

13th Annual Convocation

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Convocation Address

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Hon'ble Governor of Gujarat and Chancellor, Shri Om Prakash Kohli, esteemed Minister of Agriculture, -----, Government of Gujarat, , Hon'ble Vice-Chancellor of the University Dr. C.J. Dangaria, Members of Board of Management and Academic Council, Faculty members, officials and staff of the University, distinguished guests, representatives of press and media, dear students, ladies and gentlemen.

I feel honoured to be amongst this august gathering for the 13th Annual Convocation of Navsari Agricultural University, Navsari and to share some of my thoughts about Indian agriculture. At the very outset, I wish to convey my heartiest congratulations to the students on being conferred which richly deserved degrees and awards for their academic accomplishments.

I also congratulate the faculty members who gave their best to impart quality education, knowledge, skills and human values to the students. It is a matter of pleasure to see new initiatives made by the Navsari Agricultural University for excellence in higher education, research and extension education programmes in the field of agriculture and allied sciences, for which the University authorities deserve all appreciation.

Navsari Agricultural University, Navsari one of the five agriculture and Veterinary universities in the state has been consistently involved in research for development of technologies suitable for the prevalent agro climatic conditions of the region and needs of the farmers. The university has great responsibilities of serving the farming community in general and especially in state.

Agriculture and allied activities remain major source of livelihood with 48.9 percent share in national workforce while its share in the Gross Domestic Product (GDP) is about 14 percent. The primary characteristic of Indian agriculture is the predominance of small and marginal farms. Agriculture sector is prime mover of economic growth in Gujarat.

Gujarat is an agriculturally important state and contributes about 2.76% of the national food grain production, 3.62% wheat, 3.38% pulses and nearly 15% of the oilseeds. Similarly, the state produces about 7.99% milk, 5.35%% wool and 0.51% meat of the country. More than 74% rural families keep livestock in their households. Contribution of animal husbandry sector to the GDP of the state has been estimated to be around 5%. Though total farm production from state is appreciable but the productivity remains below the global average. The Agriculture sector has potential to create employment in rural areas with least investments as compared to other sectors. Animal husbandry comes to the rescue as a measure to alleviate effects of droughts and has proved to be a saviour by providing sustainable year-round income to the farmers.

South Gujarat is considered as the horticultural bowl of the state. In South Gujarat, fruits and vegetables cover an area of 2.48 lakh hectares with a total production of 51.10 lakh tones. Rice, sugarcane, cotton, mango, banana, sapota and vegetables are the major crops grown in this region. South Gujarat region produces 5.97 lakh tones of rice, 3.69 lakh bales of cotton, 11.21 lakh tones of sugarcane. Among the horticulture crops, South Gujarat produces 6.46 lakh tones of mango, 1.30 lakh tones of sapota and 23.89 lakh tones of banana, 2.91 lakh tones of brinjal and 3.71 lakh tones of okra.

I came to know that the jurisdiction area of this University is over seven districts of South Gujarat viz. Surat, Bharuch, Navsari, Valsad, Tapi, Narmada and Dang. Out of seven districts, four districts namely Dang, Narmada, Valsad and Tapi are tribal dominated. The total geographic area of South Gujarat is 22.63 lakh ha and out of which 8.67 lakh ha (38.33%) comes under tribal area. However, rest of the three districts viz., Surat, Bharuch and Navsari are very well developed and even industrialized.

NAU has very good research set-up in terms of two zonal, two main, two regional research stations and nine verification and testing centres to accomplish area specific need based agricultural research activities in South Gujarat. The University mainly undertakes research on the crops grown in South Gujarat viz., cotton, paddy, sugarcane, pulses sorghum, hill millets, niger, soybean, castor and horticultural crops like, mango, banana, sapota, papaya, cashew nut and vegetable crops.

Apart from this, University is also working on soil and water management, organic farming, bio-fertilizers and bio-pesticides, post harvest technology, value addition, Agro forestry, fisheries, animal husbandry, protected cultivation, climate change and agriculture, soil health, forage crops, food quality and food testing and nutritional security.

Recognizing the fact that Gujarat is an agriculturally important state and there is need for technological interventions, the ICAR has established 5 Krushi Vigyan Kendras located at Navsari, Surat, Waghai, Vyara and Dediapada, Training Units (Sardar Smruti Kendra & Training and Visit System) at head quarter, ATIC, Extension departments at different colleges along with the State Agricultural Management and Extension Training Institute (SAMETI), Gujarat assisting in extension reform programme with the help of experts/scientists engaged in research and education activities of the University.

Our population is increasing and is estimated to stabilise at around 1.6 billion by 2050. The growing population, expanding urbanization and rising incomes have raised a wide range of important issues linked to national food-security, including dietary preferences, especially higher demand for livestock products and consumption of more processed foods. India has vast resource of livestock and poultry, which play a vital role in improving the socio-economic conditions of rural masses, particularly of the marginal, small and the landless. Today, there are over 500 million livestock and around 730 million poultry birds and still growing. We have also to address the needs of fodder and feed-fuel, as well.

The challenges, now and in future before agriculture are shrinking in land holdings, climate variability, declining and degrading state of natural resources, sub-optimal input use efficiency, emergence of new biotic and abiotic stresses, post-harvest losses, adequate supply of energy and its management, access to markets and market uncertainties, knowledge lag, policy support enhancing farm profitability and above all an ever increasing food-feed-fuel demand. While there is a need to focus on sustaining the productivity gains in the irrigated agriculture, the major emphasis should, however,

be on the development of rain-fed agriculture, promotion of integrated farming, high value agriculture, secondary and specialty agriculture, though I came to know that more than 45.12 percent area of this part of Gujarat is irrigated.

Achieving efficiency in the use of irrigation systems will be the main determinant of agriculture productivity particularly in this area.

Climate change is trans-boundary in nature but it is more important for countries like India where more than half of the population depends on agriculture which inter alia depends heavily on monsoon rains. The situation, therefore, warrants technological interventions of advanced nature and competent human resource to counteract the impact of abiotic stresses on agriculture. India is becoming more vulnerable to climate change as extreme weather events are on rise and major portion of population derive their livelihoods from agriculture and allied sectors.

National Innovations on Climate Resilient Agriculture (NICRA) is a network project of the Indian Council of Agriculture Research (ICAR) in progress since 2011, aims to enhance resilience of Indian agriculture to climate change and climate vulnerability through strategic research and technology demonstrations. The research on adaptation and mitigation covers crops, livestock, fisheries and natural resource management. The programme is being implemented in several research institutions across the country. A series of projects in network mode have also been initiated on adaptation and facilitation of livestock to impending climatic changes through shelter management, genetic maps, molecular markers for biotic and abiotic stress tolerance, molecular diagnostics of avian diseases, gene discovery, allele mining etc.

Timelines, precision and resource conservation in farm operations are of utmost importance to realise the potential yields of the technologies. For such farmers, farm implements which are low-cost, light-weight, multi-purpose, gender-friendly reducing drudgery are needed. Therefore, mechanization of small farms is the need of the hour as it can also mitigate labour scarcity during peak season.

Indian agriculture is becoming increasingly energy-intensive and hence is the need for introducing energy-efficient farm machinery and irrigation systems, areas that are also relevant to the 'make in India' initiative of the Government. In order to meet the growing demand for energy in agriculture, use of non-conventional and renewable sources of energy would be imperative.

Seed is the basic and essential input for agriculture; other inputs of technology are contingent upon quality seed for being optimally effective. Inadequate availability of quality seed, planting material and germplasm is presently a constraint for enhancing productivity. Therefore, production of seed, planting material and germplasm in case of field and horticulture crops, animals and fish has to be enhanced both in terms of quantity and quality. This would in turn require strengthening of infrastructure for rapid multiplication of disease-free, value-added, quality seed and planting material and fish seed production. In this endeavour, above mentioned areas would need pin-pointed attention.

There is need to encourage development of seeds/seed technologies to usher second “Green Revolution”. This development should cover all agriculture Segments/crops-cereals, coarse cereals, fruits and vegetables, pulses, oilseeds, animal husbandry and pisciculture-simultaneously. The adoption of hybrid and high yielding varieties seeds is one definite pathway for raising productivity in Indian agriculture.

Pests and diseases cause more than 10% losses in crop plants. Therefore, predication of diseases and pests before overt symptoms appear is another area where we need to concentrate our focus.

The role of extension services is the most crucial for the farmers to realize the gains from technological innovations. It is important to see that the technology reaches the end user in right manner. Technology specific extension models based on agro-ecosystem need to be developed. Village Knowledge centres and Agri-clinics may be linked and integrated with public providing farm advisory services and quality inputs.

Our agriculture universities are hubs to create competent human resource that is critical to the development of agriculture sector. Quality education is dire need of the day, which must be ensured in SAUs. The present situation demands a renewed thrust for enhanced quality and relevance of higher agriculture education so as to facilitate and undertake human capacity building for developing self-motivated professionals and entrepreneurially in view of the changing scenario of globalization of education. The graduates are required to possess professional capabilities to deal with the concerns of sustainable development (productive, profitable and stable) of agriculture in all its aspects. Also, the education should address the stakeholders’ expectations especially in utilitarian mode.

University’s agriculture education system requires that pace is kept with the rapid technological, economic and social developments taking place nationally and globally. In view of globalization of world economics, agriculture graduates can make significant contribution in the society by developing themselves as solution providers. Therefore, agriculture education must produce graduates with entrepreneurial skills who can generate employment.

ICAR is also working in this direction. I am happy to announce that Ministry of Agriculture and Farmers Welfare, Govt of Indian has declared Agriculture and allied science degree as professional degree, as a result our graduate will be benefitted for more opportunity for study abroad and starting entrepreneurship in the field.

To ensure efficiency, effectiveness and sustainability in agriculture production, an exemplary shift in educational learning system, technology, curricula and infrastructure is essential. To meet this requirement, distance education and short duration trainings for unemployed rural youth is an option. It is high time to take advantage of this system of education and make use of multi-media, e-journals, e-books for quality mass education and e-governance.

Component of hands on-training at selected study centres and face to face interaction through counselling, open and distance education will become very effective tool of imparting education to large section of society. Fast changing national and international

scenario in agriculture and recognizing the need, the ICAR has embarked upon an arduous task of restructuring course curricula and syllabi of agriculture and allied sciences. Recently ICAR has released recommendation of V Deans Committee for new syllabus of UG in 11 disciplines of Agricultural sciences. In new syllabus apart from the technical and generic skills, leadership and entrepreneurial skills to build leading teams, and put innovations into practice and respond to competitive environments is also included. Thus four **T's i.e. Tradition, Technology, Talent and Trade** were articulated to make agriculture as alternative field for livelihood and sustainable development.

The Council has launched Student READY (Rural Entrepreneurship and Awareness Development Yojana) a one year composite programme having five components i.e. Experiential Learning on business mode, Experiential Learning without business mode for skill development, Rural Awareness Work Experience, In-plant training/industrial attachment and Student project for the last year of the UG programme. The graduates at the end of their four year degree programme, besides being equipped with adequate knowledge for taking up the higher education, will be ready for the jobs in the public as well as private sector and at the same time, for developing a self enterprise and meet new challenges. It is a novel program to integrate skill building and business module in agricultural education to capacitate the students to emerge as agro-entrepreneurs. Experiential learning will thus, provide the students an excellent opportunity to develop analytical and entrepreneurial skills and knowledge and confidence in their ability to design and execute the project work through meaningful hands.

Attracting and Retaining Youth in Agriculture (ARYA) is another innovative program to retain the rural youth in agriculture to respond to the needs of the country and to build capacity of rural youth through special programmes and projects including 'learn while you earn' programme. The program shall develop a comprehensive policy for development of youth in rural areas; involve youth in policy making processes from design to implementation, monitoring and evaluation and recognise the requirements of the new-age farmers and endeavour to fulfil the same. Over all, the program is to check the rural migration of youth on one hand and unviable holdings on the other that will have a wider impact on food security with the context of ever growing population. The ARYA will identify such mechanisms and models that would encourage youth to avail the quantum of opportunities in allied sectors. It is expected that the youth educated in agriculture and allied enterprises will be able to earn a dignified livelihood from farming and other related pursuits.

The ICAR has launched, farmer FIRST (Farmer, Innovation, Resources, Science & Technology) to move beyond the production and productivity and to privilege the complex, diverse and risk prone realities of majority of farmers through enhancing farmers-scientists contact with multi-stake holders-participation.

To provide further impetus and to make the process of technology dissemination more effective "*Mera Gaon Mera Gaurav*" has been concept utilized and launched by ICAR in which about 20,000 scientists of Agriculture Universities and ICAR Institutes will identify villages in a group of four scientists for providing technical information, advisories and

demonstrations on agriculture technologies and practices in farmers' field. Each group of scientists will adopt five villages for transfer of technologies directly from Lab to Land.

Dear students! Today is certainly a historic moment for university and especially of students who have received their hard earned degrees and awards. This is also an occasion for us to introspect the course of our journey, what have we achieved? What were the failures? Where and how we need to improve? From now onwards you would be starting a new life and certainly you would be opting for diverse careers. I have no doubt that with the wealth of knowledge, understanding, values and competence you have acquired here will help you to perform well in your life. But never forget that the degrees and awards that have been conferred on you are the fruits of your hard work, and are only stepping stones for future journey. I wish you all the best in your future venture. I would like to urge that always work hard, learn more and expect less are three important points for success of life

I express my sincere thanks to the authorities of this esteemed University for inviting me to the convocation function.

'Jai Hind'