

# **TWELFTH ANNUAL CONVOCAATION**

**28<sup>th</sup> January, 2017**

**CONVOCAATION ADDRESS BY  
CHIEF GUEST**



**Dr. J. S. Sandhu**  
Deputy Director General (Crop Science)  
ICAR, Pusa, New Delhi



**: Venue :**

**DIKSHANT MANDAP  
UNIVERSITY GROUND**

**NAVSARI AGRICULTURAL UNIVERSITY  
NAVSARI - 396 450 (GUJARAT)**

# **Twelfth Annual Convocation**

**Navsari Agricultural University, Navsari, Gujarat**

**Convocation Address by**

**Dr. Jeet Singh Sandhu**

Deputy Director General (Crop Science)  
Indian Council of Agriculture Research, New Delhi

Hon'ble Governor of Gujarat and Chancellor of Navsari Agricultural University, Shri O. P. Kohli ji; Hon'ble Minister of Agriculture and Energy, Government of Gujarat, Shri Chimanbhai Shapariya ji; distinguished Vice-Chancellor of the University Dr. C.J. Dangaria; Vice-chancellors of other Agricultural Universities of Gujarat; Members of Board of Management and Academic Council; Deans, Registrar, learned Faculty members and staff of the University, revered guests; dear students; representatives of press and media; ladies and gentlemen.

1. It is always a joy to participate in Convocations, since they symbolize valuable additions to our trained human resource. I deem it to be an honour and privilege to deliver the twelfth annual convocation address of Navsari Agricultural University, an institute of excellence in agricultural and allied subject education as well as research. At the very outset, I wish to convey my heartiest congratulations to all the students who have received degree today and all those who have received medals for their outstanding performance. I wish you all the very best in your future pursuits. Today is a great day in your career as you enter in a different phases of your life.

2. 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.

3. Navsari Agricultural University 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. Apart from this, University is also working on soil and water management, organic farming, bio-fertilizers and bio-pesticides, post harvest technology, value addition, Agroforestry, fisheries, animal husbandry, protected cultivation, climate change and agriculture, soil health, forage crops, food quality and food testing and nutritional security.
4. Agriculture and allied activities remain major source of livelihood with 48.9 per cent share in national workforce while its share in the Gross Domestic Product (GDP) is about 14 per cent, besides addressing the problems of poverty, hunger, malnutrition and livelihood security. The sector is currently facing numerous challenges: resource degradation, climate change, rising energy prices, low farm income, growing population growth, globalization and increasing rural-urban migration, changing consumer preference for food, etc. The primary characteristic of Indian agriculture is the predominance of small and

marginal farms. Agriculture sector is prime mover of economic growth in Gujarat. 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.

5. 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.
6. India has made tremendous progress in agriculture after independence, especially the green revolution that resulted from application of science, an enabling policy environment and political will. India's population during the last three and half decades increased from 551 million to 1,252 million, which implies that country has to feed more than double the population now than in 1971-72. Production of most of the food items increased more than double which contributed in improving per capita availability of all food commodities. 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 Gujarat has shown the way to the rest of the country by being a pioneer in establishing milk cooperative and also in having sustained higher growth in agricultural production. Today the Gujarat is among the leading states in production of milk, marine fish.

7. 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. It is important to empower the farmers with new technological advancements and link them directly with the markets to increase their share of profit. New growth opportunities in secondary agriculture, specialty agriculture and eco-tourism have tremendous potential for increasing the farm income. It is only by making farming a more remunerative enterprise.



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.

9. 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.
10. 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.
11. Pests and diseases cause more than 10% losses in crop plants. Therefore, prediction of diseases and pests before

overt symptoms appear is another area where we need to concentrate our focus.

- 12.** Microbes, though are very small in size but are highly indispensable in any of the ecosystem. Microbes as biofertilizers, plant growth promoters and biopesticides are important areas to fulfill the challenges in a sustainable way and needs intensive research to improve the quality primarily to achieve food security for the growing population and restore soil fertility. The development of new biopesticides with multiple mode of action against pests and biofertilizers with multi-crop growth promoting activities are most important for sustainable global agriculture. I am extremely delighted to learn that Navsari Agricultural University is working incredibly in this direction. University have identified highly efficient isolates of the microbes from the native soil and developed technologies for their mass production. More than fifty thousand liters of the biofertilizers annually being produced by the university and distributed to the farmers echoing its worthiness.
- 13.** 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 per cent 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.

- 14.** 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.
- 15.** National Innovations on Climate Resilient Agriculture (NICRA) is a network project of the Indian Council of Agricultural 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.

16. 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.

17. 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 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.

18. 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. I am happy to announce that Ministry of Agriculture and Farmers

Welfare, Govt. of India 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.

19. 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. Several initiatives such as change in curricula, Student READY, Niche Area Centers of Excellence, Emeritus scientists programme, Faculty/students exchange programme, Attracting and Retaining Youth in Agriculture (ARYA) for rural youth in agriculture, 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.
20. To provide further impetus and to make the process of technology dissemination more effective “*Mera Gaon Mera Gaurav*” has been concept utilized, in which the scientists providing technical information, advisories and

demonstrations on agriculture technologies and practices in farmers' field. Remember, education is a life time process and graduation is a milestone in the journey of learning. The *Manusmrti* says that the pupil obtains one quarter of his learning from the teachers, another quarter from his own intelligence, the third quarter from association with fellow-students and the remaining quarter in course of time.

21. Remember Excellence is a Journey and not a destination. One of the *Subhashita* states that even having learnt the sciences, one remains a fool unless he applies them effectively. The well thought out medicine will not cure any ailment by its mere mention. The aim of education is to prepare young minds to accomplish given task with more accuracy and perfection. The Perfection is the hallmark of science. As you step into the world, remain young at heart and be open to new ideas.
22. Dear Students, you can play a very important role in changing the way agriculture is operating in our country, by working intimately with farmers in understanding their issues and finding innovative solutions. Machinery needs to be evolved that would enhance productivity. Prediction of weather patterns need to be shared with farmers. Research must be geared to the needs of the farmers and continuous training of farmers is necessary. Infact, I would urge that some of you to take to agriculture as a profession. Instead of looking at what others are doing, take the initiative and leadership in doing something really innovative and progressive. I am confident that with the knowledge gained in this University, you will contribute to change the scenario of the agricultural sector of the country, by working for the welfare of the farming community. This

will result in the overall progress and well-being of the people of the nation.

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. Endeavour to be the best in the world in whatever you choose to be. Necessary qualities of a good citizen are sincerity, integrity, and compassion to humanity. I once again extend my heartiest congratulations to all the students who have received their well-deserved degrees and awards today.

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

**‘Jai Hind’**