ನೇಗಿಲ ಮೇಲೆಯೇ ನಿಂತಿದೆ ಧರ್ಮ

ಕೃಷಿ ಮತ್ತು ತೋಟಗಾರಿಕೆ ವಿಶ್ವವಿದ್ಯಾಲಯ, ಶಿವಮೊಗ್ಗ

University of Agricultural and Horticultural Sciences, Shivamogga

ಸುಗ್ಗಿ ಸಂಭ್ರಮ 1

ಪ್ರಥಮ ಘಟಿಕೋತ್ಸವ
FIRST CONVOCATION

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ಘಟಿಕೋತ್ಸವ ಭಾಷಣ
CONVOCATION ADDRESS

ಡಾ. ಆರ್.ಆರ್. ಹಂಚಿನಾಳ್

ಅಧ್ಯಕ್ಷರು, ಸಸ್ಯ ತಳಿ ರಕ್ಷಣೆ ಮತ್ತು ರೈತರ ಹಕ್ಕುಗಳ ಪ್ರಾಧಿಕಾರ, ಭಾರತ ಸರ್ಕಾರ, ನವದೆಹಲಿ

Dr. R.R. Hanchinal

Chairperson, Protection of Plant Varieties and Farmers' Rights Authority, Government of India, New Delhi

1st Convocation Address
University of Agricultural and Horticultural Sciences, Shivamogga, Karnataka

Prof. R. R. Hanchinal
Chairperson (Secretary rank)
Protection of Plant Varieties & Farmers' Rights Authority,
Ministry of Agriculture & Farmers Welfare, Govt. of India, New Delhi

His Excellency, the Governor of Karnataka and the Chancellor of the University of Agricultural and Horticultural Sciences, Shri. Vajubhai Rudabhai Valaji, Honourable Minister of Agriculture, Government of Karnataka and Pro Chancellor of the University, Shri.Krishna Byre Gowda ji, Distinguished Vice-Chancellor, Dr. C. Vasudevappa, Members of Board of Management and Academic Council,The present and former Vice-Chancellors,esteemed guests,Deans,learned Faculty, officers and staff of the University,dear students,their parents,representatives of press and media, ladies and gentlemen!

It is indeed a great privilege and profound honour for me to be associated with the proceedings of the 1st convocation at this august institution - a temple of learning, which provides an international quality education particularly focused on agriculture, horticulture, forestry and related fields, an area that is critical for the future food and nutritional security of the people. I take it to be a privilege to deliver convocation address.

University of Agricultural and Horticultural Sciences, Shivamogga is the first Integrated University in the State of Karnataka which has agricultural, horticultural and forestry sciences under its purview. UAHS is located in the heart of Wester Ghats. This mountain range has been named as one of the worlds' eight hotspots of biological diversity, which houses over 5000 species of flowering plants besides others. Western Ghats are well known for inhabiting medicinal and aromatic plant species. This region houses over 700 medicinal plants which are used in Ayurvedic medicine production firms. In a region with such rich plant genetic resources and culture,the University started functioning from September, 2012 and it is commendable that the first convocation is being held in a short period.

It is a pleasure to learn that the University has recently developed a disease resistant rice variety, KPR-1 with grain yield of about 6.0t/ha and onion varieties, Bhima Super and SataraGarva with yield of 30-35 t/ha, developed suitable package of practices, designed and improved new farm machinery that have improved the farming operations. Besides developing improved varieties of field and horticultural crops, the University is very much involved in extension activities to take the technology to the farmers' doorstep.

Horticultural activities play an important role in national economy and in socio-economic development of the country and account for about 35% of share in the agricultural output at national level. Karnataka contributes about 8% fruits, 7% spices, 24% plantation crops and 5% vegetables in terms of total production of the country. These activities have contributed to the food basket, nutrition security, and

household income of the farmers and play a significant role in generating gainful employment in the rural areas, particularly among the landless, small and marginal farmers and women, besides providing cheap and nutritious food.

Like other states of the country, Karnataka also has dominance of marginal and small farmers, who constitute about 77% of the total farmers. In general acute labour shortage of agricultural manpower, migration of rural youth to urban areas, lack of skilled / trained manpower; problems in large scale adoption of farm mechanization, too many small land holdings, lack of infra-structure on the farms are some of the constraints faced in this area. Recognising the vast agricultural potential of Karnataka, the ICAR has established five research institutes in the state, besides regional stations of institutes located in other parts of the country, 31 KrishiVigyanKendras and supports 6 Agricultural universities in the state.

First of all, I extend my heartiest congratulations to all those who are getting their degrees and meritorious awards today. In the students' life the convocation signifies a great day of pride and aspirations for students, when they complete their formal studies and enter real life, life of struggle and decision making, creating and availing of opportunities to serve the motherland. I wish you all the very best in life.

On this occasion I would like to share with you some of my experiences and thoughts. Ever since civilization began from the shores of our great rivers, our nation has maintained great continuity. Even in the first phase of 21st century, agriculture continues to be the most dominating occupation. Food security is the basic need for achieving all round

progress. As articulated by the Roman philosopher, Sèneca, 2000 years ago "a hungry person listens neither to reason nor religion, nor is bent by any prayer and where hunger rules, peace cannot prevail". In this world three securities, viz.food, nutritional and health security will bring other securities - economic, social and political security. This could be achieved through modernization of agriculture keeping traditional agricultural practices in mind, catering to the future needs of the people and the nation.

Despite industrialization and urbanization, agriculture has remained the primary source of employment for the largest segment of our population. Nearly 52% of the population depend on primary agriculture with 82% being small and marginal farmers. We must make sure that our agricultural practices not only conform to the changing pattern of the modern day world, but also ensure the fulfilment of the simple demands of livelihood of millions of people living in remote villages. The students, professors and experts in agriculture have a significant role to address this exigency of this century.

India has made impressive strides on the agricultural front during the last three decades. Agricultural education and research has played a great role in the agricultural development of our country. Much of the credit for this success should go to the National Agricultural Research System (NARS) and the several million farming families that form the backbone of Indian agriculture and economy. Policy support, production strategies, public investment in infrastructure, research and extension for crop, livestock and fisheries have significantly helped in increase of food production and its availability. At the time of independence,

India produced only around 51 million tonnes of food grains which was not enough to meet the requirements of 35 crores of population. For a long time, we had to depend on a large scale of food assistance and imports from abroad. India was in a situation of "ship to mouth". Then our dedicated and visionary agricultural scientists developed high yielding varieties/hybrids in different crops. The farmers were persuaded through extension education to adopt recommended package of practices with quality seeds of improved varieties. It is the hard working farmers who brought about, in a short span of time, a 'Green Revolution' and saved the country from a humiliating situation of "ship to mouth to surplus flows to export". At present food grain production is about 264.77 million tonnes and horticulture production is about 268.82 million tonnes. India has made unprecedented progress not only in agriculture and horticultural production but also in the field of marine and inland fisheries and dairying and is the largest milk producing country in the world.

In spite of impressive progress, there is no room for complacency. There is an atmosphere of gloom on the farm front now. The contribution of agriculture to GDP has gone down below 20 percent. Amartya Sen said "India has avoided famine, but hunger continues even today". India's score in the Global Hunger Index 2014 is 17.8 and ranks 55 amongst 76 countries. Hence, we have a challenge of attaining nutritional security.

As W. Skinner and Wessman have said "It is a recognized fact that we cannot have continuous prosperity without agricultural progress". We are facing manifold difficult problems which are of different nature and complexities.

The cost of cultivation has increased. The fertility status of soils is decreasing due to continuous cultivation of same crops every year without addition of organic nutrients. Drop in ground water table, fragmentation of agricultural land, non-availability of quality seeds of required crop varieties, nutrient imbalance; over exploitation of nutrients and imbalanced use of inorganic fertilizers aggravate the problem further. Need of the day is to evolve an integrated nutrient management system. There is a problem of deep soil erosion because of floods and increased destruction of forests.Due to rapid urbanization, agricultural land is decreasing. According to one estimate, per capita average availability of agricultural land by the year 2050 would be less than 1 ha due to ever increasing population. The farmers must, therefore, be educated in the use of soil by adopting scientific crop rotation.

The current levels of use efficiency of resources such as water, energy, fertilizers, pesticides, feeds and fodders, is rather low that results in increased cost of production, as also in severe environmental consequences. There is enormous scope to improve the productivity and efficiency of farming through technological interventions. Ensuring timely availability of adequate supplies of quality inputs at affordable prices to farmers at right place and needed quantity is necessary for achieving higher agricultural productivity and production. Further, livelihood security of small holder farmers is also at a higher risk to climate change or natural disasters. The resilience of small farmers' agriculture production and productivity have to be improved by cost-effective and location specific technological interventions.

Currently only 29% of the total precipitation is conserved, that too not optimally utilized. With the existing practices, water use efficiency seldom exceeds 40%. Available estimates indicate that by 10% increase in water use efficiency, country can gain more than 50 million tons of food grains from the existing irrigated area. Further, inefficient use of water also leads to inefficiency of all other resources/inputs. Thus, the strategy would be to follow an integrated approach emphasizing greater conservation and enhanced efficiency. At the same time, the cropping intensity that was 111% during 1950 now stands at 138% and needs to be considerably enhanced.

Agricultural research priorities and strategies will have to be revisited and system approaches will have to be developed and adopted to meet new, diverse and complex challenges. Further, there is a need to avail of the technological breakthrough to maintain comfortable position on food and nutritional fronts. Biotechnology offers a tremendous potential for another revolution i.e. gene revolution to halt the fatigue of green revolution and tackle the issue of food and nutritional security.

Priorities in agricultural research are gradually moving from a focus on individual crop performance to a total system productivity with due attention on product quality and environmental safety. In the rapid pace of development, we have inflicted serious damage to the natural resources. Returning to nature and adoption of organic agriculture is the need of the hour.

More sustainable Agricultural practices are crucial for achieving food security and other basic needs of humanity

apart from maintaining natural resources. Promoting organic agriculture offers one of the most promising options available. Application of scientific approaches to organic farming practices holds the possibility of maintaining and in some cases increasing the yield over long run, while sustaining bio-diversity, soil fertility and natural ecosystem processes and services that underpin the agriculture. It offers us productive way out of increasing environmental degradation that has triggered by many intensive agricultural practices. Apart from this, it allows the farmers to overcome the risk of crop failures and increased cost of production, encourages to produce a healthy food and fiber of high quality.

The dawn of organic farming, Shri Purushotham Rao of Teerthhalli, Shivamogga who dedicated his life for the cause for promotion of organic farming practices and environment protection in the western ghats and also established Organic Farming Research Center at his own farm. They have very good collection of traditional varieties of rice with different quality features. Here I also appreciate the efforts of Dr. Praful Chandra for his contributions in conservation agriculture.

In areas of intensive agriculture it is important to promote conservation farming, minimum tillage and green agriculture. Soil health enhancement is an important area of research. It can be achieved through launch of concerted soil health awareness and improvement program through effective soil testing and reclamation programs.

The accelerating pace of climate change, in view of rising concentrations of carbon dioxide (CO_2) and other

greenhouse gases, is causing temperature rise, sea level rise, changes in rainfall pattern etc., threatening food security everywhere. Agriculture is extremely vulnerable to climate change. Higher temperatures eventually reduce yields of desirable crops while encouraging weed and pest proliferation. Changes in precipitation patterns increase the likelihood of short-run crop failures and long-run production declines. Although, there will be gains in some regions, the overall impact of climate change on agriculture is expected to be negative, threatening global food security. A detailed analysis by the International Food Policy Research Institute, Washington projected that with the anticipated climate changes from 2000 to 2030, reductions in the yield are 1.3% to 9%. By 2050, the extent of decline will range from 4.2% to 11%. And by 2080, the declines will be much greater ranging from 14.3% to 29%. The road ahead to agricultural adaptation to climate change should integrate technology, policy and finance options towards lowering emission and promoting inclusive growth. Specific approaches for management of water and other natural resources through adaptation of appropriate agricultural practices, such as integrated watershed management, designer crops which may tolerate extreme biotic and abiotic stresses, conservation agriculture and system of rice intensification (SRI) etc., should be actively promoted.

While enhancing our agricultural production system itself is a challenge, it is further made tough by post-harvest losses due to microbial spoilage, insect infestation, improper storage structures etc., which add up to 10-30% depending on commodity. Thus, as a nation, we not only need to increase our agricultural productivity, but also focus our attention on post-harvest management of our agricultural

produce. Post-harvest technology for conservation and value addition is going to play an increasingly important role in the new world order.

There is also need for the diversification of agriculture. The diversification must be supported by required infrastructure and marketing.

Dryland agriculture emerges as the biggest drag on the growth of our economy. A large number of farmer's, particularly small and marginal farmers, are the most affected. Given its large size and extremely low productivity levels, a unit rise in productivity in this sector is likely to have the largest impact on aggregate crop productivity.

The Gross Enrolment Ratio for Agricultural Education, out of the total eligible population in the country is only 0.03% and against the total eligible rural population, it is 0.04% which is quite low. Low access of agricultural education to rural students, noncontemporary course curricula and delivery methods, inadequate state funding, gender inequality, mismatch of infrastructure for quality education, research & extension, extensive inbreeding in faculty recruitment, nurturing and retaining talent, faculty-competence in cutting edge technologies, low priority to agricultural education as career option & declining quality of students admitted, growing unemployment, shifting employment opportunities from public to private sector are some of the issues that need to be tackled.

To tackle these issues and emerging challenges and make the agricultural education more need-based, multi-pronged

efforts are required. The efforts are underway to revise the course curricula at undergraduate level to cover education related to cutting edge technologies such as biosensors, genomics, biotechnology, alternative sources of energy, nanotechnology, diagnostics and vaccine, conservation agriculture, processing, value addition, food safety & quality and information technology and the IPR issues. The efforts of ICAR in launching student READY (Rural Entrepreneurship and Awareness Development Yojana), ARYA (attracting and Retaining Youth in Agriculture) and Farmer FIRST (Farmer, Innovation, Resources, Science & Technology) will certainly help the rural youth to earn dignified livelihood from farming and makes agriculture as a business in rural settings thus halting migration to cities.

India is one of the agro-biodiversity rich countries in the world with more than 49,000 flowering and non-flowering species reported. Out of these, there are 3900 edible species. But today 90% of the calories in human diet is met out by only 15 crop species. Further 60% calories of human diet is met out from only three crop species viz. Rice, Wheat and Maize. This narrow crop diversity and also within crop species the narrow genetic base is dangerous under unforeseen calamities. Now there is a need to diversify both the crop diversity and widen the genetic base. With the green revolution, most of the local varieties / land races, which form an important genepool, have been lost or have become extinct. In the post WTO era, where there are restrictions on the exchange of plant genetic resources (PGR), the dynamic conservation, promotion and protection of PGR in the form of farmers' varieties assumes greater importance. Since Sahyadri region is rich in famers / local varieties in cereals, pulses, vegetables, vines, tubers and root crops, fruit trees,

medicinal and aromatic plants, etc., there is an urgent need to protect these varieties which act as a useful gene pool for crop improvement. To promote the on-farm conservation of PGR through community seed banks and in-formal seed production for providing quality seeds is important.

World over, 21st century is dominated by Intellectual Property Rights (IPR). Innovations and inventions are to be patented / registered to obtain IPR. Most of the faculty and students in the public institutions are unaware of the new Acts, viz. Patent Act, Geographical Indications Act, Protection of Plant Varieties & Farmers' Rights Act, Biological Diversity Act etc. In legal parlance ignorance / innocence is not an excuse. Hence, to protect the new scientific innovations, there is a need for capacity building to both faculty and students. There is a need to introduce a course at degree level.

On this auspicious occasion, I take this opportunity to share my feelings with the teachers – the "Gurus" of this great University - who create enthusiasm and carve out the personality of the students. Students are the reflections of the teachers. In our culture and traditions teachers are treated as ***"Guru Brahma, Guru Vishnu, Guru Devo Maheshwara! Guru SaakshatParam Brahma, Tasmai Shree GuraveNamah!"***. When students are with you, inspire them to feel a great citizens of India, inculcate self-confidence in them to be independent and face the difficulties with sincerity, honesty and courage.

The vision of UAHS is "to make the University a center of excellence in Academics, Research and Development and extension management in the field of Agriculture, horticulture and forestry sciences". In order to realize the

vision, the teachers and the students have a crucial role to play.

Effective technology dissemination to farming community plays crucial role in achieving self-sufficiency. Implementation of the concept of Hon'ble Prime Minister "Mera Gaon Mera Gaurav" by this esteemed university in collaboration with other institutions in identifying the villages and providing technical information, advisories and conducting demonstration on new agricultural technologies and practices in farmers' fields will help in taking the technology to farmers' doorstep. If each scientist with the support of students, adopt a village for technology transfer i.e. Lab to Land, it will go a long way in bringing livelihood security in the villages.

I would like to conclude by addressing my affectionate students who have received their degrees today. It is a turning point in your life to build a career. The education and training you have received make you competent and capable to make path for you. You should work hard and be exemplary with innovative approaches in thinking and implementing in your field. Be an exemplary model to your friends and youngsters in your village. "You should become job provider rather than job seeker". Always aim at and implement the mission of the Hon'ble Prime Minister "Make in India" concept. The nation's future economy, food production and food security is in your hands. Mother India expects a lot from young agricultural graduates like you. As a graduate of this temple of learning you should be a partner with whole hearted involvement in bringing "ever green revolution' in the country to have sustainable development