11TH GLOBAL LEADERSHIP AGRICULTURE SUMMIT 2018

Even after decreased contribution to GDP, agriculture still continues as a major livelihood provider around the globe, especially in the developing world; and hence responsible for economic growth and social transformation. Tremendous progress has been achieved in agriculture in the recent years by the industry, NGOs, CGIAR bodies and institutions, supported by the Government and international organisations in transforming agriculture and allied sectors. The most significant development in the last one decade has been the emergence of large number of start-ups in food and agriculture, across the value chain spectrum, completing the chain from farm to fork. In India, the Government schemes like ACABC, Startup India, Standup India, Skilled India and launch of MUDRA Bank and such other initiatives have accelerated the value creation and entrepreneurship activities in the farm sector and connected the same to the markets and the consumers through innovative agribusiness models. Connecting farmers effectively with trade, markets and value added activity holds the key to their prosperity. In this context, Government of India has launched eNAM to help in marketing and also the program towards doubling farmers' incomes by 2022. There is need for understanding and adopting successful global models and also fostering farmer-industry-institution partnerships towards helping farmers gradually transforming from farmer to farm entrepreneurs.

Given the prominent role of agriculture in Indian economy and changing global scenario, Indian Council of Food and Agriculture organized the 11th Global Agriculture Leadership Summit 2018 on the theme of "Connecting Farmers with Markets and Technologies". The 11th Global Agriculture Summit 2018 provided the much needed platform towards facilitating farmers connect with the technologies, markets, industry, institutions and the Government programs.

Prof. MS Swaminathan, Architect of India's Green Revolution; Sh. Parshottam Rupala, Hon'ble Union Minister of State for Agriculture; H.E Mr. Tran Thanh Nam, Deputy Minister of Agriculture, Government of Vietnam; H.E. Mr. Marten vanden Berg, Hon'ble Ambassador of Netherlands to India; Sh. Sanjay Agarwal, Secretary of Agriculture, Government of India; Dr. RenuSwarup, Secretary, Deparment of Biotechnology; Dr. KV Subbarao, South Asia Leader, Corteva Agriscience; Mr. Alok Sinha, DG, ICFA and Dr. MJ Khan, Chairman, ICFA attended the inaugural day. The two days

summit was held on 24-25 October 2018 at Hotel Hyatt Regency, New Delhi. Over 300 national and International delegates including corporate, officials, scientists, policy makers and diplomats, farmers, NGOs and development institutions participated in the event.

As on the previous Leadership Summits, the 11th edition of the Agriculture Year Book 2018 was launched on this occasion. The Year Book contained features and articles penned by some of the most eminent persons, representing different facets of Indian agriculture, introducing many new concepts and initiatives and also identifying several areas of concerns to Indian farming. The year book, a good addendum to the event, struck a right balance with combination of data, analysis and information along with the articles.

The summit was also a platform to appreciate the efforts of individuals and institutions, cutting across the sectors, who played seminal roles in furthering the interests of the farmers and agriculture. Their performances were honoured with Global Agriculture Leadership Awards 2018.

Prof. MS Swaminathan, Pioneer of India's Green Revolution at the very outset of his remarks underlined the increasing natural calamities due to increased human intervention. "There are various environment changes and calamities taking place which are directly as well as indirectly affecting agriculture not only in our country but across the globe. Moreover, the problem of market is one big issue but largely remained unfelt by the farming community. Agriculture by its nature is a business operation but livelihood agriculture practised in the country is very different from the commercial agriculture", observed Prof. Swaminathan. Another area of concern pointed out by Prof. Swaminathan is problem of market pricing. In our country the farm commodities are low priced and he believed that situation would get better after implementation of recommendations of farm committee on MSP. He pointed out that we should learn from countries like Netherlands on effective marketing of the products, as in our country we have more small farmers and therefore we need to organize them for effective marketing and increased profits. He stressed on the need

to work towards empowerment of women especially those engaged in agriculture sector given the fact that they form a major part of the workforce engaged in the sector. Further, Prof. Swaminathan pointed out that we are entering into new age with various technological advancements, especially in the field of biotechnology. Gene editing is one such need to be put in to harness these opportunities to resolve various pressing problems while overcoming its negative impacts.Moving forwards, he also accentuated the importance of value addition especially in horticulture, as it will not only increase the shelf life rather will significantly increase the income to the farmers. He quoted the case of Holland and Israel which have high farm income and progressive agriculture in-spite of water scarcity. He believes that there are so many success stories in the world to learn from and to work in the right direction to overcome our challenges and convert them into our strengths for revolutionising agriculture. In the end, he added that advancements in science and technology will pave new way for agriculture.

Dr MJ Khan, Chairman, ICFA, welcomed all the dignitaries and expressed deep gratitude to Prof Swaminathan for his supportto Global Agriculture Leadership Summit since 2008. Dr. Khan emphasised the need 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. He emphasised that this may require collective efforts, taking on board the Governments, inter-governmental organisations, trans-national corporations, industry, NGOs, FOs, financial and technology institutions for increased flow of knowledge, technologies, investments and market access. He also opined that the national government need to create enabling policy environment for effectively translating the potential of agriculture through agribusiness, and thus empowering farmers. Dr Khan expressed his concern over three major challenges to the Indian agriculture. Firstly, the food security poses a big challenge to Indian agriculture. As the resources are limited and population is rising it is essential to ensure sufficient food for all in this face of changing climate pattern. He stressed that providing sufficient food is important but ensuring quality of the food is equally important. The second challenge discussed was malnutrition. Dr. Khan stated that one-fourth of our country's population is undernourished, which is an issue of deep concern. The third issue highlighted by Dr. Khan was of farmers' income, he felt that the income earned by the food producer in our country is the most meagre and he is trapped in a vicious cycle of poverty. Our Honourable PM has envisioned to double farmers' incomes by 2022 and Dr. Khan stressed that all the stakeholders should come together and work to translate this vision into reality.

He further briefed the house about various activities of ICFA and informed about various initiatives already launched or to be launched during the summit, viz. Agriculture Knowledge Transformation Platform, Healthy food initiative, CEO'scouncil, Uttarakhand state agriculture council, Uttar Pradesh state agriculture council and various District agriculture councils. He also underlined the changing pattern in agriculture sector and highlighted that people from non-agriculture are getting into the sector, which is changing the direction of future agriculture in the country. He also brought to notice that youth of the country is still not taking up agriculture actively and need to be inspired and motivated to take agriculture as an occupation.

Dr. Lyonpo Kinzang Dorji, Hon'ble former Prime Minister of Bhutan said that Bhutan is not only closest neighbour of India but Bhutan is the closest friend and ally of India. "As Prof. Swaminathan said the coastline is going to be the forefront of the impact of climate change, as we know we experience every year more of hurricane, typhoons, floods and uneven rainfall patterns but Bhutan being in the mountains is also bearing the brunt of climate change. Although our glaciers are melting faster but it has slight positive impact in reference to the Bhutan. We have places about 2500 m above sea level where our farmers could not grow rice. Being rice eater every Bhutanese farmer's aspiration is to grow rice on their small holdings. Since about 15 years, we have been growing rice in Bumthang which is 2500 m above sea levels. Growing wheat, barley and livestock are their mainstay but since about 15 years because of the wonder of new technology, agriculture development in Bumthang has been able to grow rice. Similarly, we could not grow chilies but now Bumthang is one of the best chilli grown regions in Bhutan. There is positive side to

climate change but we know that negative impact far outweighs the positive impact. The climate change impact on the food security and food production is something entire world is challenged with. We need to work together to elevate the impact of climate change. Climate smart agriculture is something that we should all be working towards. Agriculture has to be sustainable and agriculture should take into account the landscape approach not just a farm, the surrounding environment is important, he said.

Sh. Rajnath Singh, Hon'ble Home Minister of India congratulated ICFA for organising Global Agriculture Leadership Summit and Awards function and bringing together various stakeholders of food and agriculture sector together on a single platform. He emphasised the role of youth in India's growth story. He believed that leadership award presented by ICFA is a very good initiative to encourage people in food and agriculture sector. He said the question is how to boost agriculture, increase the agriculture GDP share, and increase the growth rate. He mentioned that there were many commissions made when he was agriculture minister of India. "Even when received recommendation of the commission, we are not able to achieve the desired growth in agriculture," he noted. But still he believes that we will achieve the desired growth through continous hardwork and progress. He pointed out that techonology is becoming advanced day by day and there is a need to link technology with agriculture. People are accepting technology and this is a good sign. He also opined that India's development is not complete without the development of rural areas and he believes that India will achieve this target soon. "If we look at the 50s, the contribution of agriculture sector in India's GDP was approximately 52% and now it is less that 4%. But this time in the first quarter of 2018, agriculture growth rate was 5.3% and we are hopeful that it will continue to grow like this. The Prime Minister knows the potential of agriculture sector and he is working towards realising the potential of this sector. His vision is to increase the farmers' income by 2022. The PM is working towards to achieve this vision. The government has committed to irrigate around 28 lakh ha of unirrigated land and many are already done in this regards. The government has increased the MSP but the procurement is also very important and we are working in this direction. The agriculture global leaders are working towards it and I believe that we will achieve the results soon", he said.

Ms. Kampamba Mulenga Chilumba Chewe, Hon'ble Minister of Livestock & Fisheries, Zambia in the special policy session highlighted the policies of Ministry of Livestock and Fisheries of Zambia. Ms. Chilumba said that the fisheries and livestock policies aimed at improving food and nutrition security, increasing income at household levels, reducing poverty in rural set ups and reducing unemployment for youths." For the development in agriculture, the national agricultural plan and the vision 2030 is in effect. The seventh national development plan is also in effect which has a broad spectrum. The key challenges in Zambia are the low production and productivity in the fisheries and livestock sector. Adequate agriculture extension officers in the country are doing as much as possible to ensure that we address some of these issues," the Minister said. Ms. Chilumba mentioned that fishery is one of the important areas of the Ministry. The government is doing everything to ensure market linkages for the people. "Limited access to finance and credit, high post harvest losses, low value addition, and low participation of private sector in agriculture are some of the challenges. Policy measures are taken to increase production and productivity in the sectors for example the general overview would be to improve efficiency and effectiveness for the existing extension staff.We are also trying to strengthen our research extension which is very vital and we are also calling public private partnership in this area. We are also trying to implement communication technology, ICT in agriculture which is a measure upcoming in our country," she said.

Sh. Chandramohan Reddy, Minister of Agriculture, Government of Andhra Pradesh highlighted various achievements of the state in the field of Agriculture, Horticulture and Fisheries. Andhra Pradesh has achieved 7.7% growth rate in the year 2015-16, 14.9% in the year 2016-17 and 17.9% growth rate in year 2017-18 in the primary sector. "This is indication of the inclusive development during the dynamic leadership of the Chief Minister. The AP government has taken initiative through AP drought mitigation project with an outlay of Rs. 1042 crores benefitting 1.3 Lakhs families in drought prone districts. The zero budget natural farming is another initiative of the government to cover 5.5 lakh farmers in 5 lakh

acres by the end of 2018-19," he informed. Dr. Reddy mentioned that International organisations namely UNEP and FAO have recognised the AP government efforts in using farm friendly chemicals and fertilizers to increase farmers' income. He said that the government has taken a bold step and issued order for clearing Rs. 24,000 crores towards debt redemption benefiting 40 lakh farm families. Dr. Reddy also pointed out that the state has distributed 40 lakh soil health cards in the year 2016-17 and 34 lakh soil health card distributed in the second phase so far. "The state has made agreement with the Bill and Mellinda Gates foundation for soil health technology using satellite mapping. Our government is providing micronutrient to farmers free of cost. The government has taken the major initiative to establish mega seed parks in the state with the partnership of Iowa State University to provide farmers with the quality seeds. The state is spending Rs. 450 crores every year in seed research and Rs. 452 crore for farm mechanisation and allocated 12,200 tractors in 2018-19. The state has also initiated program for digitalisation of data for farmers", he informed.Dr. Reddy also mentioned that the state stood first in the productivity of Maize, Jowar and soya bean. "We are taking all measures to stand first in productivity of different crops in the country by the year 2020 and competing with world productivity level by the Year 2024. "In horticulture, our vision is to increase area under horticulture to 40 lakhs acres to one crore acres. During the current year it was targeted to provide micro-irrigation to two lakh acres with the budget of Rs.1380 crore. We have incorporated cold chain production in Andhra Pradesh to provide cold storage facility and cold storage van for perishable horticultural products. In fisheries, Andhra Pradesh ranks number one in total production of shrimps in the country. The seafood exports from the state in the year 2016-17 reached to Rs.17,000 crores against the total export of Rs. 37,000 crore of total of the country, which is about 45% share in India. The sector has achieved growth rate of 30%," he explained.

Dr. Renu Swarup, Secretary, Department of Biotechnology, Government of India stressed on the importance of the theme of the summit that emphasized on connecting farmers to markets which is the very important component for any growth we wish to have in agriculture sector. "Looking at the theme, there are two very important components which are the drivers of agriculture i.e., technology and policy", she elaborated. Dr. Swarup said that unless we have complete new technology development which is driving this and new policy makers which promote this, it is difficult for us to achieve what our vision is

i.e., connecting farmers to markets. "India is a country which has a long history of having its priorities correctly positioned which has both the components, technology and policy, and way back from green revolution which Prof. Swaminathan achieved was a great example of policy and technology. From the green revolution till now we have seen tremendous advancements in the sector that gives us the confidence that we are correctly positioned to take this forward. If you see where we stand today in terms of developments, DST along with ministries, stake holders, and scientists have worked with International and national collaborations and one can see technology can be a huge enabler driving agriculture growth," she said. Dr. Swarup talked about new technologies, cutting edge technologies of crop improvement, increased enhanced productivity, new varieties, genome technology, gene editing technology; Prof Swaminathan has brought better technologies addressing challenges of biotic and abiotic stress and nutrition in crops. Our Scientists are working on it and we have got excellent results. She mentioned that they are looking at facilitating the skill development in terms of human resource but also in terms of capacity building. If we look at where we are positioned today we do have the best state of the art infrastructure within the country. She said that for various agriculture growth and new technology developments they are looking at different facilities across the country and she also emphasized on partnership between public and private sector. She emphasised on the importance of connecting all the stakeholders, researchers, scientist, entrepreneurs, academicians and industry. According to Dr. Swarup, to achieve the government's vision of doubling farmers' income it is important to connect farmers with markets which focuses majorly on these components ie. new technology, bringing all stakeholders together, combination of technology and policy.In the agroclimatic zone models, the scientists are working closely with farmers and markets to understand the needs of famers and vice-versa making the linkage strong. Dr. Swarup also discussed that the startups have a tremendous scope in agriculture sector. "These startups are developing newer technologies which address the issues of farmers. It is time we bring in new polices for startups to increase the collaborations that are happening in the industry and drive the growth of sector," she said.

Mr. Sanjay Agarwal, Secretary of Agriculture, Government of India said that the PM's vision of doubling the farmers' income by 2022, requires good governance, good strategy, good programs. Mr. Agarwal pointed out that the ratio of farm income has changed from 60:40 to 70:30 and to increase the income of farmers, investment of private sector and public sector is required. Mr Agarwal mentioned that in eNAM there are 585 mandies. There is an increase of 42% in numbers from last time and the exchange of information and services, commodity arrivals and prices, and buy and sell trade offers, has helped farmers bid for the best prices across markets.

Dr. Purvi Mehta, Asia Head of Agriculture, Bill & Melinda Gates Foundation said that India is one of the fastest growing countries in terms of agriculture production. The government of India has been taking various steps towards boosting its trade, and facilitates both exports

and imports with the other countries of the world. India is showing positive growth in exports. The livestock sector has shown an impressive growth in past years.Dr. Mehta talked about the India's largest extension system KVKs, they have been working to collect all the information from farmers about their inputs and imparting vocational training to the practicing farmers, school dropouts and field level extension functionaries. These KVKs are producing quality technological products such as seeds, planting material, bio-agents, and livestocks and thus making it available to farmers, organizing frontline extension activities, identifying and documenting selected farm innovations and converging with ongoing schemes and programmes."Today, there is a people led revolution and technology has connected people all over. Farmers are using phones for exchanging information. Technology has got all connected to each other. The digitised land registration and uberised tractor services all are contributing to improved farm management. New technologies have enabled small farmers to shift from input-intensive to knowledge-intensive agriculture", mentioned Dr. Mehta.

Prof. Rudy Rabbinge, Special Envoy – Food Security, Government of Netherlands said that as Prof. M.S. Swaminathan brought green revolution to India, we are trying the same for Africa. The world's population is set to grow considerably over the coming years, albeit at a slower rate than in the past and with considerable differences across regions. Prof.

Rabbinge pointed out that growing hunger is the major problem which the world is facing. "Global estimates of undernourishment rose from 777 million in 2015 to 821 million in 2017. Approximately, 27.4% of the population in Africa were classified as severely food insecure in 2016 and we are working to eradicate these problems from Africa," he informed.Prof. Rabbinge said that food security is not only an issue of sufficient production, but also about improving the quality of food. "We need to make sure the availability of food in terms of quantity and quality to satisfy the dietary needs of individuals; and the physical and economic accessibility for everyone, including vulnerable groups, to adequate food, free from unsafe substances," he said. Prof. Rabbinge emphasised that along with ensuring safe food to all, we must learn to produce food that does not harm nature. "To feed the world sustainably we need to produce more food with fewer resources. There is a need to combine high production agriculture in such a way that it pose less threat to climate change.Our goal must be to identify high production systems and adopt practices that are both more sustainable and more profitable.The agriculture yields are being affected by climate change and there is a need to increase agricultural production by developing high yielding varieties of climate resilient crops to feed the increasing population, he recommended.

Dr. KV Subbarao, South Asia Lead, Corteva Agriscience mentioned that people living in rural areas are the most exposed to food insecurity, owing to limited access to food and financial resources."Poverty and climate change exacerbate the global challenge of food insecurity.In the last decades, it seemed there has been a shift from quality to quantity. We can see overall quality of food being consumed has decreased.It is not so important anymore how good the quality of something is, but how much you can produce and consume," he pointed out. According to Dr. Subbarao, Global climate change can be measured by 3 points ie., land deforestation, temperature increase and water depletion. He also pointed out that as the world's population grew, there will be greater demand for food, timber, fresh water, fuel and clothes. Agriculture and forestry will need to cater to these increasing demands but at the same time minimize it's environmental impact. He pointed out that large number of technologies can play a role in addressing concerns related to agriculture. "We need to develop hi tech farms that control risk. New and existing technologies to combat biotic and abiotic stresses, raise crop and livestock productivity, improve soil fertility and make water available can potentially increase the amount of food produced. Storage, refrigeration, transport and agro-processing innovations can address the dimension of food accessibility,

he suggested. Lastly, he emphasised the importance of Science to produce high-nutrient staple crops can combat malnutrition, improving food utilization and use. "Country is strongly positioning itself in global scenario; it is high time for India to recognize the efforts of doyens in agriculture and especially those who have contributed to the global food security. The institution of World Agriculture Prize and starting the series of Global Dialogue on Climate Change and Food Security will provide great avenues to India and the world to learn from experiences and success stories of developed nations and replicate them in Indian and developing world context to deal with the challenge of climate extremes and ensure sustainable global food security", he said.

Mr. Salil Singhal, CMD, PI Industries underlined the fact that worldwide agriculture is losing proposition for the farmers and it is primarily supported by governments to sustain them in the business. He mentioned that in America the cotton farmers get the subsidy of $80 billion, whereas European farmers get the subsidy of billion dollars a day. "Farming is very complicated subject but on the other hand if we look at Indian agriculture it has done brilliantly well from ship to mouth to farm to fork. Now we are exporting $33 billion worth of exports which is a very big support to the farmers if they get the benefit of that export," he said. He mentioned that the challenges remain very rightly pointed out and the challenge is connecting the farmers to the market. In the market connection between the farmers and market there are too many intermediaries. Mr. Singhal suggested the need for a comprehensive 10 year plan on how we want to handle agriculture. He pointed out some of the problems faced by Indian agriculture such as constitutional problem, what the state might be deciding may not work with the centre and vice a versa and social problems associated with the land. "We can not get the productivity in 1 ha farm by what we can do by creating FPO or cooperative. Tragically the cooperative movement in India has just collapsed," he said. Mr. Singhal emphasized on the financial consequences of MSP. He said that if we have to give MSP all other program of social and educational areas will have to come to stop. So this has to be thought in a holistic manner. Lastly, he emphasised that we should be very proud of what we have achieved in last 60 years.

Recommendations of Eleventh Global Agriculture Leadership Summit 2018

- Synergy of Technology and policy. Unless there is complete new technology development and new policies promoting it, it is difficult to connect farmers to markets.

- Developing and promoting technologies to increase agricultural productivity and farmers' income. New and existing technologies need to be promoted to combat biotic and abiotic stresses, raise crop and livestock productivity, improve soil fertility and make water availability. This can potentially increase the amount of food produced. Storage, refrigeration, transport and agro-processing innovations can address the dimension of food accessibility

- Promoting biotechnology. Biotechnology is a suitable avenue for incorporating changes in the genetic make up of the plants and for introducing quality attributes faster. Gene editing is an important genetic tool that need to be put in to harness these opportunities to resolve various pressing problems while overcoming its negative impacts.

- Creating enabling policy environment. The national government needs to create enabling policy environment for effectively translating the potential of agriculture through agribusiness, and empowering farmers.

- Collective efforts, taking on board the Governments, inter-governmental organisations, trans-national corporations, industry, NGOs, FOs, financial and technology institutions for increased flow of knowledge, technologies, investments and market access

- Organizing Global Summits for deliberations and policies.

- Capacity building through seminars, sessions, strategies and policy formulation with the financial assistance from the government and other institutional bodies.

- Skill development in terms of human resource and capacity building are very important for agriculture. The knowledge generated in agriculture needs to be translated at the field level. This requires professionals who are skilled and equipped to carry out this mammoth responsibility.

- Partnership of private and public sector is significant in the sectors of facility creation and infrastructure. Public private partnership will provide the right business environment to attract capital investment, and ensure that investments support national targets, such as upgrading research infrastructure; improving professional and technical competencies; and promoting entrepreneurship and innovation.

- Bring new policies for startups. The startups have a tremendous scope in agriculture sector. These startups are developing newer technologies which address the issues of farmers. New polices for startups will increase the collaborations that are happening in the industry and drive the growth of sector.

- Quality of the food also matters. Make sure the availability of food in terms of quantity and quality satisfy the dietary needs of individuals. The physical and economic accessibility for everyone, including vulnerable groups, to adequate food, free from unsafe substances should also be made a priority.

- Identifying high production systems and adopting practices that are both more sustainable and more profitable. Alongwith ensuring the safe food to all, the process of food production should not harm nature. To feed the world sustainably we need to produce more food with fewer resources. There is a need to combine high production agriculture in such a way that it pose less threat to climate change.

- Climate impacts on food security is a serious, concern 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. Crops with high resilience and high growth potential under climate stress need to be identified and popularized.

- Crop Diversification can play a significant role in doubling farmers' income. Farmers should not solely depend on their main crops rather should practice other economic activities as well, simultaneously, such as animal husbandry, fishery, piggery, goat rearing etc., so as to earn extra income. High value agriculture commodities fetch a premium price in the markets.

- India should invest in post harvest operations to stem the loss of agricultural produce. The country loses farm produce worth Rs. One Crore annually due to lack of post-harvest infrastructure. Necessary safeguards must be adopted to stem this loss which accounts to 20-25 per cent of the produce. Better logistics and cold storage structures should be evolved based on the geographical and agronomic needs. Cold chains should be promoted by state governments through appropriate programmes and subsidies.

- Attracting and retaining youth in agriculture. Youth of the country is still not taking up agriculture actively and need to be inspired and motivated to take agriculture as an occupation.

- Aggregating farmers for scale and homogeneity through Farmer Producer Organizations, Cooperative, Self-help groups or Cluster farming can help the farmers in better price realization. Formation of commodity boards and federating FPOs with commodity boards and incentives to farmers' organizations has also the potential to improve the profitability of agriculture.

- Incorporating ICTs for increased agricultural productivity and strengthening the agricultural sector which would entail 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 would be able to improve their income and economic situation through better practice.

- Empowering women in agriculture. Work towards empowerment of women especially engaged in agriculture sector, given the fact that they form a major part of the workforce engaged in the sector. Gender sensitivity in policy planning and technology development can raise the agriculture productivity and income derived from agriculture.

- Value addition especially in horticulture, as it will not only increase the shelf life rather will significantly increase the income to the farmers.

MS Swaminathan Global Dialogue on Climate Change and Food Security & 1st World Agriculture Prize

Agriculture has undergone metamorphic changes globally in the last few decades. In this journey of transformation from famine to food sufficiency, certain individuals and institutions played critical roles. Still there is a long way to go in making the planet free from hunger and malnutrition. Considering the ever-increasing population, changing climatic pattern, shrinking resource base and increased disposable incomes resulting in higher demand for safe and quality food, agriculture is continuously evolving to support the humankind. Developing and underdeveloped nations, in order to boost agriculture, need cooperation, collaboration and learning by global experiences. Youth are moving away from farming and educated class sees farming as last option. They need role models and inspirations. India has now taken leadership position in the world agriculture and is in a position to benefit the developing world with its experiences and diversity of learning. It is high time for India to recognized the efforts of doyens in agriculture and especially those who have contributed in promoting agriculture in third world countries.

With this vision to recognize the individuals, who have served the humanity through agriculture, Indian Council of Food and Agriculture has instituted World Agriculture Prize.

Pioneer of India's Green Revolution, Prof. M.S. Swaminathan received the first World Agriculture Prize instituted by ICFA on 26th October, 2018 at Vigyan Bhawan, New Delhi. The prize was presented by Hon'ble Vice President of India, Sh. Venkaiah Naidu at a special session organised by ICFA. Recognised worldwide for his basic and applied research in genetics, cytogenetics, radiation and chemical mutagenesis, food and biodiversity conservation, Prof. Swaminathan has been hailed by the United Nations Environment Programme as 'The Father of Economic Ecology' owing to his commitment towards the ever-green revolution movement in agriculture. His path breaking approach accelerated wheat yield in 1967-68 and transformed India's then image as 'begging bowl' to 'bread basket'.

The prize has been instituted by the ICFA with an aim to recognise individuals who have served humanity through agriculture. A high level international selection committee decided the World Agriculture Prize Laureate. The World Agriculture Prize is a single prize of $100,000 and launched with a special session, named "Swaminathan Global Dialogue on Climate Change and Food Security", as part of the Global Agriculture Leadership Summit in New Delhi. The special session on climate change and food security has been incepted with a thought to invite the laureates of food and agriculture world to participate in the World Agriculture Prize event and deliberate on this burning issue to come out with a blue print for climate resilient agriculture in a sustainable manner to safeguard the interests of our future generations.

Shri M. Venkaiah Naidu, the Vice President of India, called the eminent Agricultural Scientist, Prof. M.S. Swaminathan a Vishwa Guru in Agriculture, a teacher and a scholar who continues to leave his inspirational, ideational thought prints on the world.The Vice President said that Prof. Swaminathan ushered in green revolution and laid a firm foundation for India's food security. His vision and lucidity of expression have captivated more than a whole generation of agricultural scientists, he said. The Vice President called up on the policy makers to accord highest priority to agriculture as it provides employment to more than 50% of the population. He urged them to have positive bias towards agriculture and rural areas while allocating resources. Stressing on the need to re-think the development paradigm and see how we can make agriculture more economically viable and attractive, Shri Naidu called for regular and effective coordination between scientists, policy makers and farmers to make it sustainable. Concerned over the decrease

in number of people engaged in agriculture, the Vice President called for concerted, coordinated action to address a number of issues that impact the growth of agriculture sector and the quality of life of people who depend primarily on this sector. Talking on the ill effects of climate Change, Shri Naidu said that it is impacting every aspect of life including agriculture and asked scientists and policy makers to evolve strategies to cope with the changing climate, depleting resource base and increasing food demand. "This calls for policy

changes in agriculture sector. We should focus on developing climate resilient crops. We need to develop crops that can withstand extreme weather conditions," he said. The Vice President said that hidden hunger and nutritional deficiencies are major challenges before the world. He said that nothing short of an agricultural renaissance and an evergreen revolution with nutrition as the main component can make us realize this ambitious goal.

H.E. Mr. P. Sathasivam, Hon'ble Governor of Kerala pointed out the stark reality of malnutrition existing

in the world. He observed how India has achieved certain level of food security through great effort's like the green revolution in food production led by stalwarts like Professor MS Swaminathan which strengthened India's capability to fight against hunger and malnutrition. He also pointed at the post harvest losses and the effect of climate change on agriculture. He emphasised on using new varieties of crops and seeds which requires lesser amount of water. Pointing at the ill effects of soil erosion, he suggested a change from our current form of agriculture to sustainable means of farming with a little harm to our environment. Lastly, he emphasised that the agriculture of future must realise on environmentally sound practises to negate the effect of climate change. "Agriculture must also use technologies that depend on ecologically sound and responsive principles. While talking about the adoption of technology we also cannot ignore the need to encourage entrepreneurship in agriculture through skill development. We could raise army of agripreneurs who would make agriculture profitable," he said.

Sh. Suresh Prabhu, Hon'ble

Commerce Minister of India channeled his thoughts on the inevitability of climate change on today's world. "Today we have a serious challenge posed by climate change on agriculture of the world. Some parts of the world will benefit from climate change. But most part of the world is going to face serious challenges in agriculture and are under serious threat. Warming going beyond 2-3°C would put most of our staple crops, including wheat, under serious threat. Therefore, we have to now seriously think about how to deal with it. Water is also one of the serious casualties of the climate change. This is going to be major challenge for the world but also more for India because 17% of the world population is in India and we hardly have any water. Only 4% of the fresh water of the world is in India and most of the groundwater after Green Revolution, particularly in the Green Revolution belt, has been lost. And most importantly the Himalaya, which is providing water to 70% of the population to south Asia and on the other side to south-east Asia and China, and therefore we have a big problem we need to work on it seriously. Food security is a challenge which cannot be dealt with unless we deal with agriculture, and agriculture is a function of nature," he observed. Mr. Prabhu pointed out that we don't know the status of Paris agreement and we don't have a global framework to deal with climate change globally. "We have a real challenge on hand and we should take the leadership of Prof. Swaminathan to lead the battle and succeed as we succeeded in the Green Revolution," he concluded.

Sh. Suresh Prabhu, Hon'ble Minister of Commerce & Industry; H.E. Sh. P. Sathasivam, Hon'ble Governor of Kerala; Sh. OP Dhankar, Hon'ble Minister of Agriculture, Government of Haryana; Dr. Trilochan Mohapatra, DG, ICAR, Dr. MJ Khan, Chairman, ICFAand more than 200 farmers were present on this occasion.

ELEVENTH GLOBAL AGRICULTURE LEADERSHIP AWARDS 2018

The 11th Global Agriculture leadership Summit 2018 provided the much needed platform for global dialogue on the constraints and opportunities faced by today's agriculture. The event also recognized important individuals and institutions, who played pivotal role in building new faiths and ambitions in agriculture by bestowing them with the coveted Global Leadership Awards 2018. The awards across different categories went to

International Leadership Award

Prof. Dr. Ir. Rudy Rabbinge, Special Envoy – Food Security, Government of Netherlands

Prof. Dr. Ir. Rudy Rabbinge, the University Professor Emeritus in Sustainable Development and Food Security at Wageningen University in the Netherlands and a Special Envoy for Food Security in the Netherlands, Ministry of Economic Affairs and Foreign Affairs, has played a leadership role in sustainable development. A veteran specialist, the Professor recently led a 60 million Euro program on transition of agriculture land use and agribusiness.Rabbinge was also the Chair of the Inter-Academy Panel on Food Security and Agricultural Productivity in Africa and member of the Board of Directors of the Alliance for a Green Revolution in Africa (AGRA). With degrees in phytopathology, entomology, theoretical production ecology and philosophy of science from Wageningen University, he has served in different responsibilities. He was Chairman, Science Council of the CGIAR , member of boards of five centers, Chair of the Board of Trustees of IRRI from 1996 until 2001and leader of the change program of the CGIAR in 2008 as Chair of the independent Science Council . His works have also earned him many honours and distinctions such as Knight of the order of Oranje-Nassau, Honorary professor Chinese Academy of Agricultural Sciences, Knight of the order of the Dutch Lion , Honorary member Academy of Sciences Georgia and Distinguished scientist, State Victoria, Australia.

Research & Development Leadership Award

National Research Development Corporation (NRDC)

National Research Development Corporation (NRDC) has played a leadership role in promoting, developing and commercializing the technologies, know-how, inventions, patents and processes emanating from various national R&D institutions. During the six decades of its existence, NRDC has forged strong links with the scientific and industrial community in India and abroad and played a lead role in the commercialization of Intellectual Properties and know-hows developed in their laboratories. Recognized as a large repository of wide range of technologies, NRDC has licensed the indigenous technologies to about 5000 entrepreneurs, filed over 1800 Patents and helped to establish a large number of small and medium scale industries in India and abroad . Out of 5000 technologies licensed, about 42 % of the technologies licensed are in the area of food and agriculture sector. Besides being the torch bearer in the field of technology transfer, NRDC also undertakes number of value addition activities. NRDC has also successfully exported technologies and services to 24 developed as well as the developing countries. During the last four years under the able leadership of Dr H Purushotham, Chairman& Managing Director, NRDC has registered an exponential growth of about 380% and has become a more vibrant, visible and sustainable organization and the organization has been put on the growth path.

Academic Leadership Award

Indian Institute of Management, Ahmedabad

Indian Institute of Management, Ahmedabad, a beacon in the field of management studies has been in the forefront of realizing the need for management support to the under-managed but socially important sector such as agriculture. The Centre for Management in Agriculture (CMA), established in 1971 addresses the process of modernization of the agri-food sector, by using concepts of management science. CMA has also performed significant amount of research in the areas of agri-food policy, procurement, marketing, and processing of agro-based commodities, farm input systems, irrigation and water management, agricultural and rural finance, investment and subsidies, livestock, fisheries, forestry, agricultural trade, food retailing, commodity trading, rural innovations, intellectual property rights, biodiversity conservation, biotechnology, GMOs and food safety issues. The CMA faculty has been actively engaged in policy planning and implementation at national and State levels. CMA has provided help in institution building and played a key role in setting up national level institutes like Indian Institute of Forest Management, National Institute of Agricultural Marketing, and National Institute of Cooperative Management. CMA has undertaken research studies for the Ministry on various facets of agricultural and allied sectors and provides policy advice to the Union Government. The academic institution has played a crucial role in providing the agriculture sector with the able professionals to steer the sector ahead.

Livelihood Leadership Award

Mr. Shailendra Chaudhary, MD, NERCORMP, Shillong

Dr Shailendra Chaudhari, the Managing Director of a very important rural livelihood project in North East India popularly known as "NERCORMP", has been a dynamic leader influencing the lives of poor & marginalized rural communities throughout his career. With more than 26 years of long working experience in the North Eastern Region of India, Dr. Chaudhari has put in sincere efforts in bringing positive and fruitful results in augmenting the livelihood opportunities of the most sidelined sections of the community. The organization, under his leadership has played pivotal role in management of resource base in a way that has contributed to the preservation and restoration of the environment. His organization has reached out to 2532 villages benefitting more than one lakh and nineteen thousand households transforming the lives of more than six lakh fifty three thousand poor people till date. A total number of eight thousand two hundred & sixty two Self Help Groups have been formed women empowerment. Their intervention of NRDC with the economic and social activities and infrastructure with predominant thrust on income generating activities has helped in achieving economic transformation of the target groups.

Farming Leadership Award

Satishbabu Gadde, Andhra Pradesh

Satishbabu Gadde, proponent and practitioner of organic farming, stands tall as an excellent example for the fact that sustainable agriculture can also be a financial success. This idealistic farmer has been following the traditional agricultural practices of his forefathers that shuns environmentally destructive methods. With 22 hectares of land under farming, Mr. Gadde maintains 47 cattle, the milk of which is largely used to nourish the calves which in turn develops into healthy and sturdy cattle and are put up for sale. His method of farming is economically remunerative as he has brought down the cost of cultivation by making his farms zero tolerant to chemicals and pesticides. Practising organic farming in eight hectares of land, his farm propagates the agenda of sustainable models. This progressive farmer uses seeds and manures derived from his own farm. His unique model of farming allows cattle to graze stress free in the fields which increases the productivity of the crops and cattle. Dependent only on botanicals for pest management Mr. Gadde's farm has so far remained strong against any biotic or abiotic stress. A certified organic farmer, Mr. Gadde obtains premium prices for his farm products. Recipient of many recognition, this farmer continues to inspire the fellow farmers by regularly conducting discussions and seminars.

Global Agri Business Leadership Award

Shri Mukund Daga, Managing Director and Shri Shrikanth Rathi, Director, M/S Nagarjuna Agro Chemicals Pvt Ltd, Hyderabad, Dr A K Patra, Director, ICAR – IISS Bhopal and Shri Sanjeev Kumar Chadha, Managing Director, NAFED, New Delhi.

M/S Nagarjuna Agro Chemicals Pvt. Ltd is a leading player in developing and propagating soil testing minilab technologies for over one and half decades. The efforts of NACPL bore fruits in developing Mridaparikshak Minilab in joint collaboration with ICAR – Indian Institute of Soil Science, Bhopal. The Mridaparikshak minilab as developed under flagship programme of Make in India professed by Hon'ble Prime Minister of India. The MRIDAPARIKSHAK is a digital, mobile, quantitative rapid, affordable and easy to operate mini laboratory, first of its kind in the world, for the estimation of soil health parameters, fertilizer recommendations, and generation of soil health cards. It gives quantitative results of the soil health parameters that can be disseminated on real time basis to the farmer's mobile through Short Message Service (SMS). The results include, in addition to soil test parameters, the advisory on nutrient recommendations, specific to crop and soil. The results can also be stored in memory and the output can be saved in some external storage device such as pen drive or compact disc (CD). The primary advantage of this Minilab is by getting Quantitative results and accordingly advocating fertilizers recommendations conveniently paves for doubling the income of farmers. This Minilab being portable in nature can be taken to the Farmers doorstep for establishing soil testing facility at village level as envisaged by Government of India for empowering all the farmers with Soil Health cards. This Minilab attend prominence to the Country and also globally. The prototype of the Minilab was demonstrated to Dr S. Ayappan, Hon'ble Director General, ICAR on February 14, 2015. The Mini Lab was formally released by Shri Radha Mohan Singh, Hon'ble Union Minister of Agriculture, Govt. of India during 86 th Annual General Meeting of ICAR on Feb 18, 2015. Hon'ble Prime Minister Shri Narendra Modi distributed Mridaparikshak Minilab to Farmer on July 25, 2015 during 87thFoundation Day of ICAR and ICAR Award Ceremony at Patna.

Industry Leadership Award

Sonalika International Tractors Ltd.

Sonalika International Tractors Ltd., a well known name in Domestic and International market, stands strong as the third largest tractor manufacturing company in the country with the bestselling tractors ranging from 20HP-120 HP. A formidable player, the company has over 8 lakh patrons in more than 100 countries across the globe. The World's No.1 largest integrated tractor manufacturing plant with a production capacity of 3 lakh tractors annually, Sonalika envisions to become the world's leading tractor manufacturing and farm mechanization company. The global recognition of ITL's growth is evident by the strategic investment into the group by leading international brands like Yanmar of Japan. With the World's No.1 largest integrated tractor manufacturing facility, a well-equipped research and development center, a robust dealership network, consistency in the quality of products and services, Sonalika ITL's has been serving the farming community with passion and commitment to quality. Through new products and innovations, Sonalika ITL has been committed to its core values of serving the farming community.

Global Business Leadership Award

The Weather Company

The Weather Company, a weather forecasting and information technology company that owns and operates weather.com, intellicast.com, and Weather Underground, has been on the forefront of delivering personalized, actionable insights to consumers and businesses across the globe by combining the world's most accurate weather data with industry-leading AI, Internet of Things (IoT), and analytics technologies. A subsidiary of the Watson & Cloud Platform business unit of IBM, their solutions provide newscasters, pilots, energy traders, insurance agents, state employees, retail managers, and more, with insight into weather's impact on their businesses, helping them make smarter decisions to improve safety, reduce costs, and drive revenue. With its varying climate regions, abundance of agriculture, and drastic seasonal weather shifts, creating a weather offering in India that is locally relevant and backed by scientifically validated raw data is of critical importance. The Weather Company, has been the leader globally in the area of offering the most accurate, personalized and actionable weather data. Its products include a top weather app on all major mobile platforms globally, a network of 250,000 personal weather stations, a top-20 U.S. website, one of the world's largest IoT data platforms, and industry-leading business solutions.

Technology Leadership Award

Tirth Agro Technology Private Limited

Tirth Agro Technology Private Limited's Shaktiman, the market leader in India, has helped bring Farm Tech Prosperity to the Indian farmer with technologically superior affordable solutions. Shaktiman has been the pioneer in introducing many equipment in Indian agriculture. They introduced the first indigenously developed cane harvester with unique performance parameters like Reduced trash content, auto cleaning technology in cooling system, GPS & GPRS based tracking system, Air Conditioner & ergonomic cabin. In just 4 years, this world class product has gained market leadership in India, Fiji, Philippines, Vietnam and Sri Lanka. Another success story is the Protektor 600 – a self-propelled high clearance boom sprayer with technologically advanced features which has been the marquee for providing a kick start to technology revolution brewing up in crop protection methods in India. With the ambition of becoming complete farming solution provider, Shaktiman has been on a fast track path of launching technologically advanced products which are not only solving the burning issues in agricultural practices but is also paving a path which will be leading Indian agriculture to better productivity, efficiency and making agriculture more economical.

Corporate Sustainability Award

PepsiCo India

PepsiCo India, one of the largest MNC food and beverage businesses in the country, is guided by the company's philosophy of Performance with Purpose. PepsiCo has pioneered and established a model of partnership with farmers, and now works with over 24,000 farmers across nine states providing 360-degree support to farmers through assured buy back of their produce at pre-agreed prices. The association with PepsiCo India has not only raised the incomes of small and marginal farmers, but also their social standing. Since 2009, PepsiCo India has achieved significant milestones, saving more water than is consumed through a multi-pronged approach focused on water replenishment & conservation, including rain water harvesting within the plants, driving sustainable water resource development & management programs for communities & promoting sustainable initiatives in agriculture like Direct Seeding of Rice (DSR) & drip irrigation. In 2017, PepsiCo India's water saving was 17.6 billion liters, more than it consumed in its manufacturing operations. As a responsible leader, the company is also focused on reducing its carbon footprint, and in 2017, PepsiCo's India's Food as well as Beverage plants had a 79% and 55% share respectively, from renewable energy sources. PepsiCo has thus matched its corporate ambitions with sustainable and responsible business growth.

Life Time Achievement Award

Padmashree Dr. Keki Hormusji Gharda

Padmashree Dr. Keki Hormusji Gharda, Scientist, Entreprenuer, Philanthropist and "Father of the Indian Agro-Chemical Industry", believes in the philosophy of Karmayoga, using Knowledge converted to products to wealth for the benefit of Society. His contribution to India's Green Revolution is unmatched as he gave India its 1st Indigenous Technology for Wheat Herbicide and Pyrethroids and decided not to patent it to enable farmers benefit the Competition. His Industrial R&D doctrine practiced stands for generation & application of new knowledge, into new products and processes, creating new markets and providing support services for commercialization. He broke the monopoly by taking on International giants such as Sandoz, Dow, Rhone Poulenc, Bayer and produced Anilophos (Rice), Isoproturon (Wheat), Pyrethroids, Quinalphos and Deltamethrin with his own processes. Dr. Gharda who pioneered the Agro-Chem industry in India with Gharda Chemicals Ltd., heads Gujarat Insecticides Ltd., Gharda Foundation (Charitable Trust), Gharda Scientific Research Foundation &Gharda Medical & Advanced Technologies Foundation, not for profit companies dedicated to Scientific Research in Basic Technologies. At 89, Dr. Gharda continues as the Chairman & Managing Director of Gharda Chemicals Ltd., the turnover today of which is over $ 400 million with an export of over $ 220 million. Recipient of many awards and honours, Dr. Gharda, is an icon of home grown knowledge based entrepreneurship. A true icon of 'Maker In India' slogan

Policy Leadership Award

Shri Nara Chandrababu Naidu, the Hon'ble Chief Minister of Andhra Pradesh

Shri Nara Chandrababu Naidu, the Hon'ble Chief Minister of Andhra Pradesh, who made Hyderabad the IT hub of the country with strength in determination and commitment in decisions has introduced many market-based reforms, while at the same time formulating many populist schemes which none of his predecessors ever launched. He brought about revolutionary changes in solving people's problems and always relied on technologies to address the same. Agriculture has been kept high up in the agenda by the Chief Minister. The government under his strong leadership has been promoting technology services in agriculture using drones, robotic applications and digital classes.A strong proponent of Zero-Budget Natural Farming to reduce cost and risks in farming, produce safe food with nutritious values, reverse migration to villages and enhance soil health, Mr. Naidu is bringing about sweeping changes in the agriculture sector of the state. The Vision 2020 propelled by him roots for the all-round development of the state. Mr. Naidu has been instrumental in making significant contributions to agriculture and allied sectors through formulation and introduction of pathbreaking policies proactively which made substantial difference in the lives of the farmers and farming community.

Program Leadership Award

The Department of Horticulture, Government of Haryana

Fast emerging as one of the leading States in Horticulture sector, Haryana has made significant achievements in this sector with 6.79% area under horticultural crops and contributing about 9% of GSDP within crop husbandry. With the launching of National Horticulture Mission, Haryana had made some significant achievements in horticulture development. Poly houses, Centres of Excellence, water resources, area expansion of horticulture crops, mushroom projects, post-harvest management, pollination support through bee keeping, mechanization and human resource development are the major components covered under this. The total area under horticulture which was 2.77 lakh hectare during 2005-06, has been increased to 4.90 lakh hectare during 2017-18 recording an excellent 56.53% increase in 12 years. The state has 707.12 hectares under poly houses and 47 mushroom projects. Under postharvest management, 722 units of cold storage, ripening chamber and pack houses have been set up by the state. Four Centres of Excellence are fully functional under Indo Israel bilateral agreement. Haryana stands first in the Country in subsidy disbursal through 'HORTNET' payment gateway system. A total of 21,065 farmers against a target of 20,000 beneficiaries have availed the benefit. Through perceptible policy changes and committed leadership, Haryana has achieved important milestones in the area of horticulture development and is well on the way to become a number one state in horticulture.

Best Animal Husbandry State

The State of Bihar

Bihar, a success story in Animal husbandry, has displayed remarkable progress in the last two years. The state has recorded 11.50%, 21.60%, 13.68% and 15.81% incremental growth in production of milk, meat, egg and fish respectively. The significant enhancement in production of these products became possible due to various initiatives taken by the Department of Animal and Fisheries Resources. Effective implementation of different schemes under dairy, animal husbandry and fisheries sectors where subsidies were provided to the eligible farmers, have helped Bihar in augmenting its livestock resources. The state has also performed superbly in Livestock Health and Disease Control. Mass vaccination against PPR and Brucellosis was conducted in the state of Bihar for the first time during 2017-18. Various measures were taken for Veterinary Hospital Strengthening and Management. Besides this, the department is aggressively expanding the reach of the livestock health services to the farmers with the help of 50 well equipped Mobile Veterinary Clinics. The state has witnessed considerable growth in milk procurement, processing,and marketing by COMFED during the last two years. The Department, under the able leadership of Dr.N.VijayaLakshmi, IAS, has achieved splendid results. Bihar undoubtedly has created an incredible impression with its impressive programmes and commitment towards the same.

Best Horticulture State

The State of Nagaland

Nagaland, a global hotspot of biodiversity, is gaining grounds in horticulture segment and is carving a niche for itself. The Department of Horticulture had made strategic efforts and has enabled the State to achieve the GI Registration of "Naga Mircha" and "Naga Tree Tomato" and managed to achieve the Branding of "Naga Pineapple", the only crop to be given a brand status from the whole of North-East India. Besides mobilizing farmers into commodity specific groups, the department has also made rapid strides in Organic cultivation and has so far been able to certify 4750 Ha as organic. For improving the market linkages for the horticultural farmers, Nagaland has established the first Local Horticultural Products Daily Market. Vegetable Villages, another important contribution of state has at present 800 ha area in all the 11 districts. The Department has been instrumental in the introduction of Dragon fruit in Nagaland, an exotic fruit which is gaining popularity across the country. Horticulture has become an attractive alternative to Jhum Cultivation and more than 5000 Jhum farmers have shifted to permanent horticulture cultivation over the last few years. Nagaland has identified horticulture as its important strength and is in the process of becoming to one of the most "Horticultural advanced States of the Country".

Best Agriculture State

The State of Gujarat

Gujarat, a vibrant state with a diversified agricultural economy has witnessed spectacular growth in agriculture sphere in recent years. With a significant share in the production of major crops in the country, Gujarat has fared well in the production of cereals, pulses, oilseeds and cotton. Horticulture economy, another success story, has been gaining momentum as the area under fruit crops, vegetables, spices and floriculture has increased. Gujarat is one of the largest processors of milk in India and AMUL is among 10 largest dairy brand in the world. Major expansion and interventions in agriculture sector has been one of the strengths of Gujarat. Intensive extension activities under Krishi Mahotsav programme, irrigation, water management, implementation of micro-irrigation, Kisan Credit Cards and Soil Health Cards for farmers, area expansion of high value crops, post-harvest management, digital agriculture etc. led economy towards inclusive growth. Integrated approach in Pink Boll Worm management in Cotton and Use of Remote sensing are the notable initiatives in recent years. Satellite imageries and its use in agriculture sector for multiple factors which adopted by state is surely classic example of technological scalability and the state is well on its path towards a better and sustainable agriculture sector.

Special Life Time Achievement Awards

Prof. Panjab Singh

Prof. Panjab Singh, Chancellor, Rani LaxmiBai Central Agricultural University, Jhansi and President of the prestigious National Academy of Agricultural Sciences (NAAS), has made significant scientific contributions in the fields of water management, crop production and agro-forestry management systems. Providing illustrious leadership in shaping up of national and state level education and research institutions and Universities, Prof. Singh initiated the establishment of a new south campus of Banaras Hindu University at Barkachha in Mirzapur district. Starting his career as an Assistant Professor, the veteran academician rose to the position of Secretary, Department of Agriculture Research and Education (DARE), GOI and Director General, Indian Council of Agricultural Research (ICAR). Prof. Singh's academic and scientific excellence elected him as Fellows of Six Scientific Societies, President of Six and Vice President of five Scientific Academies/ Societies and the Chairman of various National and International Scientific Bodies. He is also decorated with D.Sc. (HonorisCausa) from seven universities, and life time achievement and distinguished Alumnus awards from four institutions and scientific societies. An alumnus of IIT, Kharagpur, Prof. had served in many responsible positions such as Assistant Director General of ICAR; Director, IGFRI; Director of IARI; Vice-Chancellor of Jawaharlal Nehru Agricultural University; founder Director, School of Agriculture in Indira Gandhi National Open University (IGNOU) and Vice-Chancellor of Banaras Hindu University. He also served in the F.A.O. as Regional Plant Production and Protection Officer for Asia and the Pacific. His unparalleled leadership and stellar research prowess spanning over several decades helped further the agricultural potential of the country.

Media Leadership Award

Mr. Ammar Zaidi, National Business Editor, PTI

Mr. Ammar Zaidi, the National Business Editor and Chief of Economic Bureau at The Press Trust of India, has over two decades of experience in journalism. Associated with PTI which is India's largest news agency subscribed by nearly 500 English language newspapers and publications, Zaidi has always encouraged healthy journalism. With a Masters degree in Business Management, Mr Zaidi has risen from within the ranks in PTI where he joined in 1999 and now heads a team of young and energetic journalists, covering policy, regulatory and corporate news. Leading the business section of PTI, Mr. Zaidi is well connected and makes it a point to personally interact with concerned authorities to file the stories of national and international interest. A well known personality in media fraternity, he is easily accessible and constantly motivates his team members by working day in and day out. He had taken special interest in giving adequate coverage to news related to agriculture. With extensive experience and knowledge of agriculture industry, Mr. Zaidi has brought reasonable and positive change in the field of journalism.

Development Leadership Award

Dr. Pramod K. Joshi, the Director for South Asia, International Food Policy Research Institute, New Delhi

Dr. Pramod K. Joshi, the Director for South Asia, International Food Policy Research Institute, New Delhi, is a prominent academician, researcher and administrator. With wide areas of research such as technology policy, market, and institutional economics, he has held many key positions in reputed organizations. He was the director of the National Academy of Agricultural Research Management and the director of the National Centre for Agricultural Economics and Policy Research. His expertise over the subject matter earned him important positions such as the South Asia Coordinator at the International Food Policy Research Institute and senior economist at the International Crops Research Institute for the Semi-Arid Tropics. Dr. Joshi has also been recognized by many awards and honours such as Dr. MS Randhawa Memorial Award of the National Academy of Agricultural Sciences, Dr RC Agarwal Life Time Achievement Award of the Indian Society of Agricultural Economics, DK Desai Award of the Indian Society of Agricultural Economics, and RT Doshi Foundation Award of the Agricultural Economics Research Association for outstanding contribution in social science and agricultural economics research. Being the head of many reputed organizations responsible for policy change, Dr. Joshi made noticeable contribution for the growth of agriculture economics.