15 May 1989

My dear Dr. Jayaraj:

I thank you very much for sending me a copy of your letter of May 11th addressed to Dr. N.S. Randhawa.

The Thrust areas you have identified are all very important. We can include them also in the Tamil Nadu Eighth 5 year plan.

Your staff have been most helpful in getting our establishment in Madras organised and my wife and I are extremely grateful for this kind help.

With warm regards,

Yours sincerely,

M.S. SWAMINATHAN

Dr. S. Jayaraj
Vice-Chancellor
Tamil Nadu Agricultural University
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Dr. S. JAYARAJ
VICE-CHANCELLOR

COIMBATORE - 641 003
INDIA

May 11, 1989

D.O.DR/DDR/VIII Plan/89

Dear Sir,

Greetings.

We had detailed discussion with Deans and Directors of our University on the Research, Extension and Education Thrusts in Eighth Plan period.

Enclosed please find the identified areas which we are hopeful to pursue. I request you to kindly include these proposals also in the 8th Plan document.

With best regards,

Yours sincerely,

S. Jayaraj

(S.JAYARAJ)

Encl: As stated

To
Dr.N.S. Randhawa,
Director General,
Indian Council of Agricultural Research,
Krishi Bhavan,
New Delhi 110 001

Copy with compliments to:

Dr.M.S. Swaminathan, Ph.D., C/o Dr. M.S.Krishnamoorthy
5, Janaki Avenue, Abiramapuram, Madras 600 018

Dr.R.M.Acharya, Deputy Director General (Animal Sciences), Indian Council of Agricultural Research, Krishi Bhawan, Dr.Rajendra Prasad Road, New Delhi 110 001

TAMIL NADU AGRICULTURAL UNIVERSITY

THRUST AREAS DURING
VIII PLAN PERIOD

A. RESEARCH

I. CROP IMPROVEMENT

1. Genetic improvement in green manure crops - cropping system based multidisciplinary approach.

2. Development of hybrid redgram for increased pulse yield.

3. Intensified breeding efforts on hybrid sesamum.

4. Wide hybridisation for alien gene transfer and as nonconventional gene source.

5. Forage and fodder improvement in Tamil Nadu (Seasonal and perennial).

6. On farm crop residue processing for better forage making/products.

7. Genetic improvement in grain crops for industrial uses.

8. Intensification on pulse breeding for yield, stability and multiple resistance under rainfed conditions.

9. Biotechnological approaches for genetic improvement.

10. Breeders seed production - Increasing the efforts in vegetable and pulses seed production.

11. Genetic conservation and increased utilisation of germplasm for biotic/abiotic stresses and unique traits.

II. CROP MANAGEMENT

1. Integrated farming system studies in different agro-climatic zones of Tamil Nadu.

2. Management of problem soils.

3. Introducing soybean in Cauvery Delta Zone.

4. Establishing a centre for Agro-Meteorology.

5. Remote sensing in agriculture.

6. Establishing a "Mixed Farming" centre for Aruppukottai.

7. Advance centre for weed science

8. Management of tannery/industrial effluents and soil/environmental problems.

III. CROP PROTECTION

1. Greater emphasis on evolution of pests and disease tolerant varieties.

2. Greater emphasis for integrated pest management - need based use of pesticides in the background of pest surveillance and forecasting studies.

3. Strengthening of research for biological control of pathogens by antagonistic organisms and vesicular arbuscular mycorrhiza, use of antiviral principles, development of tissue culture to produce virus free propagating material.

4. Estimation of post-harvest losses and evolving methods for their prevention.

IV. HORTICULTURE

a. FRUIT CROPS

1. Identification of resistance sources for major diseases, pests and nematodes in banana, grapes and citrus for resistance breeding.
2. Evolving dwarf genotypes in fruit crops for high density planting and wind prone areas.
3. Farmers require fruit varieties which come to bearing early. Hence, identification and development of varieties with precocity are to be taken up in fruit crops having long juvenile phase like Mango, Sapota, Jack and Tamarind.
4. Techniques for mass multiplication of disease free plants and crop improvement through somaclonal variations and somatic hybridization have to be developed.
5. Cropping systems are to be developed fruit crops as the base.

b. VEGETABLE CROPS

1. Breeding for resistance to pests, diseases and nematodes in tomato, brinjal, chillies, bhendi, peas, tapioca, sweet potato and cucurbits.

2. Breeding for high nutritive values in tomato, brinjal, cucurbits, peas and amaranthus.

3. Breeding for varieties suitable for processing industries in tomato, peas, cucumber, onion, bhendi, chillies, capsicum and carrot.

4. Identification of vegetable varieties for stress conditions.

5. Exploitation of hybrid vigour and development of hybrids using male sterile line in onion, tomato and chillies.

6. Standardization of tissue culture techniques for rapid and virus free multiplication of tomato, (including hybrid tomato) tapioca, chillies and cucurbits.

7. Studies on organic farming in vegetable crops.

8. Use of biofertilizers in vegetable crops.

c. FLORICULTURE

1. Evaluation of nontraditional perfume yielding plants for essential oil content.

d. SPICES AND PLANTATION CROPS

1. Studies on crop improvement and management in clove, nutmeg, cinnamon and pepper.

2. Evolving dwarf genotypes with higher 'neera' content in Palmyrah.

3. Establishment of herbal gardens for identification and study of medicinal plants that are widely used in Ayurvedic and Siddha system of medicine.

V. FORESTRY

1. Studies to identify new sources for pulp and timber from the native species within the forest ecosystem and investigation of their phenology and silviculture.

2. Forest biotechnology in areas of nitrogen fixing and tissue culture application for production of varieties for high biomass production.

3. Expansion of agroforestry research to different agro-climatic zones of Tamil Nadu.

4. Development of suitable cultural technologies like spacing, fertilizer and irrigation to different tree species.

5. Development of shelterbelts and windbreak system to fit into the various agroclimatic zones highly vulnerable to wind erosion.

6. Evolving models for afforestation of environmentally disturbed areas like effluent and sevage dumps, mine areas and degraded soils.

7. Developing suitable mixed farming system approach by combining horticultural trees, forest trees, fodder crops and livestock.

VI. AGRICULTURAL ENGINEERING

1. Electronics, Fluidics and Electrostats - Greater emphasis will be given to develop seed metering devices, graders, sortexs and hydraulic systems applying the available knowledge in electronics, fluidics and electrostats.
2. Modelling and simulation of water shed hydroligical pavaneters and hydraulics of over land flow.
3. Ergonomics and Design.
4. Material Science and Metallurgy.
5. Post-harvest technology.
6. Production technology and industrial engineering.
7. Waste utilisation - Development of suitable proto-type for producing value added products from waste material.
8. Identifying suitable alternate energy sources for rural development for domestic sector as well as community.
9. Testing and standardising technology under field conditions at different agro-climatic zones.
10. Technology upgradation and pilot plant .
11. Biochemical Engineering.

VII. WATER TECHNOLOGY

1. Water use planning in surface irrigation projects.
2. Integrated watershed management for increased productivity.

VIII. CENTRE FOR AGRICULTURAL AND RURAL DEVELOPMENT STUDIES

1. Establishing Department of Development Planning and Rural Development.
2. Economic analysis and programming farming systems for different field situations.
3. Social relevance and economic feasibility of farm research.
4. Training in communication methods for science and technology.
5. Establishment of Department of Journalism.
6. Training programmes and mass communication methods on environmental economics.

IX. EXTENSION EDUCATION

1. Strengthening of communication centre, Coimbatore with new equipments for preparation of print media and photography.
2. Establishment of a Regional Centre at Coimbatore for training and utilisation of video with provisions of more equipments and a mobile video van.
3. Establishment of Extension Education Institute (EEI) at Coimbatore with a strong training component.

4. Establishment of Technology Transfer Demonstration Centre (TTDC) in each agro-climatic region and in low rainfall and problem areas.

5. Extending the activities of the existing Plant Clinic Centres and establish plant, soil and animal health centres in more districts.

6. Krishi Vigyan Kendras for command areas such as for Cauvery, Thamirabarani, and Periyar in Thanjavur, Madurai and Nellai Kattabomman districts.

7. Establishment of Krishi Vigyan Kendras for Fisheries and K.V.K. for forestry development.

8. Establishment of a Communication Centre in Madurai, Namakkal and Killikulam Campuses.

9. Strengthening of Information Centre at DOEE, Coimbatore.

10. Strengthening of publication of Valarum Velanmai and Scithi Madal.

11. Establishment of a Centre for Extension Education among tribals.

B. EDUCATION

I. UNDER-GRADUATE

1. The under-graduate laboratories have to be equipped with latest equipments since the equipments available currently are not adequate to meet the requirements due increasing student strength and also they are becoming obsolete.

2. More class rooms with provision of audio visual aids are needed for creating a proper environment for learning and teaching.

3. Use of computers in all spheres of education. A three-pronged approach is envisaged for computer use in agricultural education.

   a) Orientation of senior scientists on computer use.

   b) Training to middle and junior level scientists on the actual use of computer in research and education.

   c) Offering courses to under-graduate students in Agriculture for programming and computer use.

4. Establishing an organised set-up for placement and counselling to graduating students.

5. Orientation and training on teaching methodologies, preparation of audio visual aids, question paper etc. to under-graduate teachers.

II. POST-GRADUATE

1. Identifying UNDP/ICAR assisted Advanced Centres in proven areas/centres of excellence.

2. New directions and instruments in PG Education.

3. Teacher training on educational technology.

4. Offering courses to post-graduate students in agriculture for programming and Computer use.

5. Starting post-graduate programmes in the following disciplines.

   a) M.Sc.(Ag) - Agrl. Statistics and computer programmes, Agrl. chemicals.

   b) Ph.D. - Starting Ph.D. programmes in major disciplines like Agronomy, Plant Breeding and Genetics, Soil Science and Agrl. Chemistry, Entomology, Plant Pathology, and Horticulture in Madurai and Killikulam Campuses.

6. Starting diploma courses in (i) Food Processing (ii) Animal Disease Diagnosis (iii) Animal Production and (iv) Veterinary Clinics.