



**GOVERNMENT OF KARNATAKA**

*Proposal for*  
*“Strengthening Research Stations at the*  
*University of Agricultural Sciences,*  
*Bangalore”*



**under**  
**Rashtriya Krishi Vikas Yojana**

## Preamble

Karnataka is typically an agrarian state. About 66 per cent of the total population lives in rural areas and the main source of income is from farming alone. Out of ten agro-climatic zones, five fall under dry zones. A large track of areas falls under semi arid conditions facing severe agro-climatic and resource constraints.

Karnataka is one of the few States with lowest proportion of area under irrigation and second only to Rajasthan in the share of drought prone area. Seventy five per cent of the farming community is small and marginal farmers with a land holding size of 1.6 ha. Despite severe climatic and strong resource constraints faced by the State, agricultural sector is growing at the rate of two percent per annum. The productivity achieved in several crops is relatively higher than other States. Karnataka stands first in Maize productivity, second in sugarcane, third in Jowar, Soybean and Tobacco and fifth in Rice.

Karnataka has always taken a lead ahead of other States in India in many respects as far as agricultural policy initiatives are concerned. It became the first State in the country to have its own agricultural policy as early as 1995. The state Government appointed a High Power Committee under the chairmanship of Sri. T.R. Satischandran to analyze the stagnation in agricultural productivity experienced by the state during eighties. The State has taken initiative in preparing a document assessing the situation emerging out of Agreement on Agriculture under the WTO. The State government appointed Agricultural Commission under the chairmanship of Dr. R. Dwarakinath to examine the problems confronting the sector. State has also set up Agricultural Price Commission to advise state government on agricultural prices. Further, it also became the first state to take a serious note of the distress confronting the agricultural sector that culminated in a spate of farmers' suicides. An expert committee was appointed under the Chairmanship of Dr. G. K. Veeresh that recommended steps to remedy the situations, and State could arrest the pace of farmer's suicides considerably. State has recently brought out Agriculture Policy of Karnataka 2006 which has addressed the main issues related to Karnataka agriculture.

The State is being served with two Agricultural Universities located at Bangalore and Dharwad. The 17 southern districts of the State are covered by UAS, Bangalore and the 12 northern districts covered by UAS, Dharwad. The universities are providing improved crop / varieties / hybrids and agricultural technologies for higher production in different crops including horticulture to the farming community besides

producing breeder seeds, quality seeds and elite planting material of both horticulture and forestry. The Universities are also conducting front line demonstrations in the farmers' field as well as training the officers of the State department and farmers through KVKs located in different districts as well as through bi-monthly T &V meetings to be conducted in all the districts.

## **The University of Agricultural Sciences, Bangalore**

The University of Agricultural Sciences, Bangalore in Karnataka was established in 1964 with an operational jurisdiction of the entire State. This was bifurcated into two Agricultural Universities viz., UAS, Bangalore and UAS, Dharwad through an amendment of Act in 1986. Further, from 1.4.2005 a new Karnataka Veterinary Animal and Fisheries Science University was established at Bidar. Presently, the UAS, Bangalore has 21 research stations spread over in six agro-climatic zones in the jurisdiction of 17 Southern districts of Karnataka comprising of nearly 50 per cent of the total area of the State.

### **Mandate**

- University has the mandate for making provision to impart education in different branches of study particularly Agriculture.
- To provide solution to the problem of Agriculture and allied fields of the farming community through continuous research and production & supply of breeders' and quality seeds.
- Undertakes extension of such sciences to the rural people of the state.

The mission of the University of Agricultural Sciences, Bangalore is to strive ahead and provide leadership in teaching, research and extension education services related to agriculture and allied sciences.

Over the years, the university has kept pace with new frontiers of science and contemporary developments to be technically and socially relevant. University is strongly committed in absorbing newer paradigms and using them to develop excellent human resource, innovative technologies and their dissemination so as to serve the farming community of the state and the country.

## Awards Received

Several Awards have been received by the University.

### Academic Excellence:



Receiving Award from Hon'ble Minister for Agriculture, GOI

*First Prize in ICAR's All India Competitive Examination for JRF for the year 2003*

### Junior Research Fellowships Award in All India Competitive Examination (JRF Award)

The UAS, Bangalore has maintained high academic standards well recognized at national level. **The performance students is at top continuously for last five years and secured First Place during 2002-03 and 2005-06 examination. During 2006-07 UAS, Bangalore secured Second Position in All India Junior Research Fellowships Examination conducted by ICAR.**

- Eighteen Doctoral candidates secured prestigious Jawaharlal Nehru award of ICAR from inception of the University.
- During 2006-07, UAS, Bangalore 16 Ph.D. Students have secured Rajiv Gandhi Fellowship Award for SC/ST students. The award comprises of monthly fellowship of Rs.9000 + HRA and yearly contingency grant Rs.20000/-.

### Excellence in Co-Curricular Activities

University has also placed high importance in promoting all round development of students, they are encouraged to take part-in co-curricular activities which has given rich dividends.

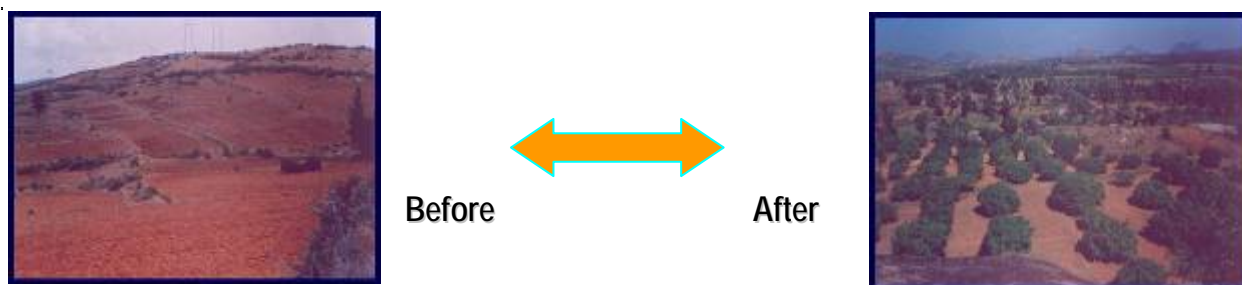
- UAS, Bangalore Theatre Team bagged **First Place** in South Zone Inter-University Theatre Festival Competition on HIV / AIDS held at Madurai Kamaraj University, Madurai, Tamilnadu during 2005-06.
- UAS, Bangalore Sports & Games team bagged **Athletic Championship Trophy** in the 7<sup>th</sup> All India Inter-Agricultural Universities Sports & Games Meet held at Maharana Pratap University of Agriculture & Technology, Udaipur, Rajasthan during 2005-06.



- UAS, Bangalore is honoured with the **Championship Trophy in Athletics and Overall Champions Trophy** in 8<sup>th</sup> All India Inter Agricultural Universities Sports and Games Meet held at Panjab Agricultural University, Ludiana from February 23-26, 2007.

### Excellence in Research

- Three National Productivity Council Awards for Excellence in Watershed Management Research.



- Hybrid Rice Team of UAS, Bangalore have bagged 'Dr. B.R. Barwale, ICAR award' for out standing contribution in Hybrid Rice Breeding and Seed Production ' during 2004.
- AICRP on Home Science of UAS, Bangalore has been **Awarded the 'Choudhary Devlal'** outstanding All India Coordinated Research Project for the year 2003 for outstanding contribution in the field of Home Science and awarded during 2004.



### Excellence in Extension

- The Krishi Vignana Kendra, Kandli , Hassan has been **Awarded the Best KVK National Award for Biennium 2002-03** in the country by ICAR, New Delhi.



## Outstanding Institution Award



- The Accreditation Board of ICAR accredited University of Agricultural Sciences Bangalore in the year 2004.
- Sardar Patel Award at National Level for excellence in academic, research and extension was conferred during 2001-02

## RESEARCH

The University is conducting problem-oriented, location-specific research through multi-disciplinary approach in 23 Research Stations located in six agro-climatic zones of the Southern Karnataka covering 17 districts. The scientists working in these stations have been developing high yielding varieties and new technologies for enhancing productivity of the respective crops in the zones. The research programmes in operation in the University include the All India Coordinated Research Projects, projects funded by the Government of India, the State Government, and other funding agencies, in addition to the University projects.

The following is a list of funding agencies for Research Programmes in the University

Sl. No.	Funding Agency	Number of Projects
1.	Indian Council of Agricultural Research, New Delhi (AICRP)	32
2.	Indian Council of Agricultural Research, New Delhi (Ad-hoc)	13
3.	Government of India (DST/DBT)	81
4.	Government of Karnataka	34
5.	Department of Agriculture, GOK	15
6.	Department of Horticulture, GOK	17
7.	Foreign Agencies	22
8.	Other Agencies	20
9.	UAS	69
10.	RKVY	08
11.	National Agricultural Innovative Project (NAIP)	03
	<b>Total</b>	<b>314</b>

## ACCOMPLISHMENTS

- Released 144 varieties / hybrids in agriculture and horticulture crops which include 44 in paddy, 19 in ragi, 5 in sunflower and 9 in sugarcane.
- **First to release hybrids in sunflower and rice in the country and their performance is the best in the country.**



- **The other notable achievements include:**

- Pioneer in Research on Watershed Development
- Developed and released blast resistant varieties of ragi
- Integrated Nutrient Management in crops like ragi, rice, maize, sugarcane, redgram & cotton has been worked out.
- Integrated Pest and Disease Management in groundnut, sunflower, redgram, coconut, arecanut, tomato, chillies, pomegranate etc. have been developed.
- Vermicomposting & Serisuvarna Technology
- Under farm mechanization, the university has developed several equipments like KM-plough, bar-point plough, bund former, multi-furrow opener, drum seeder, adjustable ridger, puddler, seed-cum-fertilizer drill etc., besides post-harvest gadgets like maize sheller, sunflower thresher, groundnut decorticator, tamarind dehuller-cum seed expeller, portable winnower, grain storage bin etc.,
- Value addition in crops like ragi, maize, soybean, grain amaranth, jack fruit etc., have been demonstrated through several recipes for farm women, self help group, NGOs etc., These activities have enhanced their utilities in general public.
- University has also released broiler poultry birds viz. UBRO – I & II, IBB-83, dual purpose Giriraja & Girirani which are suitable to rural conditions have received wide acceptance.

- Technology for breeding fresh water cat fish and Indian Major Carps have been developed. Technology for fresh water prawn breeding has been standardized.
  - University undertakes breeder seed production based on the indents of GOI and GOK in crops like paddy, ragi, sunflower, maize, redgram, cowpea, groundnut and soybean. In addition to this, quality seeds in all the above crops besides, niger, sesamum, cotton, tomato, bhendi, field bean etc., are being produced at the University farms as well as under scientists-farmers-participatory programme. University is also supplying elite plant materials of horticulture and forestry seedlings.
  - National recognition in Millets and leadership in Dryland Agriculture, Biofuel cultivation, Organic Farming, Medicinal & Aromatic Crops.
  - Transgenics for Biotic & Abiotic stress in Paddy, Groundnut, Redgram, Avare, Tomato & Cotton and Development of bio-vaccines.
- The University has developed one acre model Integrated Farming System (IFS) which includes agriculture, rearing of livestock and horticulture besides forestry. This system has been appreciated by the several dignitaries both in the State and the country as well as by several farmers who have visited ARS, Bhavikere. The same is being popularized with farmers by the State Department of Agriculture on large scale.
- The impact of research is well documented and it is inferred that the additional returns by adoption of watershed management is estimated as Rs. 120 crores per annum, GPU varieties of Ragi- Rs.50 crores per annum, tobacco – Bhavya and Trupthi varieties Rs.9 crores per annum, sunflower hybrids – Rs.9 crores per annum, cashew rejuvenation - Rs.12 crores per annum, Giriraja and Girirani poultry birds – Rs.9 crores per year

### **The Need for strengthening Research Stations**

Though funding is received from various agencies for the research programmes, only a meager amount will be available for development of farms and facilities in the research stations. In most of the externally funded research projects, budget is provided only for hiring manpower on contractual basis and for contingent expenditure. In a few projects, funds are provided for purchase of equipment. Under the All India Coordinated Research Projects funded by the Indian Council of Agricultural Research, the University gets only 75% of the salaries of scientists employed in the respective projects and 75% of the contingency, with a condition that the remaining expenditure to be met from the University funds. With these commitments, the University finds it difficult to allocate budget for land development, improvement of

irrigation facilities and providing the much needed research ambience for the scientists working in the research stations. Another important threat the University is facing in most of its research farms is encroachment of land by neighbours. Hence, it is necessary that all the research farms are properly fenced or provided with a peripheral compound. Keeping these points in view, the following proposal of budget requirement is being submitted to improve the available facilities on the stations so that the efficiency of scientists may be improved.

### Budget

Sl. No.	Research Stations	Amount (Rs. Lakhs)
1.	Zonal Agricultural Research Station, Hiriyur	
	Land Protection Measures	8.00
	Irrigation facilities	5.00
	Land development	0.0
	Improvement of Research Facilities	10.00
	<b>Subtotal</b>	<b>23.00</b>
2.	Agricultural Research Station, Tiptur	
	Land Protection Measures	7.00
	Irrigation facilities	5.00
	Land development	0.00
	Improvement of Research Facilities	0.0
	<b>Subtotal</b>	<b>12.00</b>
3.	ZARS, Mandya	
	Land Protection Measures	7.00
	Irrigation facilities	5.00
	Land development	0.0
	Improvement of Research Facilities	10.00
	<b>Subtotal</b>	<b>32.00</b>
4.	ARS, Naganhally	
	Land Protection Measures	7.00
	Irrigation facilities	5.00
	Land development	0.0
	Improvement of Research Facilities	0.0
	<b>Subtotal</b>	<b>12.00</b>
5.	ARS, Madenur	
	Land Protection Measures	7.00
	Irrigation facilities	5.00
	Land development	0.0
	Improvement of Research Facilities	0.0
	<b>Subtotal</b>	<b>12.00</b>
3.	ZARS, Navile, Shimoga	

	Land Protection Measures	7.00
	Irrigation facilities	5.00
	Land development	0.0
	Improvement of Research Facilities	0.0
	<b>Subtotal</b>	<b>12.00</b>
4.	ARS, Kathalgere	
	Land Protection Measures	5.00
	Irrigation facilities	5.00
	Land development	0.00
	Improvement of Research Facilities	5.00
	<b>Subtotal</b>	<b>15.00</b>
5.	ARS, Honnavile	
	Land Protection Measures	5.0
	Irrigation facilities	5.0
	Land development	0.0
	Improvement of Research Facilities	0.0
	<b>Subtotal</b>	<b>10.00</b>
6.	ARS, Bavikere	
	Land Protection Measures	5.00
	Irrigation facilities	5.00
	Land development	0.0
	Improvement of Research Facilities	0.0
	<b>Subtotal</b>	<b>18.00</b>
7	ARS, Ponnampet	
	Land Protection Measures	
	Irrigation facilities	
	Land development	
	Improvement of Research Facilities	
	<b>Subtotal</b>	10.00
8.	ZARS, Brahmavar	
	Land Protection Measures	5.00
	Irrigation facilities	5.00
	Land development	0.0
	Improvement of Research Facilities	5.0
	<b>Subtotal</b>	<b>15.00</b>
6.	ZARS, GKVK, Bangalore	
	Land Protection Measures	5.00
	Irrigation facilities	5.00
	Land development	0.0
	Improvement of Research Facilities	5.00
	<b>Subtotal</b>	<b>15.00</b>
7.	MRS, Hebbal	
	Land Protection Measures	2.00
	Irrigation facilities	5.00
	Land development	0.0

	Improvement of Research Facilities	5.00
	<b>Subtotal</b>	<b>12.00</b>
8.	ARS, Chintamani	
	Land Protection Measures	2.00
	Irrigation facilities	5.00
	Land development	0.0
	Improvement of Research Facilities	0.0
	<b>Subtotal</b>	<b>7.00</b>
9.	ARS, Baljigapade	
	Land Protection Measures	5.00
	Irrigation facilities	5.00
	Land development	0.0
	Improvement of Research Facilities	0.0
	<b>Subtotal</b>	<b>10.00</b>
	<b>Emergency funds</b>	<b>5.00</b>
	<b>Maintenance breeding</b>	<b>25.00</b>
	<b>Rupees Two hundred &amp; fifty lakhs only</b>	<b>250.00</b>

An amount of Rs. 2.50 Crores has been reallcated to the Research Programmes and Research Stations of the University of Agricultural Sciences.

DIRECTOR OF RESEARCH