming Leadership Award - Dr, Gazalla Amin, Chairperson, Fasiam Agro Farms, Srinagar



Fasiam Agro Farms, the pioneer in commercial production of lavender essential oil and aromatic flowers in the private sector, is Kashmir's gift to India and the world. With a state of the art distillation facility in Kashmir, the farm was also among the first to have a successful private-public partnership with the Indian Institute of Integrative Medicine that helped the Farm in value addition and efficient farming practices of medicinal plants.

Fasiam Agro Farms, through its tremendous success in lavender gave an alternative option to small farmers and

entrepreneurs of the Valley to pursue the same. With its strict avoidance of harmful chemicals and disposing the waste from the distillation unit in an environment friendly way the residues are converted into compost that is used back to nourish the farm. The farm has generated interest among individuals and institutions, and study trips from educational institutions have become a regular affair, which is helping spread of better farming methods and scope for agro-entrepreneurship. Fasiam Agro Farm's foray into the less travelled route of flowers and essential oil has opened up new avenues for increasing farmer incomes.

Agribusiness Leadership Award - IB Group and received by Mr. Bahadur Ali, Managing Director of IB Group.



A growing conglomerate headquartered at Rajnandgaon of Chhattisgarh, Indian Broiler Group has diversified itself into a well-integrated business unit within a relatively short span of 25 years. Commencing its journey with mere 100 birds in early 1985, The Group today has evolved into an industry giant that has business interests in poultry, dairy, oil, animal feed and specialized pet food. The Poultry business, which forms the heart of IB Group, has adopted backward and forward integration successfully. The hatcheries under IB Group maintain high levels of hygiene and bio security arrangements. The Group has also joined hands with local farmers in setting up of partnership farms, thereby providing extended employability, promoting entrepreneurship and better income prospects. Produced under the brand name of ABIS, today IB Group caters to approximately 60% of the population in Central India in table top eggs and chicken category. With a vision to contribute to the gigantic task of providing nutrition and protein security to the under-nourished population, the Group has created an integrated agribusiness model with dynamic forward and backward integration process, state-of-art technology and futuristic thinking.

CSR Leadership Award - DCM Shriman Limited which was received by Mr. RL Tamak, Executive Director



DSCL Sugar, the sugar business of DCM Shriram, in continuation with its CSR policy to contribute towards social development, took the lead in implementing 'Sustainable Sugarcane Production Program' – a multi-pronged approach leading to productivity enhancement, large-scale conservation of water resources and soil health enhancement in sugarcane cultivation in Uttar Pradesh. The Program based on the principles of Suitability, Sustainability and scalability, aims to catalyze a behavior change among farmers. As a result of this program, 160,000 farmers were trained in Good Agricultural and Water Management Practices. As a result of this project, an Increase in yield by 20% has been recorded across the sugarcane catchment areas. Increase by 37% in adoption of press-mud compost for soil health improvements and reduction of fertilizer application, double-digit growth in area under trash mulch has been achieved under this project. Over 55 billion liters of water-use reduced from Oct 2013 till Dec 2016. DSCL Program has thus been able to manage the ecosystem, community, and business risks emerging from future soil health and water challenges in sugarcane cultivation.

Corporate Leadership Award- Mahindra Agri-Solutions Limited which was received by Mr. Ashok Sharma, Managing Director of the company

Mahindra Agri-Solutions, a part of the USD 17.8 billion Mahindra Group, encapsulates the vision of 'FarmTech Prosperity' through its efforts as a catalyst for sustainable and inclusive growth of farmers. The company has partnered with a million farmers to improve their produce quality and productivity by providing latest advances in farm technologies and agricultural know how. With its wide portfolio of inputs viz. seeds, crop care, micro irrigation products and



backed by high quality advisory inputs and services through Samridhi outlets, MASL has successfully helped farmers increase their productivity over the years. Through its strong outputs business consisting of Fruits and Vegetables, Pulses, Edible Oils and Dairy, the company supports farmers with assured market and better price. Having grown more than 11 fold in the last 5 years, Mahindra Agribusiness has become one of India's largest grape exporters, launched its premium fresh fruit and dairy brand - Saboro, and established 'Farm to Fork' presence across the Agri value chain. Through continuous innovations and credible partnership, MASL has been successfully steering farmers towards higher productivity and profitability.

With its strict avoidance of harmful chemicals and disposing the waste from the distillation unit in an environment friendly way the residues are converted into compost that is used back to nourish the farm. The farm has generated interest among individuals and institutions, and study trips from educational institutions have become a regular affair, which is helping spread of better farming methods and scope for agro-entrepreneurship. Fasiyam Agro Farm's foray into the less travelled route of flowers and essential oil has opened up new avenues for increasing farmer incomes.

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Entrepreneur Leadership Award - Mr. Suresh Agarwal, Chairman Beej Sheetal Seeds P. Ltd, Jalna



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Trade Leadership Award - KRBL Limited which was received by Mr. Anil Mittal, Chairman



Beginning its century old journey from Lyallpur as a modest commodity trading house, KRBL today has reached the pinnacle in global basmati rice business. Its flagship brand - India Gate is the most recognized product and today is synonymous with basmati rice. During the Economic Liberalization introduced in the year 1991, KRBL Ltd was quick to identify and bring new rice milling technology such as sorting and grading systems to India. Highly inclined towards technology infusion from the earlier times, the leadership of KRBL Ltd was easily established through "quality consistency and reliability". The acquisition of World's largest rice mill in Punjab by KRBL Ltd, helped the company move up the value chain and consolidate its global dominance. The launch of contract farming, dissemination of new seed varieties and farm extension programs created strong backward linkages for the company and in the process helped KRBL to develop a strong long term relationship with farmers. Today, the company has become a leader in the basmati rice industry with a constant striving to bring new ideas, innovations and technologies to create comparative and competitive advantages.

Livelihood Leadership Award - African Asian Rural Development Organization (AARDO) which was received by Mr. W.H El-Sreihin, Secretary General



African-Asian Rural Development Organization (AARDO), an autonomous inter-governmental organization, was set up with a view to promote coordinated efforts, exchange of experiences and cooperative action for furthering the objectives of development of the rural areas. One of the earliest examples of South-South Cooperation in rural development in the Afro-Asian region, AARDO promotes collaborations with various international organizations for the economic and social welfare of the rural community. The organization has been effectively collaborating with the appropriate international and regional organizations, including UN agencies, the national bodies, governmental or non-governmental, both in the developed and developing countries, for purposes of taking action to accelerate agricultures and rural development in the member countries. With the Mission to catalyze efforts of the Afro-Asian countries, to help them empower their rural societies and to reconstruct the economy of their rural people, AARDO has been playing leadership role in helping its member countries with knowledge sharing, successful experiences, models and effective programs, thus helping them launch cooperative action.

Development Leadership Award - Dr. Bakshi Ram, Director, Sugarcane Breeding Institute, Coimbatore

Dr. Bakshi Ram, with the unique distinction of having served as the Directors of both the oldest Sugarcane Research, Shahjehanpur and the newest the ICAR-Sugarcane Breeding Institute, Coimbatore, devoted his academic career to sugarcane research and development. Under his visionary leadership, several varieties of sugarcane were developed that have



significantly changed the sugarcane production and productivity of India. His untiring efforts have resulted in the development and release of six early maturing varieties, namely CO- 98014, CO- 0118, CO- 0237, CO- 0238, CO- 0239 and CO- 05009) and four mid late maturing varieties. During 2016-17 these varieties occupied 10.02 lakh hectares in Punjab, Haryana, UP and Uttarakhand which is 42.03% of total sugarcane area in these states. CO 0238 developed by Dr. Ram is the biggest block-buster that transformed the sugarcane landscape in Northern India. For the first time in the history of sugar industry, more than 12 percent sugar recovery was recorded during 2015 - 16 by sugar mills in UP. Dr. Ram's leadership role in evolving varieties that not only raised the production potential of sugarcane farms but also helped in increasing farm incomes by an estimated 20%, and thus generating an extra gain of over Rs. 10,000 crore to farmers.

Business Leadership Award - Dr. P V Mohan Rao, Chaiman, Pasuram Group, Haryana



Under the leadership of Dr. PV Mohan Rao, Pasura Group, has been serving the Indian farmers for over two decades, with innovative products that are derived from years of research in the state of the art facilities of the Group. Dr. Rao's vision of providing cost effective solutions to the farmers through plant protection,

solutions to the farmers through plant protection, nutrients and growth enhancers has helped millions of farmers improve their incomes and also the Group rewarded by incredible returns of over US\$225 million during 2016-17. Pasura Group has built state of the art research and development facilities and has qualified scientists are working on the mission to evolve customer-driven agricultural solutions, which has led to the introduction of a number of new molecules, generic molecules, new formulation, pre-mixtures etc. The flagship company of the Group, Pasura Crop Care Pvt. Ltd., has other group companies with distinct products and services portfolio such as Dhana Crop Sciences Ltd., Coromandel Agri Sciences Pvt. Ltd., Taaza international Ltd. among others. Clearly a league ahead of its competitors, Pasura Group under the dynamic leadership of Dr. Rao has been serving the farming community by innovativeness, integrity and loyalty.

Extension Leadership Award - Dr. S K Patil, Vice Chancellor, IGKV, Raipur



A renowned educationalist, Dr. S.K. Patil with over 30 years of experience of academic and administrative excellence in agricultural research, extension and education, is a person with progressive thinking and modern ideas. As Vice-Chancellor of Indira Gandhi Krishi Vishwa Vidyalaya, he steered the University towards academic excellence, encouraged multi-disciplinary programs and transformed university to provide global visibility and outreach. As Director of Research and Dean he managed over 100 research projects, modernized university farms and educational structure. Under his leadership Krishi Vigyan Kendras were developed as model district extension units, facilitating farmers in adopting improved technologies for enhanced productivity, profitability and sustainability and have bagged best KVK award by ICAR, continuously for four years. IGKV under his leadership developed

several technologies, including India's least expensive Soil Testing Kit, and models of rural livelihood security based on integrated crop production, resource conservation, and value addition. His leadership KVKs have done commendable work in reaching out to the farmers and rural youth and providing them entrepreneurial skills, and enhancing livelihood of tribes in Bastar region.

Life Time Achievements Award - Prof. R B Singh, Chancellor, Central Agriculture Business



Professor RB Singh, in his career spanning over five decades has made immeasurable contributions in improving agrarian livelihood, food, nutrition and ecological security, cutting-edge research, higher education and policy and programs formulation; pursued in national, continental and global capacities. The distinguished scientist has made outstanding contributions in the fields of Genetics, Plant Breeding and Biotechnology, guided doctoral research of 45 Ph.Ds. and authored over 300 research and policy papers and 12 books. Prof. Singh had held several coveted positions both at national and international levels. The Padma Bhushan awardee was Assistant Director General of FAO for Asia and the Pacific. As Member of the National Commission on Farmers, he played instrumental role in nationwide consultations and writing the voluminous reports. As Chairman of the Agricultural Scientists Recruitment Board and as Director of the prestigious Indian Agricultural Research Institute (IARI) Prof. Singh introduced many reforms to promote efficiency and result orientation. Currently the Chancellor, Central Agricultural University, the accomplished scientist, played pivotal role in furthering the agricultural interests of the country.

Best Animal Husbandry State Award - Government of Andhra Pradesh, which was received by Mr. Prasad, Special Chief Secretary Andhra Pradesh, home tract of world renowned breeds



like Ongole and Punganur cattle and Nellore breed of sheep, is rich in livestock resources. Occupying 5th position in buffaloes, 2nd in sheep, and 3rd position in poultry, Andhra Pradesh, since its bifurcation in 2014, has achieved double digit growth rate of 12% in contrast to the average annual growth rate of 7% during previous decade, on account of introduction of several innovative schemes and programs, benefitting over 20 lakh households. The state, stands at 2nd position in egg production with 14170 million eggs, 4th position in meat production with 5.66 lakh tons and 5th position in milk production with 10.8 million tons in the country. Andhra Pradesh is the first state in India which has brought out a Fodder Security Policy in 2015 and has also introduced the world best practices of Silage and TMR feeding to increase yield of underfed animals. Mobile Veterinary Clinics have been established to cover 45 remote locations to take the technology to the door step of the farmers. The Government of AP is thus playing a leadership role in adopting a holistic approach to the development of Animal Husbandry sector for promoting the economic wellbeing of the farmers.

Best Horticulture State Award - Government of Chhattisgarh which was received by Mr. Brij Mohan Agarwal Agriculture production Commissioner

Chhattisgarh, the tenth largest state in India, has two thirds of its population dependent on agriculture for livelihood. Known as the rice bowl of Central India, the state has started giving thrust to horticulture through innovative programs. As a result the area under cultivation of fruits increased from 0.46 lakh hectare in 2004-05 to 2.39 lakh hectare in 2015-16 and production



in the same period increased from 3.23 lakh tonnes to 23.28 lakh tonnes. Area under cultivation and production of vegetables increased from 1.23 lakh hectare and 12.49 lakh tonnes in 2004-05 to 4.39 lakh hectare and 60.62 lakh tonnes respectively in 2015-16. Spices cultivation also showed marked improvement with area rising from 0.28 lakh hectare to 0.94 lakh hectare and production from 1.69 lakh tonnes to 6.59 lakh tons in the same period. The government has laid considerable thrust on increasing the area and productivity of horticulture in the state. Development of clusters of greenhouses and shed-nets, modernization of nurseries, special component for skills development in the horticulture sector are some of the strategies adopted by the government to improve horticulture. With futuristic policies and well-designed programs, the state of Chhattisgarh has made an indelible mark in the horticultural landscape of the country.

Africa Leadership Award - Dr. Ibrahim Mayaki, Chief Executive Officer, NEPAD and former Prime Minister, Niger



A scholar, diplomat and political leader, Dr. Ibrahim Assane Mayaki is the Chief Executive Officer of the New Partnership for Africa's Development (NEPAD), an agency for socio-economic development program of the African Union. Earlier, as Prime Minister of Niger,

Dr. Mayaki launched many schemes with far reaching implications towards agriculture growth and food security of the nation. He introduced economic reforms and innovative legislative measures that brought out a sizeable Niger population out of poverty. From 2004 to 2009, he served as the Executive Director of the Platform in support of Rural Development in West and Central Africa, based in Dakar, Senegal with the mission to support policies related to the development of agriculture and trade as well as build the human capital. As the chief of NEPAD, Dr. Mayaki is playing critical role in mobilizing global resources and partnerships towards the development of Africa and making it food secure continent. For more than two decades, Dr. Mayaki has made tireless efforts and provided excellent leadership to wide range of programs in Africa ranging from food security to human health to education to energy to gender and youth empowerment, and thus played seminal role in the development of Africa.

International Leadership Award - Ambassador Kenneth Quinn, President, World Food Prize Foundation, USA



A former U.S. diplomat, Ambassador Kenneth Quinn, had a distinguished 32-year career in foreign service with the U.S. State Department, before moving in food and agriculture sector. During his diplomatic career, he worked as a rural development advisor in the Mekong Delta, as the Deputy Assistant Secretary of State and as chairman of the U.S. Interagency Task Force on POW. Widely acknowledged for his expertise on global food issues, Ambassador Quinn assumed the presidency of the World Food Prize Foundation at Des Moines, Iowa in 2000. He single-handedly endeavored to raise the status of World Food Prize, founded by the Noble Laureate and key architect of the India's Green Revolution, Dr. Norman E. Borlaug. Ambassador Quinn's vision and extraordinary efforts over the years have brought the World

Food Prize at par with the Noble Prizes. Each October, more than 1,000 people from over 70 countries gather in Des Moines for the Borlaug Dialogue international symposium, which is premier event on global agriculture. Under his leadership, the World Food Prize Hall of Laureates was completed with the purpose of inspiring future generations to emulate Dr. Borlaug by confronting hunger. Ambassador Quinn is today among the most admired names in the global agriculture community, who plays a key role in international agriculture, trade policies and global food security.

Special Achievement Award – Sh. Monohar Lal Khattar, Hon'ble Chief Minister, Government of Haryana



Being the son of a small farmer, cultivating the two acres field in village Nindana, more crop per drop was not a slogan but an action defining creed for Monohar Lal all through his adolescence. An able administrator with vision, political acumen and strong grassroots connects, Sh Manohar Lal, as chief minister of Haryana effortlessly raised the agriculture outlook of the state, making Haryana the second highest contributor to the central food grains pool. A follower of the dictum "Seva Pratham". Manohar Lal was particularly concerned by the plight of the farmers and took bold policy decisions to improve the situation of agriculture in Haryana. Under his leadership, the compensation amount for crops damaged by natural disaster was raised to a high of Rs 12,000 per acre coupled with the waiver of one year's power bills and crop loans by banks distributed to a record level of Rs 22,175 crores. Haryana state had distributed Rs 230 crore as compensation to farmers under PM Fasal Bima Yojna during Kharif 2016, and provisioned Rs 300 crore during 2017-2018.

In order to promote organic farming, 20 clusters of 50 acre each have been constituted in eleven districts of state. Under the soil health scheme, 13.24 lac soil samples were collected in the state and 15.73 lac soil health cards issued to the farmers, a record in the country. Haryana become the first state to give impetus to the eNAM projects in its 54 mandis. Giving major boost to horticulture, a full-fledged university is being established and 4 centers of excellence have already being established. To give boost to post harvest management and marketing in horticulture, a project of Rs 510 crore has been launched for establishment of packed houses, and collection centers in identified 345 horticulture villages. Gau Sanrakshan and Gau Samavardhan Act was enacted for preservation and promotion of indigenous breed of cows in Haryana and subsidy of 50% under Mini Dairy Scheme granted. Under Shri Lal's leadership the state advisory price of sugarcane is the highest in India i.e. Rs.315 per quintal. For Haryana's metamorphic performance, Government of India presented 'Krishi Karman Award' and ICFA conferred the best Horticulture Award in 2016. Towards transplanting Prime Minister's vision of doubling farmers income, Haryana's government under Sh. Manohar Lal's leadership was launched a 7 point program. The Chief Minister through its visionary policies, dynamic leadership and innovative program programs is writing a new saga of growth and empowerment of farmers and rural prosperity of the state.

Best Agriculture State Award - Government of Rajasthan

Mr. Sunil Kumar, an emerging name in the field of agribusiness consulting within a short span of time has amassed many coveted achievements. Starting his career with Concept Agrotech Consulting Limited and later as part of CII, he worked on some of its key initiatives and prepared road map for cold chains in India for perishable products. Establishing National Centre for Cold-chain Development was one of the key outcomes of this initiative. His blooming career in consulting gave him ample opportunities to work on agri-infrastructure projects such as concept of Modern Terminal Markets, Perishable Cargo Centres and some of the modern pack-houses. After becoming a part of Synergy Technofin, his work area spanned diverse sectors of agribusinesses and diverse geography. Today Synergy works with 300 plus Farmer Producer Organisations and more than 30,000 farmers and is a part of Government of India's initiative of

Delhi Kisan Mandi as its Strategic Management Partner. Sunil Kumar through his innovative ideas and inventive mind has made significant contributions to the field of agribusiness and value chain development.

In the concluding session for the first day of the summit, some of the eminent personalities briefed about the results derived from the discussions held during the day.

Prof. Ramesh Chand, Member of NITI Aayog, stressed that working with changing climatic conditions and rapid utilization of resources have wounded internationally and nationally. He also emphasized that the market is evolving as agricultural commodities have gained vital importance. Further, he elaborated on the better price realization in the market, which may help in increasing farmers' income and bring uniformity in the market.

Prof. Kaptan Singh Solanki, Governor of Haryana, expressed his pleasure on being part of this event for the third time in a row. He mentioned that there was a six days discussion in Rajya Sabha on "What have the country got after freedom?" and the conclusion was that the country has got nothing after freedom. India was known for its humanity, agriculture products, culture and it has restored its values but nothing new is achieved from then. However, he expressed that US- India-Africa partnership is a good initiative which will bring peace and harmony among the countries.

He added by stating that India needs to take measures for the growth and development of farmers else economy may be paralyzed. There is lack of infrastructure and water management, which needs to be taken into consideration by the government. Moreover, agriculture productivity is high but because of lack of storage system the crops and agriculture products are wasted.

Lastly, **Dr. M J Khan, Chairman, ICFA**, greeted all the delegates and acknowledged Mr. Suresh Prabhu, Minister of Commerce & Industry of India for inaugurating 10th Global Agriculture Leadership Summit and Awards, 2017. He further stated that, globally, agriculture has transformed significantly over the years; from being a means of subsistence to market linked and commercialized with application of advance technologies and integration. Agriculture in India has also come a long way from the days of 'ship to mouth' to a situation of 'warehouses overflowing with food grains'.

The image features a dark green, semi-transparent arrow pointing to the right, which serves as a background for the text. The arrow is set against a blurred background of green foliage and trees, with bright sunlight filtering through the leaves, creating a bokeh effect. The text "SUMMIT DAY 2" is written in a bold, white, sans-serif font, positioned within the arrow's body.

SUMMIT DAY 2

TECHNICAL SESSIONS

Contract Farming and Agro Processing



Contract farming involves agricultural production being carried out on the basis of an agreement between the buyer and farm producers. However, only big agro processing industries are involved in contract farming. Thus, there is a need for adoption of contract farming by small and medium agro processing enterprises as it will help in better price realization and reduction of post-harvest losses. Thus, contract farming and agro processing sector offers a wide range of opportunities. In this context, session was conducted, chaired by **Mr. SK Makhija, Advisor, Jain Irrigation System Limited**.

Mr. SK Makhija, Advisor, Jain Irrigation System Limited, stated that contract farming and agri processing is the road to doubling farmers' income. He mentioned that Jain Irrigation System followed the policy of FARM TO FORK—SUPPLY DRIVEN, however with time the new paradigm is FORK TO FARM—DEMAND DRIVEN. He also pointed out that contract farming is essentially demand driven; its effective supply chain makes it sustainable. He also explained the integrated model of Jain Irrigation System and pointed out that crop specific challenges are identified at Jain Irrigation System, however, solutions are innovated. The company provides crop management support to farmers by Jain GAP. Also, he elaborated on the road map to double farmer's income, which may include:

- Farmer's empowerment with science, technology and capital.

- Increased productivity. Create value chain to capture value.
- Target increased prosperity and all inclusive growth.

Ms. Alina Gumpert, Director, German Agribusiness Alliance, focused on ways to increase crop production, such as efficient technology, soil preparation and modern irrigation system and pointed out that India has taken initiative to alliance with German companies to be competent in the above mentioned techniques. She stressed the importance of strengthening along with financial aspects for efficient resource utilization, policy and finance. Moreover, large quantity and high quality directly results in increased benefits for farmers.

She opined that core of farming is business, thus, farmers should be regarded as businessman. Close connection with stakeholders and sharing farming approaches will help farmers improvise. Signing of MOU between ICFA and German Agribusiness Alliance is an initiative, which will catalyze development of agricultural sector at both the ends. She pointed out, though, German technology is regard as expensive, but provides large diversity of technology accompanied with the services with potential of accelerating development.

Dr. PK Joshi, South Asia Director, IFRI, brought to the notice that India was the largest country in contract farming at time of green revolution which is so unnoticed till now. Small farm holders are attracted towards the contract farming due to assured prices & procurement, higher profit, access to better technology and lower transaction costs. Moreover, farmers receive higher prices which have marked up to (a) 5-20% higher in vegetables (SAFAL case study in India), (b) 25% higher in broiler (Venkateshwara Hatcheries case study) and (c) 4% higher in milk (Nestle case study in India) and risk is shared by the firms, as high as 88%.

However, contract farming also faces certain challenges, especially supply side, such as, low marketable surplus & heterogeneous product, breach of contract by producer or the firm, low bargaining power of smallholders because of low volume, asset specialization that restricts change in production portfolio and dependency on the firm in the long-run to access market, information and technology. He also mentioned some of the agribusiness opportunities such as:

- Low processing - 2% in India compared to 83% Malaysia, 78% Philippines, 70% Brazil and 30% Thailand
- Food processing fund – US\$300 million with NABARD
- Mega food parks - 42 approved with US\$2.38 billion and 134 cold chains (87 completed)
- Start up and MUDRA Bank

He felt that there is a need for aggregating farmers for scale and homogeneity through Farmer Producer Organizations, Cooperative, Self-help groups or Cluster farming; form commodity boards; federate FPOs with commodity boards and incentives to farmers' organizations.

Mr. Manoj Rawat, Head – Agribusiness, RBL Bank, elaborated on the multi channel distribution network of companies, agribusiness distribution model, traditional agriculture value chain in India and types of market. He also stated the key areas of concern, namely, (a) Food Security, (b) Income Security for Farmers and (c) Financial Inclusion for Rural India. There is a need to build synergy which will reduce multiplicity of frameworks, synergy between various markets – Physical, Spot, online & exchanges which help in rightful price discovery for farmer, buyers/traders & processors.

Also, he mentioned about the new electronic platform, National Agriculture Market e-NAM and discussed its characteristics, which make it a Unified market for agricultural commodities across country.

This model will make the marketing channel shorter, resulting in helping with better price recovery for seller & buyer by minimizing transportation, eliminating the intermediaries, reducing post-harvest losses and market inefficiencies. Moreover, it may provide some monetary benefits to the farmers, such as higher share in

consumer rupee, minimal marketing cost and lower transaction cost, while non-monetary benefits to the farmers include reduced direct contact in farmers and consumers resulting in better understanding of consumer demand as well as their behavior. For the convenience of the farmers e-NAM App is also introduced which is easy to operate. He suggested that way forward for connecting farmers and integrating agriculture value chain needs to be participative for development of trust and credible framework.

Thus, it was concluded that companies and States should promote group contracts with the intermediation of local NGOs and other organizations and institutions so that contractual relationships are more durable and fair. Moreover, insurance component is a must to protect contract farmers' interests. There is thus the need for collective action through cooperative process to be able to buy and sell at better prices.

Eco- Agriculture and GAP Certification for Safer Food



In a healthy farm system, agriculture works in harmony with the natural environment. This begins with healthy soil that stores water and nutrients and provides a stable base to support plant roots. Chemical fertilizers and pesticides not only contaminate surface water, they also affect fish population and human health as well. To regain the lost ecological status, it is high time to start the ecological agriculture without further delay. Further, the agricultural products should be GAP Certified, so that products meet the international quality standards for trade. This session was conducted so as to assess the opportunities and identify the challenges in adoption of both, eco agriculture and GAP Certification. The session was chaired by **Dr. M H Mehta, Chairman, Science Ashram.**

Dr. M H Mehta, Chairman, Science Ashram, opined that a hunger-free and nutrition-secured world is possible by manufacturing and using eco-friendly products and technologies. This can be used to improve farm productivity sustainably, reduce input costs, and increase farmer's wealth. He stressed on the use of agro – waste bio-composts as green waste for different productive purposes such as (a) Pest control –Microbial, plant extracts and combinations; (b) Growth Regulators – Natural, organic and (c) Bio fertilizers, Bio control Agents, Bio compose -Nutrient Management & Disease Control.

He felt that there is a need to prepare the road map for the eco agriculture revolution, suggest an action plan and monitor the same. Eco agriculture revolution is coming and India can and should take lead to showcase its potential and capabilities as lacking behind in agriculture will be a big loss for India considering the fact that more than half of the country's population is dependent on agriculture for livelihood.

Mr. Anil Jauhri, CEO, National Board of Accreditation of Certification Bodies, briefed the house about GAP certification. He advocated customizing farmer Global GAP as per requirement. He revealed that if GAP certification becomes bench mark with global GAP then there will be 40% less payment. Therefore, to increase the export market of India, the commodities should be certified. Presently, all the international trade is regulated by GAP, while India is still not competent and losing market will severely affect Indian economy.

Dr. Maharaja Muthoo, Chairman Roman Forum, Rome, stated that the Global GAP is feather to the cap in the field of agriculture and pointed out the ban of Indian mangoes in Europe as it lacks certification. In-spite of having the best quality mangoes in the world, India is unable to export it to other countries. He underlined that there is a need to move fast forward in to modernization to give small farmers of rural areas a boost to grow in their work, so that they become the owner of their products. He again pointed that basmati rice also lacks certification even after being rich in quality, the products could not be traded. This is making farmers poorer day by day even after getting the best result from the crops. Consequently, there is a need to have quality assurance of the products which will make it more standardized for trade.

Dr. AK Singh, CEO, GICIA India Private Limited, talked about forestry and stated that in India, FSI has defined TOF as all trees growing outside recorded forest areas irrespective of size of patch. He emphasized on "TOF"

Trees on land not defined as forests and other wooded land. These trees grow under various models like -

- TOF (Rural): agro forestry, farm forestry, along the farm bunds and homesteads, orchards, in common & government non-forest lands, in parks and gardens, along roads, canals and railway line in rural areas
- TOF (Urban): forests, street trees, trees in parks and gardens, and trees in derelict corners.

Beside constituting a major source for production of industrial wood in India, tree plantation benefits are multidimensional like trees in Riparian Zones: regulate sediment/chemicals/pollutants transport, nutrient sinks whereas its other benefits are social, psychological, health, aesthetic, ecological and economic functions. The benefits are innumerable from providing food to biodiversity and micro climate regulator to stress reliever.

Dr, AK Shrivastava, Director- Projects, Centre for Agriculture and Rural Development, talked about transforming agriculture to agribusiness, research programme, development of farm technology and education, efforts inclusive of entire community, resources and possibilities. He suggested that transformation of agriculture to agribusiness, adoption of risk resilient methods those can be economically viable, and demand based agriculture needs to be promoted like intelligent farm planning, base-line values, efficient farming systems aligned to Agro-eco systems, natural resources & complementing applied resources, skilled farming community and commodity trading reforms. He concluded by mentioning the need for (a) Farm schools and exclusive universities of farm learning, (b) Demand, Need and Resource based Intelligent Farm planning, (c) IT-making available and integrating them with intelligent applications and (d) Collating Research And Technology Results and Experience.

Thus, the aim of eco-agriculture is to manage the resources of rural communities to improve their welfare, preserve biodiversity and ecosystem services, and develop more productive and sustainable farming systems. Eco-agriculture, now emerging as a holistic approach to ecologically and socially responsible land use, represents a vision of rural communities managing their landscape and resources to jointly achieve three goals: (a) Enhance rural livelihoods; (b) Conserve or enhance biodiversity and eco-system services and (c) Develop more sustainable and productive agricultural system.

ICT in Agriculture



Information and communication technology (ICT) offers a wide range of solutions to various agricultural challenges as is emerging field focusing on the enhancement of agricultural and rural development through improved information and communication processes. E-agriculture continues to evolve in scope as new ICT applications continue to be harnessed in the agriculture sector. This session was conducted so as to access the opportunities and challenges prevailing in this sector, chaired by Dr. M Moni, Chairman, ICFA Working Group on ICT.

Dr. M Moni, Chairman, ICFA Working Group on ICT, highlighted that during 2016 and 2017 ICFA had series of round table conference in the area of farm crisis and farmers distress, some of the suggestion which were brought out during the conference had become the part of track report and will help in achieving double income for farmers by 2022. He focused on strengthening value chain, use of space technology, penetration of contingency plans for the same. He remarked that it was a great benefit for the farmers and great success for ICFA that their hard work and deeds are giving result.

Dr. Venkat Marju, CEO, Source Trace Inc., Boston, stated that it is of paramount importance to improve the situation of the farmers. New technology has to do the bottom of the pyramid. Farmers are the people who use the technology to the least and it is most important for them. Using the latest technology can help farmers use best quality seeds, know the best suited time for growing crops, fertilizers, pesticides, climatically changes, market demand and current prices of the crops.

He felt that farmers should get the deserved share in the profits from the produce sold. The mediators in the market who earn the maximum profits do not pass on the same to farmers. Therefore, steps have to be taken to aggregate farmers. Further, he also talked about the depletion of

resources such as water which is a major concern. With the depleting resources every drop of water and every bit of other resources has to be used as a precious gem for the world.

Mr. Ruchit Garg, CEO, Harvesting Inc. California, brought to the notice the 'Data embrace technology' and regretted data used is still based on the old technology. Data plays important role and can solve many problems, while on the other hand incorrect data can bring downfall in any sector. Therefore, recommendation is to keep accurate data as it forms the base of agriculture.

Companies should use remote sensing technique for collecting accurate data. Data collected from latest technology will not only solve many problems but also bring the best on the land with the best result.

Ms. Divya Akhilesh, Head, MyAgriGuru, briefed about her organization, which was launched on 2nd February, 2017. This website and application is to convert knowledge to production. Farmers are the base of agriculture and today there are two realities in the farmer's life, first, limited access to everything in the value chain. The eco-system is highly skewed against farmers, leaving him vulnerable and secondly, he is becoming increasingly digital with more than 50% of rural households having access to internet enabled smartphones. This is possible because today there are even Wi-Fi's set in many villages by the villagers themselves.

The app introduces and gives a platform which is known as AGRI-BUZZ (Charcha). It is a place where the farmers discuss their problems and share their experience. This is India's first Open platform connecting farmers and experts. Many times the farmers cannot reach the experts physically and they are unable to get the solutions to the problems. This application helps to resolve this issue and assist them reach the expert and solve their queries.

Thus, the benefits of ICTs for increased agricultural productivity and strengthening the agricultural sector include timely and updated information on agriculture related issues such as new varieties release, emergence of new threats such as diseases, weather forecast, pricing control, warning alerts etc. With easy access to information, knowledge and experts support through ICT based information dissemination services; farmers are able to improve their income and economic situation through better practice. For example, ICT helps in dealing with nature disasters, pests, trading, marketing, and with raised awareness of government support and favourable policies.

Connecting Farmers with Trade and Markets



Connecting farmers to market is an integral part of the urban/farm linkage and have continued to rise in popularity, mostly due to the growing consumer interest in obtaining fresh products directly from the farm. Farmers markets allow consumers to have access to locally grown, farm fresh produce, enables farmers the opportunity to develop a personal relationship with their customers, and cultivate consumer loyalty with the farmers who grows the produce. Moreover, farmers get higher profits over selling to wholesalers, food processors and large grocery firms. Thus, to evaluate the need and opportunities for connecting farmers to market, this session was conducted and was chaired by **Mr. Rajesh Sinha, Managing Director, NEML.**

Mr. Rajesh Sinha, MD, NEMI, reminded that agriculture is first profession which human beings indulged in soon after taking up the cultivation and same stands true for agriculture trading. Teaching farmers how to reach market is not the task but reaching right market to get the actual cost of their crops is important. He mentioned of MCDX, which is held by large governmental bodies and operate in the pure market form for connecting farmers to trade and market in different ways.

Mr. Vijay Sardana, Head-Agribusiness, UPL Limited, pointed out that due weightage to trade and market is not given, instead it is considered as the last step of the business. Although, trade and market should be considered at first place and actions should boost them. Moreover, farmers should know to whom they should sell their commodities.

He brought to the notice that India is looked as market but not as an exporting hub of the products, thus, focus

should be in transferring knowledge about customer and market to farmers. Further, different crops should have different policy as all crops are different from each other and vary from each other in almost all aspects. He stated that traditional market has depleted with time but the combination of products, services and customerization can help to increase the farmer welfare as negligible investments have been made for supporting exports and fulfilling citizens' hunger.

Mr. Raju Kapoor, Director, Dow Agro Science Ltd., briefed the purpose of the New Agriculture Division of DowDuPont, viz "To enrich the life of those who produce and who consume, ensuring progress for generations to come". He also mentioned that the division focuses on prosperity and sustainability of agriculture through rise in the productivity and profitability.

Mr. Pradipta Sahoo, Head- F & V, Mother Dairy, revealed that the happiness index of Mother Dairy is the maximum. Also, he pointed out that Mother Dairy is not solely dependent on animal husbandry but also produce fruits and vegetables to add value to the farmers. The organization focuses on crop planning, crop cluster and connection with the market. However, there exists price volatility as there is uncertainty and goods are of perishable nature.

He also expressed the concern over the current lowest GDP of India, of all times. Though, government is promoting brand of fruits globally, which may help in doubling the farmers' income.

A dream doesn't become reality through magic; it takes sweat, determination and hard work. It is a necessity to connect farmers with market because land has used farmer's day and night tough grind. Connecting farmers with trade and market will help the farmers to become the owner of their crops and Agripreneurs. Market will give the farmers exposure of knowledge and new technology which will help the farmers in agriculture. For the same, scientific practices and management needs to be imparted to farmers and need to be linked with new technologies for better advancements and accelerate development.

Innovative Farmers Experiences



One third of Indian farmers are rapid adopters of technology, another third of them are slow-going, and the rest are not likely to use modern technology at all. Farmers should adapt to the innovation coming their way and the government or people in authority should accept the innovative ideas from the farmers experience to make policies. Practical knowledge from field's experience gives boost to innovative ideas as they are the people who face problems on the land thus, they can seek solutions in the best possible manner. In accordance, this session was conducted so as to consider the action plan for learning from farmers' experiences and adoption of the innovative methods introduced by them. The session was chaired by **Dr. Rajaram Tripathi, Convener, All India Farmers Alliance.**

Dr. Rajaram Tripathi, Convener, All India Farmers Alliance, stated that all farmers union should merge and collaborate to work hand-in-hand with the government and other institutions for achieving the farmers' welfare. He quoted "Coming together is a beginning, keeping together is a progress and working together is success". If all the farmers come together on one platform then they will be better heard and their problems will be given due preference and importance.

Mr. Rajpal Singh Gandhi, Director, Green Valley farms P. Limited, stressed the importance of actions and stated

that vision without action is a daydream and action without vision is nightmare. Action and implementation is more important than framing policy. He further talked about the crop called Stevia. This crop is already being used by Japanese, since last 50 years. Stevia is not just a natural sweetener but it's a power packed sweet revolution. He briefed the house about various health benefits of stevia like strengthening immune system, anti-bacterial, anti-septic, anti- microbial, anti-oxidant, diabetic friendly, regulation of energy level and supports digestions.

He also quoted Mr. Victor Hugo "Nothing in this world is as powerful as an idea whose time has come" and pointed out if farmers adopt to this crop then there will be 100% export of the products as there is high demand for the products made from Stevia. It is a crop which has to be considered once and it will give the best result to the people and country of wealthy farmers with healthy people.

Mr. Arun Bahakoo, General Secretary, Kisan Manch, opined that farmers should unite and diversify and suggest ways to attain maximum possible benefits. All the institutions, policy makers and farmers should work together because the ability to work together towards a common vision and the ability to direct individual accomplishment towards organizational objectives is the fuel to attain uncommon results. He also mentioned that bed plantation should be adopted for the crops as it had led to good result in past. Moreover, fencing by fruit trees can be considered as bards which will not only solve the problem of fencing but also give additional value to the farmers as they can sell the fruits in the market. There are ample amount of measures which can be taken for the benefit of the farmers but only a step forward is required.

Thus, innovation is an important pillar of agriculture extension and can come from anywhere. Therefore, we must keep ourselves open for accepting and gaining maximum out of them.



LAUNCHES DURING THE DAY

Launch of Crop Stewardship Program and AGROCERT Agency



Indian Council of Food and Agriculture launched the Crop Stewardship program and GAP certification Agency AGROCERT. Crop stewardship program primarily focuses on developing value chains for commercially important crops building upon their comparative advantage to maximize returns to farmers through organized efforts and international trade. AGROCERT aims to cultivate Good Agriculture Practices among farmers to promote environment friendly and sustainable agriculture which mandate to make certification process simple and affordable to benefit farmers. AGROCERT is an inspection and certification division of ICFA towards promoting sustainable agriculture and safe food production through crop stewardship and certification. AGROCERT is approved by Quality council of India (QCI) for its INDIA Good Agriculture Practices (INDGAP) Certification Scheme in conformity with ISO/IEC 17065:2012. This certification will enable farm produce to be internationally competitive, better price realization of the produce and secure and strengthen the livelihood of small and marginal farmers, while ensuring safety and quality of produce in the food chain.

Launch of HR Agency for Agriculture "agripositions.com"

With large number of agriculture graduates entering the industry year after year, the HR Agency specifically for agri professional, agripositions.com was launched. The agency will act as a platform to bring together the candidates and recruiters and facilitate in making informed decisions on career choices in agriculture sector. Agripositions.com aims to provide



comprehensive HR solutions through a single window across various domains envisages to enhance the success of clients in agribusiness sector and become the most reliable source of information on career opportunities in agriculture sector. Such an agency is crucial for accelerated growth of agriculture sector to suitably fit in the required human resources from vast pool of resumes and provide adequate employment opportunities.

Launch of All India Farmers Alliance AIFA Website



All India Farmers Alliance (AIFA) promoted by Indian Council of Food & Agriculture (ICFA) comprises of 44 Farmer Organizations from all over the country. It is a true National Body of Farmers, which involves more than a million members within 16 months of its promotion and have National, State and District Chapters throughout the country. It is a forum that incorporates several grass root level farmer organizations, cooperatives, Farmer Producer Organizations (FPOs), Self Help Groups and other farmer bodies, under its aegis for a common cause of farmer's welfare. The critical role of All India Farmer's Alliance is to engage in

policy debate at state and national level with concerned agencies and stakeholders. The website of AIFA was launched during the summit so that larger number of people can access the information about AIFA and can be part of the same.

Launch of Agriculture Knowledge Transformation Program



Given a paradigm shift in terms of production, from cropping system to farming system approach and in terms of demand supply chain from being production led to consumption driven, transformational changes in agriculture are to be brought about as well as sustained by knowledge. In view of this, Indian Council of Food and Agriculture launched the Agriculture Knowledge Transformation Platform under the chairmanship of Dr. RB Singh with Dr. RK Jain, JD (Education) IARI as its convener.

This transformation platform envisages facilitating and sustaining excellence in Research and Development of agricultural knowledge through its linkage with industry and business as the stakeholders. It is imperative to have proactive cooperation, coordination and interfacing across the institutions, governments, and public and private sectors for converging all aspects to effect transformational changes. This platform will stimulate sustainable national and international collaborations, alliances and networks across all the stakeholders engaged in creating, upgrading, managing and disseminating agricultural knowledge towards science- and technology-led transformation and modernization in the field of agriculture.

In the concluding session of the summit, Ambassador Kenneth Quinn, Dr. R.B. Singh and Mr. Anand Bhakar Ropula spoke few last words.

Ambassador Kenneth Quinn, President, World Food Prize Foundation, quoted Prof. MS Swaminathan's book and urged to take learning from it. Further, he stressed on the urge for replicating the success in Africa and making it self-sufficient. Also, he underlined the role of agriculture and food security for ensuring world peace.

Dr. RB Singh, Chancellor, Central Agriculture University, Impal, stated that world is full of competition in terms of efficiency. In India, resources are less as compared to the population. It is a global land of agriculture with the knowledge regime. However, inequality is the greatest depression in India as the country suffers the most because of the elementary disturbances of inequality. Skill market and digital market may help to build the poverty free India. Further, policies are required which are grounded and human face based on happiness.

Mr. Anand Bhakar Ropolu, Hon'ble Member of Parliament, congratulated ICFA and expressed that the consistence of ICFA in sustaining its agenda is itself an achievement. It is great challenge because agriculture being debated in sophisticated manner on round table has to have a very wide backup and strong support system. Pooling in certain support, making it possible to have assemblance and ensuring all the people present like real practicing farming experts, agriculturist is a real task. Lastly, he reflected that debating and hearing dignitaries was a pleasure and honor in the event.

Dr. M J Khan, Chairman, ICFA, recapitulated all the launches and discussions which took place during the two day event and thanked all the delegates for making the event a success.

Finally, the formal vote of thanks was presented by **Mr. Alok Sinha, Director General, ICFA**, who expressed his gratitude to all delegates who attended the event and a special vote of thanks to willing sponsors and staff of Hotel Taj Palace for meetings all the ends and needs and making this event a grand success.

RECOMMENDATIONS

- Given the facts that India ranks 97 out of 118 countries in the 2016 Global Hunger Index, 39% of children under 5 are stunted and 48% of women of reproductive age are anemic, there is an urgent need to provide nutrition to the masses and mitigate the situation. For achieving the same Government needs to take initiative and should also provide nutri-milletts like ragi at low cost like wheat and rice under National Food Security Act, 2013. Further government should also include pulses in the PDS to eliminate the protein hunger.
- Considering the paradox of production and prices in Indian Agriculture, adversely affecting the interest of the farming community. A mechanism to safeguard the interest of farmers in case of production rise needs to be established, which is only possible by leveraging upon the international trade. Government should form a committee to come up with a strategy to resolve the pricing issue.
- Viewing the extreme weather situations and climate change with due consideration to shrinking resources and increasing demands, government should remark funds for research & techniques for C.RA/CSA and should create a platform so that various stakeholders can work together and gain from experiences while efficiently utilizing the resources.
- With an aim to increase profits for farming community with same piece of land, diversification and integrated farming are the potential avenues. SAU's and KVKs should develop possible options with PoP and systematic approach for districts & the state to deliver best of information to farmers.
- Technology is imperative for agriculture to be sustainable and feed all but it has to be best suited for needs of farmers. Besides, allocating funds for developing and disseminating technologies government should also allocate funds and create forum for farmers and scientists through its network of KVKs to communicate their issues, needs, requirements and also idea for research to cater to, for better adaptability of such technologies and problem solving.
- There exists a dire need for government to regulate the market so as only quality products & technologies are made available and no farmer is left cheated with fraudulent cases. Therefore, government should pay dedicated attention to technology management and licensing and should promote PPP mode for ensuring quality.
- Value chain for commodities need to be established to build comparative advantage and capture international market as international market offers vast growth opportunities and promising future for farming community. Government should join hands with private players to create value chains, establish brands and capture market share.
- In order to make the marketing channel shorter and convenient for farmers government has launched an initiative called e-NAM. Government should provide training to farmers to accelerate its adoption and maximum number of farmers are benefitted.
- The world is faced with challenge of producing more safe and nutritious food with fewer resources to feed the growing population, while safeguarding the future of coming generations. Promoting GAP should be on priority list for government as organic is too stringent for farmers to adopt and also the risk associated leads to lesser adoption. On the other hand, GAP calls for justified use of chemicals resulting in low input cost with no decrease in yield, hence, sustainable agriculture. Above all, certified produce will help fetch better price in international market.

- ICT continues to offer wide range of solutions to various agricultural challenges from precision agriculture to online information and service portals and e-marketing. Various startups are coming up in the innovative ideas to transform agriculture with application of ICT. Therefore, government must support there startups.
- Plethora of knowledge exists with farmers in the form of indigenous knowledge & practices as well as scientist. The scientist knowledge is documented in various forms like paper and articles whereas this traditional knowledge is being lost with older generations. Government should initiate a drive to accumulate and document this vast knowledge base available with farmers.
- With the aim to inculcate interest in upcoming generation in agriculture, basic agriculture course should be made part of school curriculum and practical exposure must be included so as to make the children identify agriculture as an occupation.
- Further, government should also promote agri-tourism as it will not only generate employment for rural growth rather will also boost agriculture growth and provide leisure options for urbanites.
- Now traditional crops which have potential to fetch high prices in international market should be promoted by government so as they could gain maximum returns. Government should provide training and should form group of farmers for export of produce.





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