



# Directory of Agricultural Research Institutions in Asia and the Pacific Region

# **SOUTH ASIA**





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## **SOUTH ASIA**

## **FOREWORD**

Research is the engine of growth and development. In order to meet the challenges of food security and agricultural production, especially during the past thirty years, countries in the Asia-Pacific Region have established and continue to strengthen their National Agricultural Research Systems (NARS). The policy, pattern, size, effectiveness and efficiency of the various NARS differ significantly. Thus, there is ample scope for sharing experiences and expertise of the different NARS.

The Asia Pacific Association of Agricultural Research Institutions (APAARI) has been at the forefront of strengthening the collective ability of the NARS in the Region through initiating and forging cooperation among them. Since its very inception in 1990, the Association has recognised that information related to agricultural research and technology development as well as mechanisms for sharing the information have been expanding rapidly. Therefore, information build-up and exchange became one of the priority areas of work of the Association. Preparation and bringing out of directories on NARS in the RAPA Region thus assumes considerable importance.

This directory includes brief profiles of various NARS in the South Asian sub-region, giving address, listing of thrust area(s) of research, number of scientists, budgetary allocation etc. of individual national research institutes. It is hoped that this document will greatly facilitate and further stimulate cooperation in agricultural research and technology development among nations of the sub-regions, region and the world as a whole. I greatly appreciate the support and encouragement provided by Dr. Mohamed S. Zehni, Director AGP and Dr. B. Muller-Haye, Chief, Research and Technology Development Division, FAO, Rome, towards this publication. I must congratulate Drs. R.B. Singh and R.S. Paroda, former and present Executive Secretary, APAARI, respectively, for compiling the information and bringing out the directory.

A.Z.M. Obaidullah Khan

Assistant Director General and

FAO Regional Representative for

Asia and the Pacific

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### BANGLADESH

Selected Indicators of Agricultural Development

Total Area : 13,391,000 Ha

Forest Coverage (%) : 15%
Annual Average Change (%) : -1.3%

(For 1980-89) Cultivated Area

Population : 112,585,000

Annual Growth Rate : 2.7%

of Population

Agricultural Population : 698
Illiteracy Rate : 658

National GNP : 24,672 million US \$

GNP Per Capita : 220 US \$

GNP: Real Growth Rate : 1.7%

(per capita)

Share of Agriculture : 34%

in GDP

Growth Rate of Agricultural

Major Agricultural Imports

Production

Agricultural Export as % : 13%

of Total Export

Major Agricutural Commodities : Rice, Paddy, Wheat,

Jute, Fishery

: Cereals, Vegetable Oils, Oil Seeds, Forestry

Products

Major Agricutural Exports : Jute, Tea, Vegetables,

Meat

## Selected Indicators of Research State of Agriculture and Research

Bangladesh is one of the world's most densely populated and impoverished countries. Rural population is reasonably well distributed geographically except in the Chittagong hill tracts which are sparsely populated by ethnic minorities. Food production has not kept pace with population growth since 1971 although agriculture is the largest sector of the economy. The country imports foodgrains and lacks an extensive export base. Since 1973 the balance of payments on current accounts has been negative each year.

The country is divided into four administrative divisions, 64 districts, 495 upa zilas, 4,472 unions and 85,650 villages. Nearly all development and supply agencies have networks upto the up zila levels; agricultural extension, public health and landrevenue have networks as far as union level. About 50% of the rural households are landless and most adults migrate seasonally to urban or other areas.

The main objective of the government's agricultural policy has been to achieve self-sufficiency in food grains through the use of high yeilding varities of seeds along with fertilisers and irrigation. However, over the years the country has aquired a chronic food deficit and is increasingly relying on food grain imports.

Agricultural land is the most scarce resource. Although 63% of the total land is arable, the per capita arable land in 1985-86 was only 0.09 hectare. Intensity of cultivation is 153%, and only 22% of the cultivated area is irrigated. There is no land classified as pasture. Only 5.6% of the total land is classified as cultivable waste and fallow where cattle, buffalo and goats scrounge. Except some small hills and highlands in the north-eastern and south-eastern parts, the country consists of plains. Large areas are flood- prone where farming is very risky.

The climate is warm and humid. Maximum temperatures range between low 40's in summer to high 20's in winter when minimum temperatures reach near 0. The annual rainfall ranges from 1400 mm to 3660 mm and decreases from east to west. Heaviest rains occur from late May to early October. December to March are the driest months.

Crop-livestock, mixed farming predominates. Rice, the major crop is grown in three principal seasons viz. aus, aman and boro. Jute, wheat,

sugarcane, potato, tobacco, oilseeds, pulses, vegetables and tea are important crops. Cattle, buffalo, goats, sheep and poultry are the common livestock nearly all of which are maintained by small farmers on crop by-products for which humans have little use. Animals provide nearly 98% of the draught power for crop production.

Commercilisation of food crops remains quite low. Although for most small and marginal farmers the marketable surplus of food crops is negative, they still sell part of their produce to meet essential seasonal family expenses.

#### Land Tenure

According to the 1983-84 Agricultural Census, out of 13.8 million rural households 22% had no land or only a homestead; 40% had a household plus cultivable land upto 0.4 hectare; 38% had a homestead plus cultivable land more than 0.4 hectare. Nearly all the cultivable land is privately owned except for some low-lying communal areas where cattle are seasonally grazed. Owner farmers account for 62.6% and tenent farmers for about 36% of all farms. Cooperatives and farmer's groups are organised by the government's cooperative department, banks and rural development agencies. Their functions are to provide credit and other inputs or services like purchase of fertilisers and irrigation equipment by farmers and petty trade by the landless.

#### Training Institutions

The Bangladesh Agricultural University and its two affiliated colleges together produce about 500 graduates annually in crop science, animal science, fisheries, agricultural economics and agricultural engineering. Several tecnical institutes award a few hundred agricultural diplomas (two year training after ten years of schooling). Virtually all of these graduates and diploma holders take up jobs in agricultural extension, research, credit, marketing and development organisations in various ministries and departments. Too many institutions appear to be involved in extension activities leading to duplication of work, evasion of responsibility and a waste of scarce resources.

The agricultural research base is regarded inadequate. Government allocation for agricultural research are not enough. There is relatively heavy emphasis on crop genetic reseach and less on soil fertility, water management and cultural practises. Likewise there is too much emphasis on rice and less on other crops. There is a general neglect of livestock and fisheries. There is a proliferation of individual programmes resulting in duplication of efforts and problems of coordination. Extension research linkages are weak. Market services and standards are limited. Farm power is inadequate and so are public services. Too many small farmers lack investment resources.

#### Development of Agricultural Research System

Formal agricultural research in the present Bangladesh began in 1880 when on the recommendation of the Famine Commission a Department of Agriculture was established. Systematic research on jute was started by the provincial government at the turn of the century. About the same time tea research was started by tea planters, traders and several government units. In 1893, the Bengal Veterinary College was established at Calcutta for veterinary education and research in the province. Rice research was started in 1907. In 1908, an agricultural research laboratory was established at Tejgaon to serve the provinces of Bengal and Assam. A chemist was appointed to develop sugarcane and tobacco trials. A 403- acre experimental station was set up at Dhaka to complement the Tejgaon laboratory. The Bengal Agriculture Institute was established at Tejgaon, Dhaka in 1938 to provide higher education (at graduate level) in agriculture.

The partition of India in 1947 resulted in the loss of jute, tea and sugarccane research centres and the veterinary education and research centre to India. A series of reorganisations were carried out and new organisations set up. Agriculture research activities were again disrupted during the 1971 liberation war. Subsequently, the new Government of Bangladesh undertook some reorganisation to strengthen the agricultural research system. In 1973, the Bangladesh Agricultural Research Council (BARC) was established to coordinate and promote agricultural research. In 1976, the authority of BARC was

enhanced to provide leadership to the National Agricultural Research System. Since 1975 the agricultural research system has grown rapidly. Most of the physical and manpower development of the agricultural research institutes has been made possible by support from donor agencies, prominent among them being the World Bank, USAID, Ford Foundation and the Australian, British and Japanese governments.

#### 1. BANGLADESH AGRICULTURAL RESEARCH COUNCIL. (BARC)

Farmgate, New Airport Road, Dhaka 1215, Bangladesh.

Tel : 314295/ 316587/ 325061-65 Telex : 642401 SHER BJ ATTN:BARC

Cable : AGRESEARCH, DHAKA

- 2. 1973
- 3. A semi-autonomous body under the Ministry of Agriculture
- 4. Executive Vice Chairman
- 5. Administration and Finance

Planning and Evaluation

Crops

Soils and Irrigation

Agricultural Engineering

Fisheries

Livestock

Forestry

Agricultural Economy and Rural Sociology

Nutrition

Technology Transfer and Monitoring Unit

Manpower and Training

6. None

7. Books

12652

Current Periodicals

120

8. Bangladesh Journal of Agriculture

agresearch News

Bangladesh Agricultural Bibliography.

9. Scientists 61 [M.Sc./M.Sc.Ag-39; Ph.D-22]

Technicians

10.

#### 1. BANGLADESH AGRICULTURAL RESEARCH INSTITUTE (BARI)

Joydebpur, Gazipur 1701, Bangladseh.

Tel : (0681) 2091/ 2063

Telex: 642401 SHER BJ

Cable : RESAGRI

- 2, 1976
- 3. A unit of the Bangladesh Agricultural Research Council (BARC)
- 4. Director General.
- 5. Plant Breeding

Agronomy

Agricultural Economics

Agricultural Engineering

Analytical Services

Entomology

Horticulture

On-Farm Research

Pathology

Post Harvest Technology

Soil Science Farm

Wheat Research Centre

Oilseeds Research Centre

Citrus and Vegetable Research Centre Pulses Research Centre.

6. B.Sc.Ag. (Hon);

M.Sc.Ag

```
Ph.D (In collaboration with the Bangladesh Agriculture
   University)
                        17000
7. Books
   Current Periodicals
                          257
8. Bangladesh Journal of Agricultural Research
   BARI Annual Report
                         Research Highlights
   Souvenir every ten years.
9. Scientists
                  715 [ Ph.D-50 ]
   Technicians
                  511
10. Taka 260.5 million.
1. BANGLADESH INSTITUTE OF NUCLEAR AGRICULTURE (BINA)
   P.O. Box No 4, Mymensingh 2200, Bangladesh.
   Tel: (091) 4047/4401-2.
2. 1972
3. An institute under the BARC
4. Director.
5. Plant Breeding
   Plant Genetics
  Plant Physiology
  Soil Science
   Plant Pathology
  Entomology
  Irrigation and Water Management
  Agronomy
  Extension and Communication
6. None. But the BINA guides BAU students for their Ph.D and
  M.Sc (Ag) degrees.
7. Books
                              2090
  Current Periodicals
                                75
8. Bangladesh Journal of Nuclear Agriculture
  Annual Report.
9. Scientists 114 [B.Sc -54; M.Sc/M.Sc.Ag/B.Sc.Ag (Hon) - 51;
    Ph.D - 9).
10. Taka 19.1 million.
1. BANGLADESH JUTE RESEARCH INSTITUTE (BJRI)
  Manik Mia Avenue, Dhaka 1207, Bangladesh.
  Tel: 326718/310953
  Cable: BAJRI
2. 1951
3. An institute under the BARC
4. Director
5. Jute Research (Agri)
  Breeding
  Agronomy
  Soil Science
  Plant Pathology
  Entomology
  Microbiology and Biochemistry
  Economics and Statistics
  Jute Research (Technology)
  Chemistry and Biochemistry
  Physics and Testing Technology
  Mechanical Processing.
7. Books
                                4500
  Current Periodicals
                                  17
8. Jute and Jute Fabrics Bangladesh
  Bangladesh Journal of Jute and fabrics Research
                  154
9. Scientists
  Technicians
                  389
```

10. Taka 56.5 million.

```
1. BANGLADESH TEA RESEARCH INSTITUTE
   Srimangal 3210, Maulvibazar, Bangladesh.
   Tel: Srimangal - 225
   Cable: TRESEARCH
2. 1957
3. An institute under the Tea Board, Ministry of Commerce,
4. Director
5. Soil Chemistry
   Botany
   Agronomy
   Pest Management
   Biochemistry
   Technology
   Statistics and Economy
   Plant Introduction-cum-Farm
6. None
                               1137
7. Books
   Current Periodicals
                                 37
8. Tea Journal of Bangladesh
  Annual Report
9. Scientists
                29 [ B.Sc -1; M.Sc - 26; Ph.D -2 ]
   Technicians 10
10. Taka 25 million.
1. COTTON DEVELOPMENT BOARD (CDB)
   4th Floor, Rear building, Khamarbari
   Farmgate, Dhaka 1215, Bangladesh.
   Tel: 310212/316598
2. 1972
3. A semi-autonomous body under the Ministry of Commerce,
4. Executive Director
5. Cotton Breeding
  Agronomy
   Pest Management
  Soil Nutrition
  Cotton Pathology
  Seed Multiplication.
6. None
7. Books
                          550
  Current Periodicals
8.
9. Scientists
                  73
  Technicians
                 127
10. Taka 35 million.
1. SUGARCANE RESEARCH AND TRAINING INSTITUTE (SRTI)
   Ishurdi, Pabna,
                   Bangladesh.
        : 414
   Tel
  Cable : BASURI
2. 1973
3. An institute under the Sugar and Food Industries
  Corporation, Ministry of Industries
4. Director
5. Agronomy and Soils
  Physiology
  Entomology
   Pathology
   Training and Communication
  Agricultural Economics
  Agricultural Engineering
   Quarantine Station at Joydebpur, Gazipur
   North Regional Station (NRS) at Thakurgaon
```

Field Stations at Jaipurhat, Darsana, Shibganj and Sreepur Support Services.

6. None

7. Books 2792

Current Periodicals

20

- Bangladesh Journal of Sugarcane Annual Report
- 9. Scientists 87

Technicians 45

10. Taka 19.45 million

#### 1. SOIL RESOURCES DEVELOPMENT INSTITUTE (SRDI)

Krishi Khamar Sarak, Farmgate, GPO Box 899, Dhaka 1215, Bangladesh.

Tel : 313363/ 310844

2. 1983

З.

4. Director

Soil and Land Classification Soil Correlation

Soil Survey Interpretation Technical Support Services

Training

6. None

7. Books

2412

Current Periodicals 12 8. Regular Soil Survey Reports

Special Survey Reports

Special Investigation Reports

Upazila Land and Soil Resources Utilization Guide

Annual Report

9. Scientists 109

Technicians 108

10. Taka 17.25 million

## 1. BANGLADESH LIVESTOCK RESEARCH INSTITUTE (BLRI)

P.O. Savar Dairy Farm, Savar, Dhaka, Bangladesh. Tel : 402827.

2. 1984

- An Institute under the Ministry of Fisheries and Livestock
- 4. Director
- 5. Animal Health Research

Animal Production Research

Poultry Production Research

Livestock Economics Research and Marketing

Administration and Support Service

6. None

7. Books 2000

Current Periodicals 250

8. Annual Report.

9. Scientists 156 [ B.Sc.-5; M.Sc.-142; Ph.D-9 ]

10. Taka 66.5 million.

## 1. BANGLADSEH SERICULTURE RESEARCH AND TRAINING INSTITUTE

P.O. Ghoramara, Rajshahi 6100, Bangladesh.

2. 1962

- 3. An Institute under the Bangladesh Small and Cottage Industries Corporation
- 4. Director
- 5. Mulberry

Silkworm

Seri-pathology

Ser-chemistry

Silk Technology

Training.

 Postgraduate diploma in Sericulture Diploma in Silk Technology Certificate in Sericulture.

7. Books 1300

Current Periodicals 10

- 8. Bulletin of Sericulture Research.
- 9. Scientists 25

Technicians 50

10. Taka 8.5 million.

#### 1. FISHERIES RESEARCH INSTITUTE (FRI)

Tel : (091) 4874/ 4828

- 2. 1984
- An institute under the Ministry of Fisheries and Livestock
- 4. Director
- 5. Administration and Coordination Research Planning, Evaluation and Coordination Adaptive Research (Training and Extension) Engineering
- 6. None
- 7. Books 5,000 Current Periodicals 50
- 8.
- 9. Scientists 59 [ B.Sc.-31; M.Sc.-22; Ph.D-6 ]
- 10. Taka 90 million

#### 1. BANGLADESH FOREST RESEARCH INSTITUTE (BFRI)

P.O.Box 273, Chittagong, Bangladesh.

- 2. 1955
- 3. An institute under the BARC
- 4. Director
- 5. Silviculture Research

Seed Orchard

Soil Science

Silviculture Genetics

Mangrove Silviculture

Plantation Trial Unit

Forest Inventory

Forest Botany

Forest Protection

Minor Forest Products

Forest Economics and Statistics

Wildlife

Woodworking and Timber Engineering Veneer and Composite Wood Products

Seasoning and Timber Physics

Pulp and Paper

Wood Preservation

Forest Chemistry

Service Engineering

Administration and Finance

6.

7. Books 10,000 Current Periodicals 91

8. Bano Biggan Patrika

Annual Report.

9. Scientists 89
Technicians 204

10.

#### 1. BANGLADESH INSTITUTE OF DEVELOPMENT STUDIES (BIDS)

E -17, Agargaon, Sher-E-Bangla Nagar, Dhaka 1207, Bangladesh.

Tel : 323026 - 7/ 316959

Cable : BIDECON Fax : 880-813023

2. 1957

3. An Institute under the Planning Commission, Ministry

of Planning

4. Director General

5. General Economics

Agriculture and Rural Development
Industry and Physical Infrastructure

Population

Human Resource Development.

- 6. M.Sc (Ag). BIDS is also trying to award Ph.D in association with Dhaka University and some universities in the USA.
- 7. Books 8,000

Current Periodicals 850

8. Bangladesh Development Studies

BIDS Newsletter

Bangladesh Unnayan Shamikkha (Bangla)

BIDS Report.

- 9. Scientists 53 [ M.Sc.-27; Ph.D 6 ]
- 10. Taka 18.6 million (1990-91)

#### 1. BANGLADESH ACADEMY FOR RURAL DEVELOPMENT (BARD)

Kotbari, Comilla 3505, Bangladesh.

Tel : 6102/ 6355/6428 Cable : BARD, Comilla.

2. 1959

- A semi-autonomous institution under the Ministry of Local Government and Rural Development
- 4. Director General
- 5. Agricultural Development

Rural Education

Rural Economics

Rural Administration

Rural Sociology

Project

Training

Research

Administration

6. None

7. Books 53,051

Current Periodicals

130

8. The Journal of Rural Development

Pally Unnayan (Bangla)

Gram Unnayan (Bangla)

9. Scientists 51

10. Taka 18.5 million (1989-90)

#### 1. BANGLADESH RURAL DEVELOPMENT BOARD (BRDB)

Palli Bhaban, 5 Kawran Bazar, Dhaka 1215, Bangladesh.

Tel : 315182 - 86 Telex : 671285 BRDB BJ

2. 1971

3.

- 4. Director General
- 5. Field Service

Finance

Administration

Planning, Evaluation and Monitoring

Training

```
6. None
 7. Books
                            9167
   Current Periodicals
                            349
 8.
 9.
10. Taka 704.1 million

    RURAL DEVELOPMENT AGENCY (RDA)

   Bogra 5842, Bangladesh.
   Tel: 6511/6505/6076
2. 1974
3.
4. Director General
5. Agricultural Science
   Social Science
   Training
   Research and Evaluation
   Administration.
6.
7. Books
                         12,150
   Current Periodicals
8. Bangladesh Rural Development Studies
   Annual Report.
9. Scientists
                 37
   Technicians
10. Taka 15.6 million.
1. FISHERIES AND LIVESTOCK INFORMATION DEPARTMENT (FLID)
   Khamarbari, Farmgate, Dhaka 1215, Bangladesh.
   Tel: 316585
2. 1986
3. A department under the Ministry of Fisheries and
   Livestock
4. Director
5. Mass Media and Information
   Research, Planning and Evaluation
   Training and Publication
   Photography and Short Film
   Farm Broadcasts and Telecast.
7. Audiovisual Equipment
                             14
   Audiovisual Material
8. None.
9. Scientists
                   6
   Technicians
                  60
10. Taka 6.39 million.
1. INSTITUTE OF FOOD AND RADIATION BIOLOGY (IFRB)
  Atomic Energy Research Establishment
  GPO Box No. 3787, Dhaka, Bangladesh.
 Cable : PARAMANU
2. 1978
3. An institute under the Bangladesh Atomic Energy
   Commission
4. Director
5.
6.
7. Books
                             407
   Current Periodicals
                              34
9. Scientists
   Technicians
                    67
10.
```

Rural Programme.

```
BCSIR, Mirpur Road, Dhanmondi
  Dhaka 1205, Bangladesh.
       : 502700
  Tel
  Cable : CONSEARCH
2. 1956
3.
4. Director
5. Technology of Plant Food Products
  Technology of Animal Food Products
  Technology of Food grains, Legumes and Oil Seeds
  Microbiology
  Biochemistry and Applied Nutrition
  Food Science and Quality Control
  Industrial Development
  Rural Technology.
6.
                  300
7. Books
8.
                   67
9. Scientists
  Technicians
                   17
10. Taka 13.5 million
1. BANGLADESH FOREST ACADEMY (BFA)
  P.O.Amin Jute Mills
  Chittagong 4211, Bangladesh.
  Tel
        : 211237
2. 1964
3. An academy under the Ministry of Environment and Forest
4. Director
5. Forestry
6. B.Sc. (Pass)
  M.Sc
                            3833
7. Books
  Current Periodicals
                              10
                              12
  Audiovisual Material
8.
10. Taka 24.6 million.
1. BANGLADESH UNIVERSITY OF ENGG & TECHNOLOGY
   Dhaka 1000, Bangladesh
   Tel: 502349/ 505171 - 7/ 505188
2. 1978
3. An autonomous body under the University
  Grants Commission (UGC), Ministry of Education
4. Head: Vice Chancellor
5. Department of Water Resources and other departments
6. M.Sc.Engg
   Ph.D
7. Books
            961
8. Bangladesh Journal of Water Resources Research.
9. Scientists 14 [B.Sc.-5; Ph.D -9]
10.
1. INSTITUTE OF POSTGRADUATE STUDIES IN AGRICULTURE
   Salna, Gazipur 1703, Bangladesh
2. 1985
3. An institute under the Ministry of Agriculture
4. Director
5. Agricultural Economics
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Agricultural Engineering Agricultural Extension

1. INSTITUTE OF FOOD SCIENCE AND TECHNOLOGY (IFST)

```
Agricultural Staistics and Biometry
   Agronomy
   Crop Botany
   Entomology
   Genetics and Plant Breeding
   Horticulture
   Plant Pathology
   Soil Science
   Experimental Support Service (Farm Division)
6. Degrees Offered: M.Sc. (Ag)
7. Books
                              5117
   Current Periodicals
                              127
9. Scientists
                 24 [ M.Sc.-3; Ph.D -21 ]
10. Taka 20 million
1. INSTITUTE OF FORESTRY, UNIVERSITY OF CHITTAGONG
   Chittagong 4331, Bangladesh
   Tel : (031) 210131 - 44 Extn - 314.
2. 1976
3. An Institute under the Ministry of Education
4. Director
5. Silviculture
   Agroforsetry
   Forestry Extension
   Forest Protection
   Forest Products
   Forest Soils
   Forest Economy
   Forest Mensuration and Inventory.
6. B.Sc (Hon) in Forestry.
7. Books
                           2723
   Current Periodicals
9. Scientists 14 [ B.Sc.(Hon) -2; M.Sc.-12; Ph.D -1 ]
10.
1. BANGLADSEH AGRICULTURE UNIVERSITY
   Mymensingh, Bangladesh.
         : (091) 4333/ 5695-7
   Cable: AGRIVARSITY, MYMENSINGH, BANGLADESH
2. 1961
3. Autonomous body under the Ministry of
   Education, Bangladesh.
4. Vice Chancellor - Prof Mohammad Ashraf Ali Khan
5. Principal Units : Faculty of Agriculture
                     Faculty of Agricultural Engineering and Technology
                     Faculty of Animal Husbandry
                     Faculty of Veterinary Science
                     Faculty of Agricultural Economics and Rural Sociology
                     Faculty of Fisheries
                     Graduate Training Institute
Affiliated institutions; Haji Mohammed Danesh Krishi College,
                     Basher Hat, Dinajpur; Bangladesh
                     Agricultural Institute, Dhaka
                     Patuakhali Krishi College, Patuakhali.
                     The Fisheries Research Institute and
                     the Institute of Nuclear Agriculture
                     are also located at the University campus.
6. Degrees Offered: B.Sc Ag. (Hon); B.Sc.Ag. Economics (Hon)
                     B.Sc A.H. (Hon); B.Sc. Fisheries (Hon)
                     B.Sc Agri Engg (Hon); D.V.M
                          All 4 Years
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M.Sc Ag.; M.Sc.Ag. (Extn Edn);
                     M.Sc Veterinary Science; M.Sc.A.H.;
                     M.Sc Agri Economics; M.Sc Agri Engg;
                     M.Sc Fisheries
                     - All 1 Year by course work
                     and thesis
                     Ph.D in all faculties - 3 Years by thesis.
7. Academic Year : July - June. (Not divided into terms)
8. Library: Books
                                    151109
             Current Periodicals
                                       450
9. Publications: Bangladesh Journal of Agricultural Economics.
                  Bangladesh Journal of Agricultural Sciences.
                  Bangladesh Journal of Animal Husbandry.
                  Bangladesh Journal of Aquaculture.
                  Bangladesh Journal of Extension Education.
                  Bangladesh Journal of Fisheries.
                  Bangladesh Journal of Horticulture.
                  Bangladesh Journal of Plant Pathology.
                  Bangladesh Journal of Training and Development.
                  Bangladesh Veterinary Journal.
                              385 [B.Sc.- 8; M.Sc.-199; Ph.D-178]
10. Manpower : Scientists
11. Budget: Taka 153.8 million.
1. CHITTAGONG UNIVERSITY (CU)
   University Post Office, Chittagong, Bangladesh.
         : (31) 210131-9/ 210141-4
2. 1966
3. Status: Autonomous body under the Ministry of Education,
            Government of Bangladesh.
4. Head : Vice Chancellor - Prof R.I. Chowdhury
5. Principal Units : Faculty of Science having an Institute
                     of Forestry and six more faculties.
6. Degrees Offered: The Institute of Forestry offers
                     B.Sc. (Hon) and M.Sc in the Faculty
                     of Science
                     B.Sc (Hon) - 3 Years
                     M.Sc
                                - 1 Year by course work.
7. Academic Year : July - June (2 Terms)
8. Institute of Forestry:
   Scientists
                    15 [B.Sc. (Hons) -2; M.Sc.-12; Ph.D-1]
   Technicians
9. Library: Books
                                  149682
             Current Periodicals
                                     405
             3723 Books and 2 periodicals in
             the Institute of Forestry.
10. Publications :
11. Budget: Taka 176.853 million (1991). Seperate figures for the
    Institute of Forestry not available.
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#### BHUTAN

#### Selected Indicators of Agricultural Development

Total Area : 46,500 Sq Km

: 55% Forest Coverage Annual Average Change : 0.2%

(For 1980-89)

Cultivated Area : 8.8%

: 1.497 million Population

: 2.2% Annual Growth Rate

of Population

Agricultural Population : .... Illiteracy Rate : 62%

: 263 million US \$ National GNP (1992)

: 180 US \$ GNP Per Capita (1992)

: 5.2% GNP: Real Growth Rate

(1985 - 92)

Share of Agriculture

in GDP (1992)

Growth Rate of Agricultural : .....

Production

Agricultural Export as %

of Total Export

Major Agricutural Commodities : Major Agricultural Imports Major Agricutural Exports

#### Selected Indicators of Research State of Agriculture and Research

Bhutan has an extremely diverse environment. Perrenially snow capped peaks in the high Himalayas reach above 7500 metres. At lower elevations in the inner Himalayas there are alpine meadows and temperate forests. Most of the settled agriculture is concentrated along the main river valleys and in the foothills to the south. The southern foothills extend southwards into India for about 20 kms and consist of steep slopes covered with tropical forests. The southwest monsoon brings most of the rainfall ranging from 5000 mms on the south facing slopes of the southern hills to less than 500 mms in the high Himalayan ranges in the north. Six main agro-ecological zones have been recognized although there are substantial variations in micro climate within each zone. Rainfall and temperature largely determined by elevation are the principal determinants of agro-ecological zones. The six zones are :

1. The Alpine Zone: more than 3500 meters

2. The Temperate Zone: 2500-3500 meters

3. Warm Temperate Zone: 1800-2500 meters

3. Dry Sub-Tropical Zone : 1200-1800 meters

5. Humid Sub-Tropical Zone: 600-1200 meters

6. Wet Sub-Tropical Zone: 150-600 meters

Because of the unusual physical characterstics and large local differences in altitudes, there is almost as much variation within these agro-ecological zones as there is between them. Each locality or district is a mosaic of contrasting micro-climates, and the environment may differ quite significantly from one valley to the next. Along with altitude slope also strongly influences variations in micro-climates. Communication is difficult. Land suitable for cultivation occurs in samll pockets. Consequently rural communities are usually isolated from one another. Efforts to develop a system of roads began only relatively recently during the 1960's. Only about

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1. CENTRE FOR AGRICULTURAL RESEARCH AND DEVELOPMENT (CARD)
   Wangdiphodrang, Bhutan.
   Tel : 209
   Cable : CARDWANGDI
2. 1982
З.
4. Director
5. Cereal Research (Rice and Wheat)
   Oilcrops Research (Mustard and others)
   Vegetable Research (Rice based)
   On-farm Research (Rice, wheat, oil crops and others)
   Seed Maintenance and Production.
7. Books
   Current Periodicals 963
8. CARD Annual Report
9. Scientists
                5
   Technicians
                   6
10. Nu 2 million
1. KHANGMA RESEARCH CENTRE
   Kanglung, P.O. Tashigang Dzongkhag, Bhutan
2. 1987
3.
4. Assistant Research Officer
6.
7.
8. Research report and technical manual for East Bhutan will be produced
   shortly.
9. Scientists
   Technicians
10. Nu 0.177 million (1989-90)
Country
                              : Bhutan
Total Area
                              : 46,500 Sq Km
Forest Coverage
                              : 55%
Annual Average Change
                              : 0.2%
(For 1980-89)
Cultivated Area
                             : 8.8%
Population
                             : 1.497 million
Annual Growth Rate
                              : 2.2%
of Population
Agricultural Population
                             : ....
Illiteracy Rate
                              : 62ક
                             : 263 million US $ : 180 US $
National GNP (1992)
GNP Per Capita (1992)
GNP: Real Growth Rate
                              : 5.2%
     (1985 - 92)
Share of Agriculture
                              : 42%
in GDP (1992)
Growth Rate of Agricultural : .....
Production
Agricultural Export as %
of Total Export
Major Agricutural Commodities :
Major Agricultural Imports
Major Agricutural Exports
```

Bhutan has an extremely diverse environment. Perrenially snow capped peaks in the high Himalayas reach above 7500 metres. At lower elevations in the inner Himalayas there are alpine meadows and temperate forests. Most of the settled agriculture is concentrated along the main river valleys and in the foothills to the south. The southern foothills extend southwards into

India for about 20 kms and consist of steep slopes covered with tropical forests. The southwest monsoon brings most of the rainfall ranging from 5000 mms on the south facing slopes of the southern hills to less than 500 mms in the high Himalayan ranges in the north. Six main agro-ecological zones have been recognized although there are substantial variations in micro climate within each zone. Rainfall and temperature largely determined by elevation are the principal determinants of agro-ecological zones. The six zones are:

1. The Alpine Zone : more than 3500 meters

2. The Temperate Zone: 2500-3500 meters

3. Warm Temperate Zone : 1800-2500 meters

3. Dry Sub-Tropical Zone : 1200-1800 meters

5. Humid Sub-Tropical Zone : 600-1200 meters

6. Wet Sub-Tropical Zone: 150-600 meters

Because of the unusual physical characterstics and large local differences in altitudes, there is alomost as much variation within these agro-ecological zones as there is between them. Each locality or district is a mosaic of contrasting micro-climates, and the environment may differ quite significantly from one valley to the next. Along with altitude slope also strongly influences variations in micro-climates. Communication is difficult. Land suitable for cultivation occurs in samll pockets. Consequently rural communities are usually isolated from one another. Efforts to develop a system of roads began only relatively recently during the 1960's. Only about 8.8% of the total land area is suitable for arable crop production and the economy is very dependent on trade with India. Exports to India include hydroelectric power, timber, timber products, potatoes, cardamom, ginger, temperate and tropical fruits. Arable agriculture, livestock and forestry are the dominant parts of the national economy contributing about 47% of the GDP and providing about 95% of the employment. The contributions of arable agriculture, livestock and forestry to GDP are 23.5%, 9.4% and 14.1% respectively. Most farming is subsistence and more than 90% of all farm produce is consumed at the source. There is some small scale commercial production of cardamom and citrus in the south. Around Thimpu also crops are grown for cash. Potatoes are an important cash crop particularly in the central and eastern parts of the country. The kind of cultivation practised depends on the slope of the land, the type of the soil and the availability of irrigation water. In the valleys where irrigation is available the crops cultivated are typically rice in the summer and wheat, buckwheat, mustard, pulses and vegetables in winter. For paddy rice the land has to be terraced. On slopes of more than 30% unirrigated land is also terraced for growing maize, potatoes and wheat. Some form of shifting cultivation for growing maize has been practised for generations. With the growing population and limited agricultural land the cultivation cycle has come down to about 3-5 years Bullocks are used for ploughing but the traditional ploughs are primitive. Seed is usually sown broadcast. Weeding, harvesting and threshing are done by hand and crop residues are used for cattle feed. Maize and wheat yields are low (740 and 640 kg per hectare respectively). During winters farm animals are turned loose to browse and they damage winter crops, particularly wheat, to such an extant that many farmers are discouraged from growing winter crops at all. Traditional varities of rice are prefered for their grain characterstics. Traditonal production systems integrate crop, livestock and the use of the forest in a sustainable manner.

Wherever available forest litter and cattle manure are used to maintain soil fertility. Soil erosion is, however, substantial. There are about 420,000 head of cattle in the country, most of which, scrounge for feed in the forset, on roadsides and surroundings of the farms. Individual farmers may own 5-6 heads of cattle but some of the animals are also assembled into larger herds that move between the forests in winter and pastures in summer.

It is estimated that there may be 3 times as many cattle as the available land can sustain under the present system of land use.

The per capita availability of cultivable land is only about 0.28 hectare. Mountainous terrain makes agriculture very labour - intensive and the potential for labour - saving technology is very restricted. Consequently, cost of production of staples like rice is higher than in neighbouring India. Isolation of individual holdings and of areas of production from one another and from main markets makes the development of a market economy slow and difficult. Maize Is the major food crop nationally and can be grown more readily than rice in many parts of the country. It dominates the rainfed and shifting cultivation areas but without the development of a market farmers have no incentive to produce a surplus for sale. Currently only very samll quantities of domestically produced rice, maize and edible oils are marketed within Bhutan for consumption by urban population. The demands of the urban population for these products are currently met from imports and maize in Bhutan can not be produced cheaply enough for exports.

The current system of land ownership with communal use of grazing land does not provide any incentive to farmers towards pasture and fodder development. Also for cultural and religious reasons there is no commercial market for livestock. The inter-dependence of crops, livestock and forests at the farm level is a characterstic of the existing production system. Diversification of agriculture to produce commodities like essential oils, fruits, spices, timber products may be a better option than attempting to increase production of cereals, mainly rice. There is scope for improving the diversity and amount of production in the irrigated rice lands by growing wheat, pulses, and oilseeds in rotation with rice. The rainfed land production systems occupy a much larger area account for most of the food staples other than rice. On the better quality rainfed lands the principal crops are maize and potato, but secondary crops include upland rice, millet, barley and buckwheat. On steeper slopes and more marginal land shifting cultivation is practised. These production systems together account for about 60% of the arable crops produced with few inputs.

Currently, Bhutan has a rural subsistence agriculture alongside a small but growing urban market system. Because of difficulties in communication within the country these urban markets rely mainly on imports. Continuing dependence on imports for food supplies will require greater commercialisation and specialisation of Bhutan's agriculture with the balance of attention shifting towards those crops in which the country has a comparative advantage over neighbouring India. Lower priority will have to be given to those crops, like rice, for which Bhutan has no comparative advantage and can import. Much more attention would also have to be given to the production of rainfed crops and high value crops on irrigated lands namely, temperate fruits, vegetables, oranges and cardamoms. There is potential for substantial development of horticultural crops and there is need for scientific studies on sources of planting material, diversity of adapted species and development of the domestic and export markets for horticultural produce.

#### Current Status of Agricultural Research System

The National Agricultural Research System of Bhutan is relatively new. The first agricultural research centre (Centre for Agricultural Research and Development, Wangdiphodrang) was established in 1982. The first forestry research centre (Forest Research Centre, Taba) was set up in 1987. The most recent centre is a forestry seed station which was established in 1989. In general, the national agricultural research system suffers from its newness in terms of its organisation and research capacity. Agricultural research is implemented by three departments of the Ministry of Agriculture, namely the Department of Agriculture (DOA); the Department of Animal Husbandry (DOAH) and the Department of Forestry (DOF). Each of these departments has a Research Division which coordinates the activities of a number of research centres/stations located in different parts of the country. The research programmes are independently planned and implemented by each Department.

The national research system is relatively small having about 72

research personnel, 38 of whom are scientists. These scientists distributed among 12 research centres and research stations - 5 in agriculture, 5 in animal husbandry and 2 in forestry. Arable agricultural research is coordinated by a research sub-division under the Research and Extension Division of the DOA established in 1989. There are 5 crop-based research centres and 2 discipline-oriented centres. Livestock research is coordinated by DOAH which established its Traing, Research and Extension Division in 1987. There are 5 centres undertaking research 3 of which conduct mainly fodder research. Forestry research started with the establishment of the Forest Research Divison in 1987. There is a main research centre and some supporting laboratories at Taba near Thimphu, and a small field station in Lame Gompa. In addition to the DOA, DOAH and DOF, the Ministry of Agriculture consists of 2 Divisions namely Administrative and Finance Division (AFD) and the Planning and Policy Division (PPD). The PPD is responsible for policy formulation, strategic planning and evaluation of programmes carried out by the Agriculture, Livestock, Forsetry and Food sub-sectors which are concerned primarily with the implementation of policy, the monitoring of projects and provision of technical services.

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1. CENTRE FOR AGRICULTURAL RESEARCH AND DEVELOPMENT (CARD)
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   Tel : 209
   Cable : CARDWANGDI
2. 1982
3.
4. Director
5. Cereal Research (Rice and Wheat)
   Oilcrops Research (Mustard and others)
   Vegetable Research (Rice based)
   On-farm Research (rice, wheat, oil crops and others)
   Seed Maintenance and Production.
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7. Books
   Current Periodicals
                        963
8. CARD Annual Report
9. Scientists
   Technicians
10. Nu 2 million
1. KHANGMA RESEARCH CENTRE
   Kanglung, P.O. Tashigang Dzongkhag, Bhutan
2. 1987
3.
4. Assistant Research Officer
5.
6.
7.
8. Research report and technical manual for East Bhutan will be
  produced shortly.
9. Scientists
  Technicians
10. Nu 0.177 million (1989-90)
```

#### INDIA

## Selected Indicators of Agricultural Development

Country : INDIA

: 297,319,000 Ha Total Area

Forest Coverage (%) : 22% Annual Average Change (%) : -0.1%

(For 1980-89)

: 169,015,000 Ha Cultivated Area Population : 883,473,000

Annual Growth Rate

of Population

Agricultural Population : 63% Illiteracy Rate : 52%

National GNP : 271,638 million US \$

GNP Per Capita : 310 US \$

Real Growth Rate : 3.3%

(per capita)

Share of Agriculture : 32%

in GDP

Growth Rate of Agricultural

Production

Agricultural Export as % : 16%

of Total Export

Major Agricutural Commodities : Rice, Sugarcane, Wheat, Pulses

Cotten, Fruits, Vegetables,

Buffalo Milk, Cow Milk, Major Agricultural Imports : Palm Oil, Dry Beans, Rice,

Soybean Oil

: Tea, Shell Fish, Green Coffee Major Agricutural Exports

#### Selected Indicators of Agriculture Research State of Agriculture and Research

India is a country of sub- continental proportions and global range of agro-climatic situations. Along its north-south axis the temperatures range from tropical hot in the south to freezing cold in the north above the permanent snowline in the high Himalayas. Along its east-west axis the rainfall ranges from about 120 mm in the dry desert in the west to about 12,000 mm at Cheerapunjee, Meghalaya in the north-eastern part of the country. With such a mosaic of agro-ecological diversity, the country has adopted the strategy of agro-climatic regional planning for agricultural research as also for agricultural development. For agroclimatic planning of agricultural research the geographic area falling under the jurisdiction of each state agricultural university has been delineated, after a comprehensive research review, into a contiguous set of agroclimatic zones and a multidisciplinary zonal research stations established in each zone to strengthen the zonal research capacity of the respective agricultural universities to plan and undertake production-oriented, problem-solving research to develope appropriate production technologies and make them available for dissemination to the farmers within the service zone of the research station.

This task was accomplished under a 5-yr (1979-94), US\$175 million National Agricultural Research Project under which a total of 132 such zones were identified; requisite technical assistance and funding was provided to the SAU's by the ICAR with loan assistance from the IBRD multidisciplinary Zonal Research Station along with some sub-zonal /special purpose research stations estalished in each zone. A total of 343 research stations have been established /strengthened under this massive project tremendously strengthening the capacity of all the SAUs to provide effective technological backup to agricultural production throughout their respective area of responsibility. The ICAR-SAU sytem together employs about 30,000 scientists.

For the purpose of agroclimatic regional planning of agricultural development, the Planning Commission, in 1988 initiated the Agroclimatic Regional Planning Project aimed at fuller exploitation of the natural and man-made resourcs of the country for growth and diversification of her agriculture. The project takes a holistic view of the climate, soils, topography, water resources and irrigation facilities and relates them to requirements of agricultural output and employment.

Under this project the country has been delineated into 15 agroclimatic regiones on the basis of a commonality of agro-climatic factors. A farming systems approach at the disaggregated level rather than the traditional crop production approach has been attempted. An overall development profile of each climatic zone has been formulated through an optimal mix of land stock management, crop production, animal husbandry, aquaculture, horticulture, forestry and agro-processing activities. The 15 agro-climatic zones are as below:

- 1. Western Himalayas
- 2. Eastern Himalayas
- 3. Lower Gangetic Plains
- 4. Middle Gangetic Plains
- 5. Upper Gangetic Plains
- 6. Trans-Gangetic Plains
- 7. Eastern Plateau and Hills
- 8. Central Plateau and Hills
- 9. Western Plateau and Hills
- 10. Southern Plateau and Hills
- 11. East Coast Plains and Hills
- 12. West Coast Plains and Ghats
- 13. Gujarat Plains and Hills
- 14. Westen Dry Region
- 15. Islands

The criteria adopted for this delineation were homogeneity in agroclimatic characterstics on the one hand and convenience of planning and operationalisation with reference to the geographical area covered on the other hand. Within each agro-climatic region a number of sub-regions have also been delineated for the purpose of detailed operational planning on the basis of soils, topography, climate and water resources.

This system of sub- regions closely corresponds to the system of agroclimatic zones earlier developed by the Indian Council of Agricultural Research (ICAR) under the National Agricultural Research Project for the establishment of agroclimatic zonal Research Stations.

The hill regions of western and eastern Himalayas have much diversity. The valleys recieve good rainfall and have rich soils while the temperate areas of Ladakh in western Himalayas with very low rainfall and the Sikkim-Darjeeling area in eastern Himalayas with high rainfall are both constrained by climatic barriers of limited crop growing period. High soil erosion reduces soil fertility. The level and the intensity of the use of natural resources and its impact on income and employment generation varies between the regions.

The Gangetic plains have relatively abundant natural resources in terms of soils, water and rainfall. The lower and middle Gangetic plains are characterised by high rainfall, alluvial and deltaic soils and good ground water whereas the upper and trans- Gangetic plains have rich alluvial soil, medium to low rainfall and good availability of groundwater.

The plateau and hills region are characterised by comparatively poor soils, high slopes and high run-offs. While the eastern portion has high assured rainfall the remaining areas have only medium rainfall - around 900mm per year.

The coastal plains and hills region have large variations of soil and rainfall. The east coast plains and hills have moderately high rainfall, comparatively heavy soils of high moisture retentive capacity and deltaic formations characterised by inadequate drainage, water-logging and flooding during the monsoons. Groundwater availability is good but exploitation is low. Salinity and alkalinity are also present. The west coast plains and ghat region is also characterised by high rainfall and a warm humid climate. Coastal alluvial, laterites and red soils are predominant. Some inundation by seawater occurs.

The Gujarat plains and hills region is arid and semi-arid with average

rainfall of 836 mm per year but ranging from 340 mm in the western arid area to 1793 mm in the south east. A large area is drought prone. Soil- wise nearly 50% area is covered under alluvial plains and the remaining area under residual or shallow alluvial soils on the plateaus and hills. Exploitation of groundwater is high.

The western dry region recieves highly erratic and uncertain rainfall of 395 mm. Groundwater is scarce and saline. The soils are desert soil type having low moisture retention capacity. The area is covered by sandy to loamy-sand soils occurring in the forms of sand dunes, parabolic dunes etc and are primarly infertile.

The islands region is a typical equitorial climatic region with annual rainfall of 3086 mm. Because of equitorial nature nearly 90% area is under forest. The soils are loamy and rich. Together with the Himalayan region this region also has serious sustainability problems.

The institutional framework of the Indian agricultural research (excluding forestry) system comprises the ICAR as the apex body , its 44Central Research Institutes, 20 National Reserach Centres, 4 National Bureaus, 9 Project Directorates, a National Academy of Agricultural Research Management, 1 Central Agricultural University established to serve 6 small states in the north- eastern part of the country, 27 State Agricultural Universities, agricultural faculties of a few general universities and a few research institutions occuring outside the ICAR-SAU system. All these institutions have their specific research mandates and research agendas. The Central Research Institutes, the National Bureaus, the Project Directorates and the NRC's have a national orientation and focus on strategic research, the SAUs are responsible for providing location specific technological support to agricultural production throughout the area of their research jurisdiction which is whole or a part of the territory of the concerned state but relevent depending on whether there is one or more than one SAU in the state for the purpose of defining the technological mandate of the SAU agriculture includes all kinds of primary biological production from land, inland water bodies and coastal water bodies

Groups of institutions of the national agricultural research system are also functionally linked together into special purpose/commodity oriented cooperative research networks through 66 All India Coordinated Research Projects (AICRPs) organised by the ICAR. Each such network consists of a Coordinating Unit fully fundedby the ICAR and a number of research centres established at the various cooperating institutions. The cost of establishing and operating the research centres is shared by the ICAR and the cooperating institutions on a 75:25 basis. The 66 AICRPs presently operate nation-wide through 1,291 centres. The AICRPs ensure complementarity in the research programmes of cooperating research institutions and provide for joint development and evaluation of new technologies through multilocation testing.

Forestry research falls under the jurisdiction of the Ministry of Forests and Environment. The ministry has constituted the Indian Council of Forestry Research and Eduaction (ICFRE) which has jurisdiction over 8 research institutes and a research centre. One of these research institutes—the Forest Research Institute, Dehra Dun, has been granted a deemed—to—be a university status empowering it to grant postgraduate degrees in the area of its research specialization. The Ministry of Forests and Environment also directly controls a few research institutions. A number of State Agricultural Universities that have started forestry/agroforestry degree programmes are actively engaged in forestry/agroforestry research. Prominent among such SAUs are Dr Y S Parmar University of Horticulture and Forestry Solan; Tamilnadu Agricultural University, Coimbatore; and Birsa Agricultural University, Ranchi. Some State Forestry Departments also have established research institutions; prominent among them is the Kerala Forestry Research Institute, Peechi.

#### 1. INDIAN COUNCIL OF AGRICULTURAL RESEARCH (ICAR)

Krishi Bhavan, New Delhi, 110001. India

Tel : (011) 388991

Telex: 031-62249 ICAR IN Cable: AGRISEC, NEW DELHI

```
Fax
         : 91-11-387293
2. 1929
3. Autonomous body funded by the Department of Agricultural
   Research and Education (DARE), Ministry of Agriculture,
   Government of India.
4. Director General - Dr R.S. Paroda
5. Administration and Coordination
   Crop Sciences
   Horticulture
   Agricultural Engineering
   Soil Agronomy and Agro-Forestry
   Animal Sciences
   Fisheries
   Agricultural Extension
   Agricultural Education
   Publication and Information
6. None
Books
                       40,000
   Current Periodicals
                          525
8. Indian Journal Of Agricultural Sciences
   Indian Journal of Animal Sciences
   Indian Journal Fisheries
   Indian Journal of Agricultural Engineering
   Indian Farming
   Indian Horticulture
   Annual Report of ICAR/DARE
   Kheti (Hindi); Phal Phool (Hindi); Krishi Chayanika (Hindi)
   Annual Report (Hindi)
9. Scientists
                  102 (at Headquarters); 11,881 (Total)
                  140 (at Headquarters); 13,848 (Total)
   Technicians
10. Rs 3499.10 million (1990-91)
1. INDIAN AGRICULTURAL RESEARCH INSTITUTE (IARI)
   New Delhi 110012 , India .
       : 011 - 5754595
   Cable : KRISHIPUSA, NEW DELHI
   Telex: 031 - 77161 IARI IN .
        : 91-11-5752006
  Fax
2. 1905
3. Director - Prof R.B. Singh
4. Semi-autonomous body
  under the Indian Council of Agricultural Research (ICAR)
5. Divisions of;
  Biotechnology
  Genetics
  Vegetable Crops
  Fruits and Horticulture Technology
  Floriculture and Landscaping
  Seed Science and Technology
  Agronomy
  Soil Science and Agricultural Chemistry
  Microbiology
  Agricultural Physics
  Agricultural Engineering
  Mycology and Plant Pathology
  Entomology
  Nematology
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23

Agricultural Chemicals

Agricultural Economics Agricultural Extension Animal Improvement

Nuclear Research Laboratory

Plant Physiology Biochemistry Water Technology Centre

Bio-Informatics Centre
6. M.Sc. and Ph.D. in Agricultural Economics

Agricultural Engineering Agricultural Extension Agricultural Physics Agricultural Statistics Agricultural Chemicals

Agronomy Biochemistry Entomology Genetics Horticulture

Microbiology

Mycology and Plant Pathology

Nematology

Plant Physiology

Molecular Biology and Biotechnology Soil Science and Agricultural Chemistry

M.Sc. in Computer Applications in Agriculture

7. Books 200000 Current Periodicals 510

8. Annual Report

9. Scientists 809 Technicians 1053

10. Rs. 222.50 million (1990-91)

#### 1. INDIAN INSTITUTE OF HORTICULTURAL RESEARCH (IIHR)

255 , Upper Palace Orchards ,

Bangalore 560080 , India

Tel : (0812) 342486/ 340194/ 344576/ 394356

Telex: 0845-2534 IIHR IN

Fax : 91-80-345147

Cable: HORTSEARCH, BANGALORE

2. 1967

3. Institute under the ICAR

4. Director - Dr R.M. Pande

5. Fruit Crops

Vegetable Crops Ornamental Crops

Medicinal and Aromatic Crops

Post-Harvest Technology

PlantPathology

Entomology and Nematology

Plant Physiology and Biochemistry

Soil Science

Plant Genetic Resources

Economics and Statistics

Extension and Education

Horticultural Engineering

6. M.Sc. and Ph.D. in Horticulture (degrees arehowever, awarded by the University of Agricultural Sciences, Bangalore in collaboration with the Institute)

7. Books 6065

Current periodicals 258

8. IIHR Newsletter

Latest Additions Publication

IIHR Annual Report

Rapid Information Services

Current Literature on Horticultural Sciences

9. Scientists 239

Technicians 246

10. Rs. 17.28 million (1990-91)

#### 1. CENTRAL AVIAN RESEARCH INSTITUTE (CARI)

Izatnagar 243122 Bareilly ,Utter Pradesh , India

: (0581) 74230/ 74035/ 74332/ 76095

Telex: 0577 - 206 CARI IN . Cable: POULTRY, IZATNAGAR

: 91-581-76239

- 2. 1979
- 3. Institute under the ICAR
- 4. Director Dr J.N.Panda
- 5. Avian Genetics and Breeding

Avian Nutrition and Feed Technology

Avian Physiology and Reproduction

Post-Harvest Technology Planning, Monitoring and Coordination Technology

Transfer

Poultry Housing and Management

Avian Medicine

Postgraduate Education and Training

Advanced Centre for Research on Quails

- 6. M.Sc. (Poultry Science); M.Sc. (Poultry Science); Ph.D. (Poultry Science) in association with the Indian Veterinary Research Institute (IVRI)
- 7. Books
- 8. CARI Newsletter

Indian Journal of Poultry Science

CARI Annual Report

CARI Booklet (One issue in 2-3 years)

Information Leaflets for Farmers

Research Highlight

9. Scientists

Technicians 60

10. Rs. 13.85 million

#### 1. INDIAN VETERINARY RESEARCH INSTITUTE (IVRI)

Izatnagar, Bareilly 243122, UtterPradesh, India

Tel : (0581) 74069

Telex: 0577-205 IVRI IN

Cable: VETEX, IZATNAGAR

: 91-581-73691 Fax

- 2. 1889
- 3. Semi-autonomous body (deemed to be a university)

under the ICAR

- 4. Director Dr D.S. Balaine
- 5. Animal Genetics and Breeding

Animal Gynaecology and Reproduction

Animal Nutrition

Animal Physiology

Avian Diseases

Biochemistry

Biostatistics

Epidemiology

Extension Education

Livestock Economics

Livestock Production and Management

Livestock Products Technology

Veterinary Bacteriology

Veterinary Immunology

Veterinary Medicine

Veterinary Parasitology

Veterinary Pathology

Veterinary Pharmocology

Veterinary Public Health

Veterinary Surgery

Veterinary Virology

Biological Products

Standardization

#### Biotechnology

6. M.Sc. in;

Animal Genetics and Breeding

Animal Gynaecology and Obstetrics

Animal Nutrition

Animal Physiology

Animal Science Extension

Avian Diseases

Biochemistry

Bio-Statistics

Biotechnology

Livestock Production and Management

Livestock Economics

Livestock Products Technology

Poultry Science

Veterinary Bacteriology

Veterinary Immunology

Veterinary Medicine.

Ph.D. in;

Animal Breeding

Animal Genetics

Animal Gynecology and Obstetrics

Animal Nutrition

Animal Physiology

Animal Reproduction

Animal Science Extension

Biochemistry

Livestock Products Technology

Poultry Science

Veterinary Parasitology

Veterinary Pathology

Veterinary Pharmacology

Veterinary Surgery

7. Books 29560

8. IVRI Newsletter

University Publication Bulletin

Annual Scientific Report

9. Scientists 455

Technicians 586

10. Rs. 140.35 million

#### 1. NATIONAL DAIRY RESEARCH INSTITUTE (NDRI)

Karnal 132001 , Haryana , India Tel : (0184) 4293

Telex: 0396-204 NDRI

Cable : DAIRYSEARCH, KARNAL

Fax : 91-184-20042

3. Semi-autonomous body under the ICAR

4. Director - Dr S.C.Sharma

5. Dairy Microbiology

Dairy Chemistry

Animal Biochemistry

Dairy Technology

Dairy Engineering

Dairy Cattle Genetics

Dairy Cattle Nutrition

Dairy Cattle Physiology

Dairy Economics, Statistics and Management

Dairy Extension

6. B.Sc. - Dairy Technology

M.Sc. - Dairying

Dairy Microbiology

Dairy Chemistry
Dairy Technology
Dairy Engineering

Animal Genetics and Breeding

Animal Nutrition Animal Physiology Animal Biochemistry

Dairy Economics Dairy Extension

Livestock Production and Management

Animal Biotechnology

Ph.D. - Dairy Microbiology

Dairy Chemistry Dairy Technology

Dairy Engineering

Animal Genetics and Breeding

Animal Nutrition Animal Physiology Animal Biochemistry Dairy Economics Dairy Extension

7. Books 52000 Current Periodicals 500

8. Annual Report

9. Scientists 265 Technicians 478

10. Rs 83.50 million

#### 1. CENTRAL INSTITUTE FOR COTTON RESEARCH (CICR)

Post Bag No. 125, Nagpur 440001

Maharashtra, India.

Tel : (0715) 26323/ 22443 Telex : 715-267 CICR IN

Cable : KAPASSANSTHAN, NAGPUR

2, 1976

3. Institute under the ICAR

4. Director - Dr A.K. Basu

Crop Improvement Crop Production Crop Protection

Plant Physiology and Biochemistry

Extension.

6. None

7. Books 2500 Current Periodicals 160

8. CICR Newsletter

Cotton Research Abstracts

Annual Report

9. Scientists 88

Technicians 84 10. Rs 18 million

#### 1. CENTRAL RESEARCH INSTITUTE FOR JUTE AND ALLIED FABRICS (CRIJAF)

Nilgunj, P.O.Barrackpore 743101, 24 Parganas (North),

West Bengal, India

Tel : (033) 560415/561120-24

Telex: 021-4091 JARI IN

Cable : JUTRESEARCH, BARRACKPORE

2. 1953

3. Institute under the ICAR

4. Director - Dr B.K.Tripathi

5. Plant Breeding and Genetics

Agronomy Extension Soil Science
Soils and Microbiology
Entomology
Plant Pathology
Statistics
Metereology
Agricultural Engineering

Physiology 6. None

7. Books 7287 Current Periodicals 230

8. Annual Report

9. Scientists 98

Technicians 158

10. Rs 51.74 million (1990-91)

#### 1. CENTRAL RICE RESEARCH INSTITUTE (CRRI)

Cuttack 753006, Orissa.

Tel :(0671) -21887/ PABX 20020

Telex: 0676-220 CRRI IN Cable: RICE, CUTTACK

2. 1946

3. Institute under the ICAR

4. Director - Dr B. Venkateswarlu

5. Genetic Resource

Plant Breeding and Genetics

Plant Physiology

Biochemistry

Agronomy

Soil Science

Microbiology

Plant Pathology

Entomology

Agricultural Engineering

Communication and Training

Economics and Statistics

CRRI provides facilities for Ph.D thesis research to students registered in other universities.

7. Books 7100

Current Periodicals 140.

8. Oryza

Annual Report

9. Scientists 221

Technicians 196

10. Rs 27.05 million

#### 1. CENTRAL TOBACCAO RESEARCH INSTITUTE (CTRI)

Rajamundhry 533105, Andhra Pradesh.

Tel: (0883) 75995

Telex : 0474-205 CTRI IN

Cable : TABSEARCH, RAJAMUNDHRY

2. 1947

3. Institute under the ICAR  $\,$ 

4. Director - Dr M.S. Chari

5. Agronomy

Chemistry

Genetics and Plant Breeding

Plant Protection

6. None

7. Books 10764 Current Periodicals 171

8. CTRI Newsletter

Annual Report

9. Scientists 85

#### Technicians 169

#### 10. Rs 26.06 million

### 1. DIRECTORATE OF OILSEEDS RESEARCH (DOR)

Rajendranagar, Hyderabad 500030 Andhra Pradesh, India. Tel : (040) 245222/ 245331

Telex: 0425-6856 DOR IN

Cable: SODHTELHAN, HYDERABAD Fax

: 91-40-245222 (inland) 91-842-245222 (international)

- 2. 1977
- 3. Institution under the ICAR
- 4. Director Dr M.V.R. Prasad
- 5. National Communication and Training Centre

Plant Breeding

Plant Protection

Agricultural Chemistry

Statistics and Economics

- 6. None
- 7. Books

Current Periodicals 100

- 8. Annual Reports of Kharif and Rabi Oilseeds.
- 9. Scientists 46

Technicians 43

10. Rs 11.36 million

#### 1. INDIAN INSTITUTE OF PULSES RESEARCH (IIPR)

Kalyanpur, Kanpur 208024, India

: (0512) 250264

Cable : DALHANSHODH, KANPUR

Fax : 91 - 512 - 250264

- 2. 1984
- 3. Institute under the ICAR
- 4. Director Dr Shankar Lal
- 5. Plant Breeding

Agronomy

Plant Pathology

Entomology

Plant Physiology

Agricultural Chemistry

Economics and Statistics

Extension and Training

Agricultural Engineering

- 6. None
- 7. Books

1595

Current Periodicals 70

8. Indian Journal of Pulses Research and Development Pulses Research Newsletter

Annual report

Bulletins

9. Scientists 57

Technicians

10. Rs 21.14 million

#### 1. INDIAN INSTITUTE OF SUGARCANE RESEARCH (IISR)

Rae Bareilly Road, P.O. Dilkusha, Lucknow 226002

Uttar Pradesh, India.

Tel : (0522) 52572

Telex: 0535 - 2309 IISR IN

: 91 - 522 - 52073

Cable: GANNAANUSANDHAN, LUCKNOW

- 2. 1952
- 3. Institute under the ICAR
- 4. Director Dr G.B.Singh

5. Agronomy, Extension, Economics and Statistics Entomology, Crop Improvement Plant Pathology and Mycology Crop Physiology and Biochemistry Soil Science and Agricultural Chemistry

Agricultural Engineering

6. None 7. Books

7983

Current Periodicals 220.

8. Indian Journal of Sugarcane Technology

Annual Report

Technical Bulletin

9. Scientists 98

Technicians 122

10. Rs 16.55 million

#### 1. NATIONAL BUREAU OF PLANT GENETIC RESOURCES (NBPGR)

Pusa Campus, IARI, New Delhi 110012, India

Tel: (011) 5786908

Telex: 031 - 77257 NBGR IN Cable: GERMPLASM, NEW DELHI

- 2. 1976
- 3. Institution under the ICAR
- 4. Director Dr R.S. Rana
- 5. Plant Exploration and Collection

Germplasm Exchange

Plant Quarantine

Germplasm Evaluation

Germplasm Conservation

Tissue Culture Reopository

- 6. None
- 7. Books 7615
- 8. Indian Journal of Plant Genetic Resources

Research Highlight

NBPGR Newsletter

Annual Report

9. Scientists 146

Technicians 120

10. Rs 24.9 million

#### 1. NATIONAL CENTER FOR INTEGRATED PEST MANAGEMENT (NCIPM)

646, Sector 21 A, Badhkal Road, Faridabad 121001, India

Tel : (011) 8 - 214438)

Telex :

Cable: INTEGPEST, FARIDABAD

- 2. 1988
- 3. Institution under the ICAR
- 4. Director Dr T.P. Sriharan
- 5. Entomology

Plant Pathology

- 6. None
- 7. Books 1200
- 8. IPM Newsletter
- 9. Scientists 29

Technicians 15

10. Rs 6.10 million

### 1. NATIONAL RESEARCH CENTRE FOR GROUNDNUT (NRCG)

Timbawadi, Junagadh 362015, Gujarat, India.

Tel : (0285) 21550 Telex : 0164-220 NRCG IN

Cable: GNUTSEARCH, JUNAGADH

- 2. 1979
- 3. Institution under the ICAR

4. Director - Dr P.S. Reddy 5. Genetic Resources Cytogenetics Plant Breeding Entomology Plant Pathology Agronomy PlantPhysiology Microbiology Biochemistry 6. None 7. Books 902 Current Periodicals 122 8. Groundnut News 9. Scientists 34 Technicians 41 10. Rs 8 million 1. NATIONAL RESEARCH CENTRE FOR PLANT BIOTECHNOLOGY (NRCPB) Pusa Campus, IARI, New Delhi 110012, India : (011) 5788783 Telex: 031 - 77161 IARI IN Cable : BIOTECH KRISHPUSA, NEW DELHI Fax : 91 - 11 - 5740722 2. Year of Establishment: 1985 3. Status : Centre under the IARI 4. Head : Director - Dr R.P. Sharma 5. Principal Units: 6. Degrees Offered: M.Sc; Ph.D (offered by the IARI) 7. Library : Using IARI Library 8. Publications : 9. Manpower : Scientists Technicians 23 10. Budget: Rs 9 million 1. NATIONAL RESEARCH CENTRE FOR SORGHUM (NRCS) Rajendranagar, Hyderabad 500030, India Tel : (0842) 245349 Telex: 0425-6578 NRCS IN Cable: SORGHUM, HYDERABAD 2. 1987 3. Institution under the ICAR 4. Director - Dr U.R. Murty 5. Crop Science Plant Protection Soil Science Agronomy and Agricultural Engineering Biotechnology Agricultural Economics Statistics Extension Education

6. None

7. Books 295 Current Periodicals 17

8. Bulletins Pamphlets

9. Scientists 35 Technicians 42

10. Rs 11.3 million

### 1. NATIONAL RESEARCH CENTRE FOR SOYABEAN (NRCS)

Khandwa Road, Indore 452001, Madhya Pradesh, India Tel : (0731) 65653

```
2. 1987
3. Institution under the ICAR
4. Director - Dr P.S. Bhatnagar
6. None
                         455
7. Books
                          21
   Current periodicals
8. Annual Reports of NRCS and AICRP on Soyabean
   Technology for Increasing Soybean in India
   Soybean Varieties of India
   Technical Bulletin.
9. Scientists
                     22
   Technicians
10. Rs 40 million
1. NATIONAL RESEARCH CENTRE FOR WEED SCIENCE (NRCWS)
   135, Ravindra Nagar, Adhartal, Jabalpur 482004
   Madhya Pradesh, India
       : (0761) 23939
   Cable: WEED SCIENCE, JABALPUR
2. 1989
3. Institution under the ICAR
4. Director - Dr V.M. Bhan
5. Agronomy
   Plant Physiology
   Biochemistry and Microbiology
   Residue Chemistry
   Botany and Ecology
   Agricultural Engineering
   Agricultural Economics and Staistics
6. None
7.
8.
9. Scientists
   Technicians
                  27
10. Rs 1.2 million
1. SUGARCANE BREEDING INSTITUTE (SBI)
   Coimbatore 641007, Tamil Nadu, India
   Tel: (0422) 40986
   Telex: 0835 - 383 SBI IN
   Cable: GANNAPRAJANAN, COIMBATORE
        : 91 - 422 - 25800
   Fax
2. 1912
3. Institute under the ICAR
4. Director - Dr K.M. Naidu
5. Crop Improvement
   Crop Protection
   Crop Production
   Extension
6. Provides thesis research facilities for M.Sc, Ph.D. degree
   students of the Tamil Nadu Agricultural University
                          5098
7. Books
   Current Periodicals
                           170
8. SBI Newsletter
   Annual Report
   Research Highlight
9. Scientists
                     83
   Technicians
10. Rs 16.9 million
```

Cable: SOYSEARCH, INDORE

## 1. VIVEKANANDA PARVATIYA KRISHI ANUSANDHAN SHALA (VPKAS) Almora 263601, Uttar Pradesh, India Tel : (05962) 2208 Cable : VILAB, ALMORA 2. 1974 3. Institute under the ICAR 4. Director - Dr K.D. Koranne

5. Crop Improvement Plant Breeding Cytogenetics Plant Physiology Economic Botany Crop Production Soil Science Agricultural Engineering Agronomy Agricultural Chemistry

Water Management

Crop Protection

Plant Pathology

Entomology

Social Sciences

Agricultural Economics Agricultural Statistics

Agricultural Extension.

6. None

7. Books Current Periodicals 102

8. Scientists 57 Technicians 37

9. N.A

10. N.A

#### 1. WHEAT PROJECT DIRECTORATE (WPD)

Karnal 132001, Haryana, India.
Tel : (0184) 22390

Cable : WHEAT, karnal

2. 1975

- 3. Institution under the ICAR
- 4. Director Dr J.P. Tandon
- 5. Breeding Agronomy Pathology
- 6. None

7.

- 8. Annual Report
- 9. Scientists 34 Technicians 40
- 10. Rs 3.16 million

## 1. CENTRAL INSTITUTE OF HORTICULTURE FOR NORTHERN PLAINS (CIHNP)

B-217, Indira Nagar, Lucknow 226016, Uttar Pradesh, India

Tel : (0522) 381196/ 382676 Telex: 0535 - 2359 AAM IN Cable: MANGOSEARCH, LUCKNOW

- 2. 1984
- 3. Institute under the ICAR
- 4. Director Dr S.S. Negi
- 5. Horticulture Entomology Pathology

Soil Science, Agronomy and Microbiology

Post Harvest Technology

Physiology and Biochemistry Economics and Statistics Engineering Technical Cell Photoand Art

6. None

7. Books 1724 Current Periodicals 80

8. Annual Report

48 9. Scientists Technicians 41

10. Rs 8.42 million

#### 1. CENTRAL PLANTATION CROPS RESEARCH INSTITUTE (CPCRI)

Kasargod 670124, Kerala, India

: (04995) 20094/ 20067/ 20320

Telex: 0800-1202 PALM IN Cable: RESEARCH, KASARGOD : 91 - 4995 - 23300 Fax

2. 1970

3. Institute under the ICAR 4. Director - Dr M.K. Nair

5. Agronomy

Agricultural Economics and Statistics

Agricultural Extension

Biotechnology Entomology Genetics Microbiology Nematology

Physiology and Biochemistry

Plant Pathology Soil Science Statistics

6. The Institute provides thesis research facilities for M.Phil and Ph.D degree students registered at other universities.

9018 Current Periodicals 225

8. CPCRI Newsletter

Annual Report

9. Scientists

Research Highlight

Technical Bulletin

Technicians 151

10. Rs 37.82 million

# 1. CENTRAL POTATO RESEARCH INSTITUTE (CPRI)

135

Shimla 171001, Himachal Pradesh, India

Tel : (0177) 3118/ 5170/ 78087/ 5545/ 7875/ 6858

Telex: 0391-240 CPRI IN Cable: POTATOSEARCH, SHIMLA

2. 1949

3. Institute under the ICAR

4. Director - Dr J.S. Grewal

5. Agronomy and Soil Science

Plant Pathology

Genetics

Entomology and Nematology

Crop Physiology and Biochemistry

Seed Production

Social Sciences.

6. None

31834 7. Books Current Periodicals 588

- 8. The Annual Scientific Research Highlight Annual Report
- 9. Scientists Technicians
- 10. Rs 36.87 million.

# 1. CENTRAL TUBER CROPS RESEARCH INSTITUTE (CTCRI)

Sreekariyam, P.O. Trivandrum 695017, Kerala, India

Tel : (0471) 448431/ 448551-4

Telex: 0435-247 ROOT IN

Cable: TUBERSEARCH, TRIVANDRUM

Fax : 91 - 471 -448431

- 2. 1963
- 3. Institute under the ICAR
- 4. Director Dr N.M. Nayar
- 5. Genetics and Plant Breeding Agronomy and Soil Science Plant Physiology and Biochemistry Plant Pathology

Post-Harvest Technology

Entomology

Economics, Statistics and Extension

- 6. None
- 7. Books 10757 Current periodicals 112
- Newsletter Annual Report
- 9. Scientists 70
- Technicians 10. Rs 13.20 million
- 1. NATIONAL CENTRE FOR MUSHROOM RESEARCH AND TRAINING (NCMRT)

Chambaghat, Solan, Himachal Pradesh, India

Tel : (01792) 2851/ 3767

Cable: MUSHROOMSEARCH, SOLAN

- 2. 1983
- 3. Institution under the ICAR
- 4. Director Dr S.R. Sharma
- 5. Mycology and Plant Pathology Biochemistry and Physiology
- 6. None
- 7. Books 410

Current Periodicals

- 8. Annual Report
- 9. Scientists 17 Technicians
- 10. Rs 1.5 million

# 1. NATIONAL RESEARCH CENTRE FOR CASHEW (NRCC)

Darbe, Puttur 574202, Dakshina Kannada

Kanataka, India

Tel : 6902

Cable : CAJUKENDRA, PUTTUR

- 2. 1986
- 3. Institution under the ICAR
- 4. Director Dr E.V.V. Rao
- 5. Agronomy

Biochemistry

Entomology

Horticulture

Plant Breeding and Genetics

Statistics

6. None

```
Current Periodicals
                           39
8. Annual Report
9. Scientists
                  21
   Technicians
                  14
10. Rs 6.6 million
1. NATIONAL RESEARCH CENTRE FOR CITRUS (NRCC)
   Seminary Hills, Nagpur 440006, Maharashtra, India Tel : (0712) 334186
   Telex: 0715-548 INRCC IN
   Cable: CITRUSEARCH, NAGPUR
3. Institution under the ICAR
4. Director - Dr H.C. Das
5.
6.
7. Books
                           84
   Current Periodicals
                          33
8. Annual Report
9. Scientists
               13
   Technicians
10. Rs 7.67 million
1. NATIONAL RESEARCH CENTRE FOR SPICES (NRCS)
   Post Box 1701, Marikunnu, Calicut 12, Kerala, India
       : (0495) 50294/ 52410
   Telex: 0804-250 NRCS IN
   Cable : RESEARCH, CALICUT
   Fax : 91 -495 -50294
2. 1975
3. Institution under the ICAR
4. Director - Dr A. Ramadasan
5. Genetics and Plant Breeding
   Horticulture
   Agronomy
   Soil Science
   Plant Pathology
   Entomology
   Nemotology
   Plant Physiology
   Biochemistry
   Agricultural Statistics
   Extension
6. None
                            2725
7. Books
   Current Periodicals
                             126
8. Annual Report
9. Scientists
                 41
   Technicians
10. Rs 8.40 million
1. PROJECT DIRECTORATE OF VEGETABLE RESEARCH (PDVR)
   Varanasi 221001, Uttar Pradesh, India
   Tel
       : (0542) 313904
         : 91 - 542 - 313904
   Fax
2. 1971
3.Institution under the ICAR
4. Director - Dr G. Kalloo
5.
6. None
8. Technical Bulletin
   Annual Report
```

480

7. Books

- 9. Scientists 19 Technicians 8
- 10. Rs 3 million

## 1. CENTRAL AGRICULTURAL RESEARCH INSTITUTE (CARI)

Port Blair 744101, Andaman and Nicobar Islands, India

Tel : (03192) 21276/ 85236/ 85234

Telex: 0695-211 CARI IN

Cable : KRISHIKENDRA, PORT BLAIR

Fax : 91 - 3192 - 21281

- 2. 1978
- 3. Institute under the ICAR
- 4. Director Dr A.K. Bandopadhyay
- 5. Crop Improvement

Agronomy

Soils and Agro Forestry

Plant Pathology and Entomology

Agricultural Engineering and Post Harvest Technology

Horticulture and Plantation Crops

Animal Science

Fishery Science

Agricultural Extension

Economicsand Sociology

- 6. None
- 7. Books 2777 Current Periodicals 210
- 8. Annual Report

Research Highlight

- 9. Scientists 60
  - Technicians 47
- 10. Rs 18.71 million

## 1. CENTRAL ARID ZONE RESEARCH INSTITUTE (CAZRI)

Light Industrial Area, Jodhpur, Rajasthan, India

Tel : (0291) 40584

Telex: 0552-218 CAZRI IN

Cable : SHUSKHETRA, JODHPUR

- 2. 1959
- 3. Institute under the ICAR
- 4. Director Dr J. Venkateswarlu
- 5. Resource Surveyand Monitoring

Resource Management

Arable Cropping Systems

Perennial Cropping Systems

Animal Sciences and Rodent Control

Energy Management

Engineering and Product Processing

Social and Information Science

Outreach Programme/Transfer of Technology

- 6. None
- 7. Books 15639

Current Periodicals 250

- 8. Annual Report
- 9. Scientists 191

Technicians 283

10. Rs 40 million

# 1. CENTRAL RESEARCH INSTITUTE FOR DRYLAND AGRICULTURE (CRIDA)

Santoshnagar, Saidabad, P.O. Hyderabad 500659

Andhra Pradesh, India Tel: (040) 239177

Telex: 0425-6252 DARP IN Cable: DRYLAND, HYDERABAD

2. 1985

- 3. Institute under the ICAR
- 4. Director Dr J.C.Katyal
- 5. Crop Sciences

Resource Management

Design and Analysis

Transfer of Technology

Coordinating unit for AICRP on Dryland Agriculture and

AICRP on Agro-Meteorology.

- 6. None
- 7. Books 4420

Current periodicals 58

- 8. Annual Report
- 9. Scientists 62

Technicians 108

10. Rs 14.37 million

#### CENTRAL SOIL AND WATER CONSERVATION RESEARCH AND TRAINING INSTITUTE (CSWCRTI)

218, Kaulagarh Road, Dehra Dun , Uttar Pradesh, India

Tel : 0135-24213/ 23385/ Telex : 0585-237 SCRI IN Cable : SOILCONS, DEHRA DUN

- 2. 1954
- 3. Institute under the ICAR
- 4. Director Dr M.S.Rama Mohan Rao
- 5. Land and Water

Plant Science

Hydrology and Engineering Rainfed Agriculture and Water Management

Economics and Statistics

Extension and ORP

Training

6.

7. Books 5960

Current Periodicals 160

8. Newsletter

Research Highlights

Annual Report

Technical Bulletin

9. Scientists 149

Technicians 247

10. Rs 31.01 million

## 1. CENTRAL SOIL SALINITY RESEARCH INSTITUTE (CSSRI)

Karnal 132001, Haryana, India

Tel : (0184) 20801/ 25910/ 23218

Telex: 0396-218 SSRI IN Cable: SALINITY, KARNAL

- 2. 1069
- 3. Institute under the ICAR
- 4. Director Dr R.N. Tyagi
- 5. Soils and Agronomy

Genetics and Plant Physiology

Agricultural Engineering

Agricultural Economics

Agricultural Extension

- 6. None
- 7. Books 11869

Current Periodicals 205

8. Technical Bulletins

Extension Publications

Annual Report

9. Scientists 91

Technicians 107

10. Rs 17.75 million

# 1. PROJECT DIRECTORATE FOR CROPPING SYSTEMS RESEARCH (DCSR)

Modipuram, Meerut 250110, Uttar Pradesh, India

Tel : (0121) 75718/ 74905 Telex: 0594-258 DCSR IN Cable : AGRISYSTEM, MEERUT

2. 1989

3. Institution under the ICAR

4. Director - Dr S.K. Sharma (officiating)

5. System Diagnosis Design and Evaluation System Management Network and Training

6. None

7. Books 3000 Current periodicals

8. Farming Systems Newsletter

9. Scientists 17 Technicians 22

10. Annual Budget. Rs 45 million

# ICAR RESEARCH COMPLEX FOR GOA (ICARRCG)

Velha, Old Goa 403402, Goa, India

Tel : (0832) 81, Corlim Exchange, Goa, India

Telex: 0194-329 CASE IN

Cable : RESEARCH, VELHA OLD GOA

Fax: 91-832-86249

2. 1982

3. Institution under the ICAR

4. Director - Dr D.G. Dhandar

5. Crop Sciences Horticulture Animal Sciences Fishery Science Farm Science Centre

6. None

7. Books 667 Current periodicals 51

8. Annual Report

9. Scientists Technicians 25

10. Rs 6.9 million

# 1. ICAR RESEARCH COMPLEX FOR NEH REAGION (ICARNEHR)

Umroi Road, Barapani 793103, Meghalaya, India Tel : (0364) 73302/ 73257 Telex: 0237-214 NERC IN Cable : AGRICOMPLEX, BARAPANI

2. 1975

3. Institution under the ICAR

4. Director Dr R.N. Prasad

5. Plant Breeding Horticulture Agronomy Water Management Soil Science Entomology Plant Pathology Agricultural Engineering Agricultural Extension Agroforestry Agricultural Economics Animal Production Animal Nutrition

Animal Health Veterinary Parasitology Fisheries.

6. None

7. Books 8500 Current Periodicals 250

8. Newsletter

Annual Report

9. Scientists 251 Technicians 326

10. Rs 44.08 million

#### 1. INDIAN GRASSLAND AND FODDER RESEARCH INSTITUTE (IGFRI)

Jhansi 284003, Uttar Pradesh, India

Tel : (0571) 833

Telex: 0326-241 GFIR IN

Cable: GHASANUSANDHAN, JHANSI

Fax: 91-517-440833

2. 1962

3. Institute under the ICAR

4. Director - Dr R.P. Singh (officiating)

5. Plant Improvement

Agronomy

Plant Physiology and Biochemistry

Plant Protection

Soil Science

Plant Animal Relationship

Grass and Management

Agro Silvipasture

Seed Technology

Agricultural Engineering

Rural Economics and Biometrics

Extension and Training

6. None

7. Books 6210

Current Periodicals 200

8. Annual Report

9. Scientists 96

Technicians 136

10. Rs 19.27 million

#### 1. INDIAN INSTITUTE OF SOIL SCIENCE (IISS)

Z-6, Zone 1, Maharana Pratap Nagar, Bhopal 462011, India

Tel : (0755) 553787/ 553770/ 553546

Cable: SOILINST, BHOPAL Fax: 91 - 755 - 553546

2. 1988

3. Institute under the ICAR

4. Director - Dr P.N. Takkar

5. Soil Physics

Soil Microbiology

Soil Chemistry

Coordinating unit for AICRP on Micronutrients

6. None

7. Books 513 Current Periodicals 30

8. Annual Report

9. Scientists 29 Technicians 21

10. Rs 16.5 million

# 1. NATIONAL BUREAU OF SOIL SURVEY AND LAND USE PLANNING (NBSSLUP)

Amravati Road, Nagpur 440010, Maharashtra, India

Tel: (0712) 532386

Telex: 0715-262 NBSL IN Cable : SOILANDBRU, NAGPUR

: 91 - 712 - 532386 (international)

0712 - 532386 (India)

- 2. 1976
- 3. Institution under the ICAR
- 4. Director Dr J.L. Sehgal
- 5. Pedology

Coorelation and Classification

Cartography

Land Use Planning

RS & API

- 6. None
- 7. Books

3820

Current Periodicals

8. Soil Survey Newsletter

Annual Report

9. Scientists 106

Technicians 205

- 10. Rs 26.22 million
- 1. NATIONAL RESEARCH CENTRE FOR AGROFORESTRY (NRCA)

Near Pahuj Dam, Jhansi-Gwalior Road, Jhansi 284003, Uttar Pradesh, India

: (0517) 442364/ 442366

Cable : KRISHIVANIKI, JHANSI

- 2. 1988
- 3. Institution under the ICAR
- 4. Director Dr R. Debroy
- 5. Agronomy

Soil Science

Silviculture

Tree Improvement

Physiology

Microbiology

Horticulture

Statistics

Extension

- 6. None
- 7. Books 200

Current Periodicals 21

- 8. Agroforestry Newsletter Annual Progress Report
- 9. Scientists

Technicians 13

- 10. Rs 3 million
- 1. CENTRAL INSTITUTE OF AGRICULTURAL ENGINEERING (CIAE)

Nabibag, Berasia Road, Bhopal 462018, India

: (0755) 74016 / 530980 - 87

Telex: 0705-273 CIAE IN Cable : KRIYANTRA, BHOPAL

- 2. 1976
- 3. Institute under the ICAR
- 4. Director Dr R.S.Devnani
- 5. Crop Production Engineering Post Harvest Engineering

Agricultural Energy and Power

Agro-Industrial Extension

Instrumentation and Data Processing

- 6. Provides thesis research facilities to students registered for M.Sc and Ph.D degrees in other universities.
- 7. Books 8385 Current Periodicals 205

8. CIAE Newsletter

Annual Report

9. Scientists 99 Technicians 223

11. Rs 26 million

1. CENTRAL INSTITUTE FOR RESEARCH ON COTTON TECHNOLOGY (CIRCT)

Adenwala Road, Post Bag 16640, Matunga, Bombay 400019, India

Tel : (022) 4121002 / 4127273-76

Telex: 011-71594 CTRL IN Cable: TECHSEARCH, BOMBAY Fax: 91 - 22 - 5144778

2. 1924

3. Institute under the ICAR

4. Director - Dr N.B.Patil

Quality Evaluation(including regional units) Mechanical Processing (including Ginning)

Physics Chemistry

Microbiology and Biochemistry

Statistics

6. Provides thesis research facilties for M.Sc and Ph.D students registered in other universities.

7. Books 4034

Current Periodicals 200

8. CTRL Research Publications

Annual Report

9. Scientists 53

Technicians 107

10. Rs 13.25 million

1. INDIAN LAC RESEARCH INSTITUTE (ILRI)

Namkum, Ranchi 834010, Bihar, India

Tel : (0651) 301096/ 22715/ 28543/ 25547

Cable : LACCUM, RANCHI

2. 1925

3. Institute under the ICAR

4. Director - Dr Sharvan Kumar

5. Plant Sciences

Entomology Chemistry

Technology

Extension

6. None

7. Books 26429 Current Periodicals 119

8. Annual Report

9. Scientists 61

Technicians 86

10. Rs 17.50 million

1. JUTE TECHNOLOGICAL RESEARCH LABORATORIES (JTRL)

12 Regent Park, Calcutta 700040, India

Tel : (033) 722583/ 725432/ 723192-95-97

Telex: 021-4182 JTRL IN Cable: JUTLAB, CALCUTTA Fax: 91-33-3722583

2. 1939

3. Institution under the ICAR

4. Director - Dr S.N. Pandey

5. Textile and Non-Woven Technology

Physics and Testing

Chemical Technology and D.D.M Chemistry and Microbiology

```
Technical Information Cell
6.
7. Books
                                24150
   Current Periodicals
                                  133
8. Newsletter
   Brochure
   Annual Report
9. Scientists
                   60
   Technicians
                   66
10. Rs 9.73 million
1. WATER TECHNOLOGY CENTRE FOR EASTERN REGION (WTCER)
   N-2/94, Nayapalli, Bhubaneswar 751012, Orissa, India
   Tel
        : (0674) 55360
   Cable: WATERTECH, BHUBANESWAR
2. 1988
3. Institution under the ICAR
4. Director - Dr S.R. Singh
5. Cropping Systems and Water use
   Soil, Waterand Plant Relationship
   Drainage
   Transfer of Technology and Training
6. None
7. Books
                            224
   Current Periodicals
                              1
8. Annual Report
9. Scientists
   Technicians
                     15
10. Rs 1.5 million
1. CENTRAL INSTITUTE FOR RESEARCH ON BUFFALOES (CIRB)
   Sirsa Road, Hisar, Haryana, India
        : (01662) 62513/ 63170
   Telex: 0345- 204 CIRB IN
   Cable : BUBALINEX, HISAR
2. 1985
3. Institute under the ICAR
4. Director - Dr V.N.Tripathi
5. Buffalo Genetics and Breeding
   Buffalo Nutrition
  Buffalo Physiology
6. None
7. Books
                             500
   Current Periodicals
                              10
8. Annual Report
9. Scientists
                     21
   Technicians
                     4 ∩
10. Rs 12.5 million
1. CENTRAL INSTITUTE FOR RESEARCH ON GOATS (CIRG)
   Makhdoom, P.O. Farah 281122, Mathura, Uttar Pradesh, India
   Tel : (0565) 404810
  Telex: 0565-396 CIRG IN
  Cable : VETEX, FARAH
2. 1979
3. Institute under the ICAR
4. Director Dr N.K.Bhattacharya
5. Goat Genetics and Breeding
  Goat Reproduction and Physiology
   Goat Nutrition and Feed Resource Development
  Environmental Physiology and Shelter Management
  Goat Health
  Goat Products Technology
  Goat Production Technology Transfer
  Goat Statistics and Economics
```

Education and Training Central Services

6. None

7. Books 2000 Current Periodicals 200

8. Newsletter Bulletin

Annual Report

9. Scientists 51 Technicians 72

10. Rs 14.60 million

#### 1. CENTRAL SHEEP AND WOOL RESEARCH INSTITUTE (CSWRI)

Avikanagar, 13 Malpura, Rajasthan, India

Tel : ( ) 212 Telex : 0365-2315 CSWR IN Cable : SHEEPINST, MALPURA

2. 1962

3. Institute under the ICAR

- 4. Director Dr B.C. Patnayak
- 5. Animal Genetics and Breeding

Nutrition

Physiology

Animal Health

Textile Manufacture and Textile Chemistry

Fibre Physics

Meat Science

Grassland and Fodder Economy

Statistics, Economy and Marketing

Biochemistry

Extension

Post Graduate Studies

- 6. M.Sc. and Ph.D in Animal Genetics, Breeding, Nutrition and Physiology in collaboration with State Agricultural Universities.
- 7. Books 15618 Current Periodicals 274

8. Sheep Bulletin

Research Programme

Research Highlight

Annual Report

9. Scientists 118

Technicians 145

10. Rs 26.68 million

#### 1. NATIONAL BUREAU OF ANIMAL GENETIC RESOURCES

NDRI Campus, Karnal, Haryana, India

Tel : (0184) 23918
Telex : 0396-219 NDRI
Cable : GENETICS, KARNAL

- 2. 1984
- 3. Institution under the ICAR
- 4. Director Dr Rajendra Sahai
- 5. National Bureau of Animal Genetic Resources

Livestock Information Management

Animal Genetic Resources and Conservation

Animal Cytogenetics

Immunogenetic Biochemical Polymorphism

Molecular Genetics

Basic Genetics

- 6. None
- 7. Books 512

Current Periodicals 25

8. Information Bulletin

Annual Report.

- 9. Scientists Technicians
- 10. Rs 7.29 million

#### 1. NATIONAL RESEARCH CENTRE ON CAMEL (NRCC)

P.O Box No. 07, Jorbeer, Bikaner, Rajasthan, India

Tel : (0151) 25683

Telex: 03505-221 NRCC IN Cable: CAMCENTRE, BIKANER

- 2. 1984
- 3. Institution under the ICAR
- 4. Director Dr N.D. Khanna
- 5. Research

Camel Health

Agricultural Farm

- 6. None
- 7. Books 367 Current periodicals 15
- 8. Annual Report
- 9. Scientists

Technicians 10

10. Rs 5 million

## 1. NATIONAL RESEARCH CENTRE ON EQUINES (NRCE)

Sirsa Road, Hisar, Haryana, India

Tel : (01662) 72787/ 75817 Telex : 0345-221 NRCE IN

Cable : EQUINE, HISSAR

- 2. 1985
- 3. Institution under the ICAR  $\,$
- 4. Director Dr P.K. Uppal
- 5. Equine Infectious Disease

Equine Clinical

Equine Production

Equine Reproduction

- 6. None
- 7. Books

Current Periodicals 3

8. Scientific Bulletin on Equines

Annual Report

10 9. Scientists

Technicians

10. Rs 6 million

## 1. NATIONAL RESEARCH CENTRE ON MITHUN (NRCM)

40

Cedar Lodge, Jowai Road,

Dhankheti, Shillong 797106, India

: (0364) 22433/ 22434 Tel

Telex: 0237-214

Cable : AGRICOMPLEX, SHILLONG

- 2. 1988
- 3. Institution under the ICAR
- 4. Director Dr N.D. Verma
- 5. Animal Genetics and Breeding

Animal Physiology Animal Health

6. None

- 7.
- 8. Annual Report
- 9. Scientists 6
  - Technicians
- 10. Rs 5 million

```
1. NATIONAL RESEARCH CENTRE ON YAK (NRCY)
   Dirang 790101, West Kameng, Arunachal Pradesh, India
                ) 259
   Tel : (
   Cable : YAKSEARCH, DIRANG
2. 1989
3. Institution under the ICAR
4. Director - Dr R.N. Pal
6.
7.
8. Annual Report
9. Scientists
   Technicians
                   5
10. Rs 100 million (Plan outlay) 1990-95
1. PROJECT DIRECTORATE ON CATTLE (PDC)
   C-123, Shastri Nagar, Meerut 250005
   Uttar Pradesh, India
   Tel: (0121) 74168
   Cable: CATTLESEARCH, MEERUT
2. 1986
3. Institution under the ICAR
4. Director - Dr S.C. Chopra
5. Frieswal Project
   Indigenous Breeds Project
   Field Progeny Project
   Nutrition and Physiology
   Computer Centre/Data Repository
6. None
7. Books
   Current Periodicals
8. Ongole Cattle in India
   Technical Bulletin
  Annual Report
9. Scientists
  Technicians 73
10. Rs 20 Million
1. PROJECT DIRECTORATE ON POULTRY (PDP)
   Rajendranagar, Hyderabad 500030,
  AndhraPradesh, India
Tel : (042) 245650/ 245651
   Telex: 0425-6104 PDP IN
   Cable: POULTEX, HYDERABAD
2. 1988
3. Institution under the ICAR
4. Director - Dr S.C. Mohapatra
5. Poultry Genetics and Breeding
  Poultry Nutrition and Feed Technology
   Poultry Housing and Management
   Poultry Health
6. None
7.
8. Annual Report
9. Scientists 11
   Technicians 11
10. Rs 6.00 million (Non-plan)
1. CENTRAL INLAND CAPTURE FISHERIES RESEARCH INSTITUTE (CICFRI)
   Barrackpore 743101, West Bengal, India
  Tel : (033) 561190/ 561191
  Telex: 021-8552 CIFI IN
  Cable: FISHSEARCH, BARRACKPORE
```

2. 1947

- 3. Institute under the ICAR
- 4. Director Dr Y. Rama Rao
- 5. Reservoir Fisheries
  Wetland Fisheries
  Riverine Fisheries
  Environmental Monitoring
  Estuaring Fisheries
  Hilsa Fisheries
  Resource Assessment
  Training and Extension
- 6. None
- 7. Books 6121

Current Periodicals 250

8. Indian Fisheries Abstract CICFRI Newsletter Research Project Programme Activity Milestone Annual Report

- 9. Scientists 101 Technicians 87
- 10. Rs 29.60 million
- 1. CENTRAL INSTITUTE OF BRACKISHWATER AQUACULTURE (CIBA)

12 Leith Castle Street, Santhome, Madras 600028, India

Tel : (044) 74633/ 72893 Telex : 041-6054 CIBA IN Cable : MONODON, MADRAS

- 2. 1987
- 3. Institute under the ICAR
- 4. Director Dr K. Alagarswami
- 5. Crustacean Culture
  Fin-fish Culture
  Resources and Technology Improvement
  Fish Farm Survey and Engineering Research
  Training
  Extension and Information
- 6. None
- 7. Books 458 Current Periodicals 51
- 8. Special Publication Technical Bulletin

Newsletter

Annual Report

9. Scientists 67

Technicians 31

10. Rs 12.00 million

1. CENTRAL INSTITUTE OF FISHERIES TECHNOLOGY (CIFT)

W/Island, Matsyapuri, Cochin 682029, Kerala, India

Tel : (0484) 666845 Telex : 0885-6440 CIFT IN

Cable: MATSYAOUDYOGIKI/ FISHTECH, COCHIN

- 2. 1957
- 3. Institute under the ICAR
- 4. Director Dr Gopi Kumar K. Panicker
- 5. Fishing Technology Fish Processing Biochemistry, Nutrition and Microbiology Engineering and Instrumentation Extension
  - Information and Statistics
- 6. Provides thesis research facilities for M.Sc. and Ph.D degree students registered in other universities
- 7. Books 6842

- 8. Fish Technology Newsletter Annual Report
- 9. Scientists 114

Technicians 149

10. Rs 31.8 Million

1. CENTRAL INSTITUTE OF FRESHWATER AQUACULTURE (CIFA)

88

Kausalyaganga, Bhubaneswar 751002, India

Tel : (0674) 57263/ 57811
Telex : 0674-6443 CIFA IN
Cable : AQUACULT, BHUBANESWAR

Fax : 91 - 674 - 57263

- 2. Year of Establishment: 1985
- 3. Status : Institute under the ICAR
- 4. Head : Director Dr S.D. Tripathi
- 5. Principal Units: Divisions 9
- 6. Degrees Offered : M.Sc. and Ph.D degrees in association

with the Orissa University of Agriculture

and Technology (OUAT)

732

7. Library: Books

Current Periodicals 38

8. Publications : Journal Of Aquaculture

Annual Report

9. Manpower: Scientists 79

Technicians 54

10. Budget: Rs 8.29 million

1. CENTRAL MARINE FISHERIES RESEARCH INSTITUTE (CMFRI)

Post Box No. 2704, Dr Salim Ali Road, Ernakulum

Cochin 682031, Kerala, India

Tel : (0484) 367459/ 351867/ 369867

Telex: 0885-6435 MFRI IN Cable: CADALMIN, ERNAKULAM

- 2. Year of Establishment: 1947
- 3. Status : Institute under the ICAR
- 4. Head : Director Dr P.S.B.R. James

5. Principal Units: Fisheries Resources Assessment

Pelagic Fisheries Demersal Fisheries Crustacean Fisheries Molluscan Fisheries

Fishery Environment Management Fishery, Economics and Extension Physiology, Nutrition and Pathology

6. Degrees Offered: M.Sc.and Ph.D. degrees in association with

the Central Institute of Fisheries

Education (CIFE)

7. Library: Books 23,000

Current Periodicals 35

8. Publications: Indian Journal of Fisheries

Bulletin of CMFRI CMFRI Newsletter

Marine Fisheries Information Service

9. Manpower: Scientists 200 Technicians 445

10. Budget: Rs 51.55 million

1. NATIONAL BUREAU OF FISH GENETIC RESOURCES (NBFGR)

2, Begambari Housing Scheme, Shivanagar, Allahpur

Allahabad 211006, Uttar Pradesh, India

Tel : (0532) 605359/ 605626

Telex: 0540-228 BEGR IN

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2. 1983
3. Institution under the ICAR
4. Director - Dr P. Das
5. Fish Cytogenetics
   Fish Biochemical Genetics
   Fish Biology
   Conservation and Management
6. None
7. Books
   Current Periodicals
                        113
8. Annual Report
9. Scientists
   Technicians
                  18
10. Rs 9.90 million
1. NATIONAL RESEARCH CENTRE ON COLDWATER FISHERIES (NRCCF)
   Post Box No. 28, Roopnagar, Haldwani 263139, India
         : (05946) 20445
   Cable : MAHSEER, HALDWANI
2. 1987
3. Institution under the ICAR
4. Director - Dr K.L. Sehgal
5.
6.
7. Books
                        217
   Current Periodicals
                       266
8. Annual Report
9. Scientists
   Technicians
10. Rs 3.36 million
1. INDIAN AGRICULTURAL STATISTICS RESEARCH INSTITUTE (IASRI)
   Library Avenue, New Delhi 110012, India
       : (011) 5787121
   Cable : AGRIRESTA, NEW DELHI
2. Year of Establishment: 1959
3. Status : Institute under the ICAR
4. Head : Director - Dr R.K. Pandey
5. Principal Units : Divisions -6
6. Degrees Offered: M.Sc. (Agricultural Statistics)
                     M.Sc. (Computer Applications)
                     Ph.D. (Agricultural Statistics)
7. Library : Books
                                  18540
             Current Periodicals
8. Publications : Newsletter
                  Annual Report
9. Manpower: Scientists 133
              Technicians 234
10. Budget : Rs 33.7 million
1. NATIONAL ACADEMY OF AGRICULTURAL RESEARCH MANAGEMENT (NAARM)
  Rajendranagar, Hyderabad 500030, Andhra Pradesh, India
        : (040) 245394/ 245395
  Telex: 0425-6651 STAG IN
  Cable: STAFFAGRI, HYDERABAD
2. 1976
3. Institution under the ICAR
4. Director - Dr C.Prasad
5. Agricultural Research Systems and Policies
  Educational Systems and Technologies
  Transfer of Technology Systems
  Project Management and Policies
  Human Resources Development
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Cable: FISHBUREAU, ALLAHABAD

Information and Documentation

6. None

7. Books 20000 Current Periodicals 400

8. NAARM News

ARMA (Agricultural Research Management Abstracts)

NAARM Alumni News Green and Glory

Annual Report

9. Scientists 43

Technicians 43

10. Rs 13.97 million

#### 1. CENTRAL SERICULTURAL RESEARCH AND TRAINING CENTRE (CSRTC)

Berhampore 742101, Murshidabad, West Bengal, India

Tel : (03482) 20046/ 21233/ 21085

Telex:
Cable:
2. 1983

3. Institution under the ICAR

4. Director -

5. Moriculture

Mulberry Breeding

Genetics and Tissue Culture

Agronomy

Mulberry Physiology

Soil Science and Chemistry

Mulberry Pathology

Division of Sericulture

Silkworm Breeding and Genetics

Silkworm Physiology and Rearing Technology

Entomology

Silkworm Pathology

Reeling, Spinning and Fibre Technology

Statistics and Computer Cell

Technical Cell

Training;

Extension

Art and Photography

Museum

Administration and Accounts

6. None

7. Books 4760

Current Periodicals 86

8. Annual Research and Administrative Report

News and Views

Annual Report

9. Scientists 85

Technicians 81

10. Rs 21.6 million (1990-91)

Rs 60.7 million (1991-92)

Rs 46.8 million (1992-93)

#### 1. RUBBER RESEARCH INSTITUTE OF INDIA (RRII)

Rubber Board, Kottayam 686009, Kerala, India

Tel : (0481) 8311 [6 lines]

Telex: 888-285

Cable :

Fax : 0481 - 8317

2. 1955

 Institute under the Rubber Board, Ministry of Commerce, Government of India

4. Director of Research

5. Agricultural Economics

Agronomy Biotechnology Botany Germplasm Mycology/Plant Pathology Plant Physiology/Exploitation Rubber Chemistry Physics Technology and Traing 6. Associates with Kerala Agricultural University, Kerala University, M.G.University and Cochin University of S & T for conducting diploma/certificate courses and courses leading to M.Sc., M.Tech., Ph.D. etc 20463 483

7. Books Current Periodicals Microforms 650

- 8. Indian Journal of Natural Rubber Research
- 9. Scientists 133 Technicians 147
- 10. Rs 291.2 million (1990-91)
- 1. INDIAN COUNCIL OF FORESTRY RESEARCH AND EDUCATION (ICFRE)

Dehra Dun 248006, India

:(0135) 27021-28/ 23225-23228 Tel Telex: 585-258 FRIC-IN

: 91-0135-28381/ 91-0135-26865 Fax

2. 1987

- Ministry of An autonomous society under the Environment Forests, (MOEF), Government of India. The Minister of Environment and Forests is the ex-officio Prseident of the society. A 21 member Board Of Governors is responsible for direction and control of the affairs of the society. There are 8 research institutes and oneadvanced centre under the Council.
- 4. Director General Dr D.N. Tewari
- 5. Administration

Research

Extension

- 6. Degrees offered by ICFRE's constituent institutes
- 8. Brochures on various forest species Books

Annual Report

9. 10.

1. FOREST RESEARCH INSTITUTE (FRI)

Dehra Dun 248006, India Tel : (0135) 25277

Telex: Fax

- 2. Year of Establishment: 1906
- 3. Status : Semi-autonomous institute under the ICFRE
- 4. Head : Director Dr N.K. Joshi
- 5. Principal Units : Divisions;

Silviculture

Resource Survey and Management

Social Forestry

Non-wood Forest Products

Chemistry

Forest Soil and Land Reclamation Forest Ecology and Environment Genetics and Tree Propagation

Forest Pathology Forest Entomology Botany

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Cellulose and Paper
6. Degrees Offered: Ph.D. and Post Graduate diplomas in Pulp and
                     Paper Technology, Wood Technology and
                     Plantation Technology
7. Library:
8. Publications:
9. Manpower:
10. Budget:
1. INSTITUTE OF FOREST GENETICS AND BREEDING (IFGB)
   Coimbatore 641002, India
   Tel : (0422) 441540/ 442541/ 441942
   Telex:
  Cable:
        : 0422-440549
  Fax
2. 1988; was initially setup as a regional research centre of the
   erstwhile FRI and Colleges, Dehradun
3. Institute under the ICFRE
4. Director - Dr K.N. Subramaniam
6.
7.
8.
9.
10.
1. INSTITUTE OF WOOD SCIENCE AND TECHNOLOGY (IWST)
   Bangalore 560002, India
       : (080) 3341731/ 3346811/ 3345965
   Tel
   Telex :
   Cable :
   Fax : 080-3340529
2. 1988; was initially established in 1938 as a forest
   research laboratory by the erstwhile state of Mysore;
   was taken over by the Government of India in 1956 and
  made a regional reseach centre of the erstwhile FRI and
   Colleges, Dehra Dun
3. Institute under the ICFRE
4. Director - Dr V.V. Srinivasan
5.
6. None
7.
8.
9.
10.

    TROPICAL FOREST RESERACH INSTITUTE (TFRI)

   Jabalpur 482021, India
   Tel : (0761) 322585/ 321759
   Telex:
   Cable:
        : 0761-322585
2. 1988; was initially established in 1973 as a regional
   research centre of the erstwhile FRI and Colleges, Dehra Dun
3. Institute under the ICFRE
4. Director - R.N.Gupta
5.
6. None
7.
8.
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Forest Products

9. 10.

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1. ARID FOREST RESEARCH INSTITUTE (AFRI)
   Jodhpur 342008, India
        : (0291) 26034/ 28640/ 26475
   Tel
   Telex:
   Cable :
   Fax
2. 1988
3. Institute under the ICFRE
4. Director - R.N. Mishra
5.
6. None
7.
8.
9.
10.
1. INSTITUTE OF RAIN AND MOIST DECIDOUS FOREST RESEARCH (IRMDFR)
   Jorhat 785001, India
        : (0376) 322052/ 322054/ 322056
   Telex :
   Cable :
   Fax
2. 1988; the erstwhile research centre of FRI and Colleges
   at Burnihat (Assam) has been merged with this institute
3. Institute under the ICFRE
4. Director - N.K. Joshi
5.
6. None
7.
8.
9.
10.
1. TEMEPERATE FORSET RESEARCH INSTITUTE (CRC)
   Shimla 171001, India
   Tel
       : (0177) 6086/ 72735/3107
   Telex:
   Cable :
   Fax : 0177-6086
2. 1988; was established in 1977 as a regional research centre
  of the erstwhile FRI and Colleges, Dehra Dun
3. Institute under the ICFRE
4. Director - D.V. Negi
5.
6. None
7.
8.
9.
10.
1. INSTITUTE OF FOREST PRODUCTIVITY (IFP)
   Ranchi 834001, India
   Tel : (0651) 304628
2. 1992; was initially established as Directorate of Lac
  Development; was renamed as ACEP (?) in 1987
3. Institute under the ICFRE
4. Director - B.P. Singh
5.
6. None
7.
8.
9.
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1. CENTRE FOR SOCIAL FORSETRY AND ECO-REHABILITATION (CSFER)
   Allahabad 211001, India
   Tel: (0532) 609037
2.
3. Institution under the ICFRE
4. Deputy Conservator Forests --- A.N. Tripathi
6. None
7.
8.
9.
10.
1. INDIRA GANDHI NATIONAL FOREST ACADEMY (IGNFA)
   Dehra Dun, India
   Tel
         : (0135) 24647
2. 1988
3. Institution under the Ministry of Environment and
            Forests, Government of India; primarily meant for
            in-service training of entrants to the Indian
            Forest Service.
4. Director - Dr P.N. Ray
5. Principal Units :
6. Degrees Offered: None
7. Library:
8. Publications :
9. Manpower:
10. Budget:
1. WILDLIFE INSTITUTE OF INDIA (WII)
   Chandrabani, Dehra Dun, India
       : (0135) 620912 - 620915
   Tel
   Fax
         : 0135-820217
3. Institute under the Ministry of Environment and Forests,
   Government of India
4. Director - Dr H.S. Panwar
5.
6. None
7.
8.
9.
10.
1. FOREST SURVEY OF INDIA (FSI)
   Dehra Dun, India
   Tel : (0135) 26139
2.
3. A unit of the Ministry of Environment and Forests,
   Government of India
4. Director - Jagir Singh
5.
6. None
7.
8.
9.
10.
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1. NATIONAL AFFORESTATION AND ECO-DEVELOPMENT BOARD (NAEB)
   New Delhi, India
   Tel
       : (011) 4361712
2.
3. Organisation under the Ministry of Environment and Forests,
   Government of India
4. Additional Secretary - B.P. Singh
6. None
7.
8.
9.
10.
FOREST COLLEGES IN STATES
1. State Forest Service College Dehra Dun,
   FRI Campus, Dehra Dun, India
       : (0135) 26168/ 26256
   Principal - R.K. Zutshi
2. State Forest Service College, Coimbatore, India
        : (0422) 32609
   Principal
3. Southern Forest Rangers College, Coimbatore, India
       : (0422) 22642
   Principal ·
4. Eastern Forest Rangers College, Kurseong, West Bengal, India
   Tel
       : -
   Principal -
5. Forest Rangers College, Balaghat, Madhya Pradesh, India
   Tel: 485
   Principal -
6. State Forest Service College, Burnihat, Assam, India
   Tel
   Principal -
1. Institution : CENTRAL AGRICULTURAL UNIVERSITY
                 Imphal, Manipur.
                 Tel
                 Telex:
                 Cable :
2. Year of Establishment: 1993
3. Status : Autonomous body under the ICAR
4. Head : Vice Chancellor - Dr M.P. Singh
5. Principal Units : College of Agriculture, Imphal, Manipur
                     College of Veterinary and Animal Husbandry
                     Mizoram.*
                     College of Fisheries, Tripura.*
                     College of Horticulture and Forestry,
                     Arunachal Pradesh.*
                     College of Agricultural Engineering and
                     Post Harvest Technology, Sikkim.*
                     College of Home Science, Meghalaya.*
                     Post Graduate College of Agriculture,
                     Barapani, Meghalaya. *
                     Agro-climatic Zones 6
                     Zonal and other Research Stations - 6
                     ( * being established)
6. Degrees Offered : B.Sc. (Ag)
                     M.Sc. (Ag)
7. Academic Session: July - June (2 Semesters)
8. Manpower:
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10. Publications:
11. Budget: Rs 410 million for the Eighth Five Year Plan
1. Institution : KERALA AGRICULTURAL UNIVERSITY (KAU)
                 Vellanikara 680654, Kerala, India
                      : (0487) 23034/ 23439
                 Tel
                 Telex:
                      : 91 - 487 - 21259,
                 Fax
                 Cable : AGRIVARSITY
2. Year of Establishment: 1972
3. Status : Autonomous body under the Government of Kerala
4. Head : Vice Chancellor - Dr A.M. Michael
5. Principal Units : College of Agriculture, Vellanikkara
                     College of Horticulture, Vellayani
                     College of Forestry, Vellanikkara
                     College of Co-operation and Banking,
                     Vellanikkara
                     College of Agricultral Engineering &
                     Technology, Tavanoor
College of Veterinary & Animal Sciences,
                     Mannuthy
                     Agro-climatic Zones - 5
                     Zonal and other Research Stations - 16
6. Degrees Offered: B.Sc.& M.Sc.in Agriculture; Co-operation and
                     Banking; Forestry; Fisheries; Veterinary
                     Science
                     Ph. D. in Veterinary Science; Agriculture
7. Academic Year : July - June (2 Semesters)
                                704 ( Ph.D.-602; M.Sc.-102 )
8. Manpower : Scientists
              Technicians
                               1574
                                    75012
9. Library: Books
             Current Periodicals
10. Publications : Kalpadhenu
                   Agriculture Research Journal of Kerala
                   Veterinary Research Journal
                   Newsletter
                   Anivet Abstract and Agres News
                   Technical Bulletin
                   Annual Report
11. Budget: Rs. 62 million.
1. Institution : ANDHRA PRADESH AGRICULTURAL UNIVERSITY (APAU)
                 Rajendranagar , Hyderabad 500030, India
                 Tel : (0842) 245011 / 245161
                 Telex: 0425 6936 APAU IN
                 Cable: AGRIVARSITY, HYDERABAD
Year of Establishment: 1964
3. Status : Autonomous body under the Government of Andhra Pradesh
4. Head : Dr M.V. Rao
5. Principal Units : College of Agriculture, Rajendranagar
                     College of Veterinary & A.H., Rajendranagar
                     College of Veterinary & A.H., Tirupati
                     College of Home Science, Hyderabad
                     College of Agriculture, Bapatla
                     College of Home Science, Bapatla
                     College of Agriculture, Tirpati
                     College of Agriculture, Aswaraopet
                     College of Agriculture, Naira
                     College of Agriculture, Nandyal
                     College of Fish Science, Epur
                     College of Agricultural Engineering, Bapatla
                     College of Dairy Technology, Tirupati
                     College of Horticulture, Rajendranagar
```

9. Library:

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Agro-climatic Zones - 7
                      Zonal and other Research Stations - 34
6. Degrees Offered: B.Sc.(Ag.); B.Sc.(Hort.); B.Sc.(Dairy Tech.);
                      B.Sc. (Home Sc.); B.Tech. (Aq. Engq.);
                      B.V.Sc. & A. H.
                     M.Sc. (Ag.); M.Sc. (H.Sc.); M.V.Sc.
                     Ph.D.
7. Academic Year: July - June (2 Semesters)
8. Manpower : Scientists
                                     1217
9. Library: Books
                                   176000
             CurrentPeriodicals
                                            520
             Microforms
                                            100
10. Publications : Journal of Research
                   APAU News
                   Annual Report
11. Rs. 344.01 million
1. Institution : ASAAM AGRICULTURAL UNIVERSITY (AAU)
                 Jorhat 785013, Assam, India
                 Telex : AGRIVERSITY
                 Cable:
2. Year of Establishment: 1969
3. Status : Autonomous body under the Government of Assam
4. Head : Vice Chancellor - Dr U.C. Upadhyay
5. Principal Units : College of Agriculture, Jorhat
                     College of Veterinary and A.H., Guwahati
                      College of Home Science, Jorhat
                     College of Veterinary and A.H, Lakhimpur
                     College of Fishery Science, Roha
                     B.N.College of Agriculture, Sontipur
                     Agro-climatic Zones - 6
                     Zonal and other Research Stations - 12
6. Degrees Offered : B.Sc.(Ag.); B.V.Sc. & A.H.
                     M.Sc. (Ag.); M.V.Sc.
                     Ph.D.
7. Academic Year : July - June (2 Semesters)
                                           575
8. Manpower : Scientists
9. Library : Books
                                        125000
             Current Periodicals
                                           703
10. Publications : AAU Newsletter
                   Journal of Research
                   Salient Research Findings (Annual)
                   Annual Report
11. Budget: Rs. 200 million
1. Institution : BIDHAN CHANDRA KRISHI VISWAVIDYALAYA (BCKV)
                 Mohanpur, Nadia 741252, West Bengal, India
                              ) 54 (via HNG)
                       : (
                 Cable : KRISHIBIDHAN, NADIA
2. Year of Establishment: 1974
3. Status : Autonomous body under Government of West Bengal 4. Head : Vice Chancellor - Dr R.K. Dasgupta
5. Pirncipal Units : College of Agriculture, Cooch Behar
                     College of Agriculture, Haringhatta
                     College of Dairy Science, Haringhatta
                     College of Veterinary Science, Haringhatta
                     Agro-climatic Zones - 6
                     Zonal and other Research Stations - 13
6. Degrees Offered: B.Sc. Ag. (Dairy Technology); B.V.Sc. & A.H.
                     M.Sc. (Ag.); M.V.Sc.
                     Ph.D. (Agriculture, Veterinary Science, and
                     Animal Science)
7. Academic Year : July - June (2 Semesters)
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8. Manpower : Scientists
                                            338
              Technicians
                                             73
9. Library: Books
                                          57898
             Current Periodicals
                                            267
10. Publications : Annual Report
11. Budget: Rs 205.42 million
1. Institution : BIRSA AGRICULTURAL UNIVERSITY (BAU)
                 Kanke, Ranchi 834006, Bihar, India
                 Tel
                     : (0651)
                                 22212
2. Year of Establishment: 1955
3. Status : Autonomous body under the Government of Bihar
4. Head: Vice Chancellor - Dr R. Karkatta
5. Principal Units: College of Agriculture, Ranchi
                     College of Forestry, Ranchi
                     College of Veterinary Science & Animal
                     Husbandry, Ranchi
                     Agro-climatic Zones - 3
                     Zonal and other Research Stations - 3
6. Degrees Offered: B.Sc. (Forestry); B.Sc. Aq.; B.V.Sc
                     M.Sc. Ag.; M.V.Sc.
                     Ph. D.
7. Academic Year : July - June (2 Semesters)
8. Manpower : Scientists
                                      244
              Technicians
                                       22
9. Library : Books
                                    40484
             Current Periodicals
                                      324
10. Publications : Journal of Veterinary Science and
                   Animal Husbandry
                   Annual Report
11. Budget: Rs 35.46 million
1. Institution: C.S.AZAD UNIVERSITY OF AGRICULTURE AND TECHNOLOGY (CSAUAT)
                 Nawabganj, Kanpur 208002, India
                     : (0512) 244466
                 Tel
2. Year of Establishment: 1975
3. Head : Vice Chancellor - Dr U.B. Singh
4. Status : Autonomous body under the Government
            of Uttar Pradesh
5. Principal Units : College of Agriculture, Kanpur
                     College of Veterinary Sciences, Mathura
                     College of Home Science, Kanpur
                     Agro-climatic Zones - 3
                     Zonal and other Research Stations - 10
6. Degrees Offered: B.Sc.(Ag.); B.Sc. (Home Science)
                     B.V.Sc. & A.H.
                     M.V.Sc.; M.S. (Ag.)
                     Ph.D.
7. Academic Year : July - June (2 Semesters)
8. Manpower : Scientists
                             310
9. Library : Books
                      55634
10. Publications : Annual Report
11. Budget: Rs. 66.8 million
1. Institution : GUJARAT AGRICULTURAL UNIVERSITY (GAU)
                 Sardar Krishinagar 385506 Gujarat, India
                 Tel
                 Telex:
                 Cable:
                 Fax
2. Year of Establishment: 1972
3. Status : Autonomous body under the Government of Gujarat
4. Head: Vice Chancellor - Dr V.M. Jhala
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5. Principal Units: College of Agriculture, Anand
                     College of Agriculture, Navsari
                     College of Agriculture, Junagadh
                     College of Agriculture, Dantiwada
                     College of Home Science, Dantiwada
                     College of Dairy Sciences, Anand
                     College of Agricultral Engineering, Junagadh
                     College of Veterinary and Animal
                     Husbandry, Anand
                     College of Forestry, Dantiwada
                     College of Veterinary and Animal
                     Husbandry, Dantiwada
                     Agro-climatic Zones - 8
                     Zonal and other Research Stations - 20
6. Degrees Offered: B.Sc.(Ag.); B.V.Sc.& A.H.; B.Sc.(HomeSc.)
                     B.Tech (Agri.Engg); B.Sc.(DT)
                     M.Sc.(Ag.); M.V.Sc.; M.Sc (Dairying)
                     Ph.D.
7. Academic Year : July - June (2 Semesters)
                               432
8. Manpower : Scientists
              Technicians
                                         15397
9. Library : Books
             Current Periodicals
                                           201
10. Publications : GAU Research Journal
                   Krushi - Go - Vidya (Gujarati)
                   Annual Report
11. Budget :
1. Institution: Dr YASHWANT SINGH PARMAR UNIVERSITY OF HORTICULTURE AND
                  FORESTRY (DYSPUHF)
                 Solan 173230, Himachal Pradesh, India
                       : (0179) 62, 19
                 Te1
                 Telex:
                 Cable : VANUDYAN
2. Year of Establishment: 1986
3. Status : Autonomous body under the Government of
           Himachal Pradesh
4. Head : Vice Chancellor - Dr B.R. Sharma
5. Principal Units : College of Horticulture, Solan
                     College of Forestry, Solan
                     Agro-climatic Zones - 4
                     Zonal and other Research Stations - 10
6. Degrees Offered: B.Sc. in Horticulture, Home Science
                     and Forestry
                     M.Sc. in Agriculture, Horticulture,
                     Home Science and Forestry
                     Ph.D. in Agriculture, Horticulture
                     and Forestry
7. Academic Year : July - June (2 Semesters)
8. Manpower : Scientists
                              201
              Technicians
                              181
                                        25420
9. Library : Books
             Current Periodicals
10. Publications : Audyaniki Evam Vaniki (Hindi)
                   UHF Reporter
                   Annual Report
11. Budget: Rs. 60.43 million
1. Institution : G.B.PANT UNIVERSITY OF AGRICULTURE AND TECHNOLOGY (GBPUAT)
                 Pantnagar 263145, Uttar Pradesh, India
                 Tel
                      : (
                 Telex: 574 261 PANT IN .
                 Cable :
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Fax

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2. Year of Establishment: 1960
3. Status: Autonomous body under the Government
             of Uttar Pradesh
4. Head : Vice Chancellor - Dr S.C. Mudgal
5. Principal Units : College of Agriculture, Pantnagar
                      College of Veterinary Science, Pantnagar
                      College of Home Science, Pantnagar
                      College of Agriculture Engineering, Pantnagar
                      College of Basic Sciences and Humanities,
                      Pantnagar
                      College of Technology, Pantnagar
                      College of Fisheries, Pantnagar
                      College of Hill Agriculture and Forestry,
                      Rani Chauri
                      Agro-climatic Zones - 4
                      Zonal Research stations - 7
6. Degrees Offered: B.Sc. Ag; B.V.Sc.; B.Tech.;
                      B.Sc. (Home Science);
                      B.Sc (Fishery); B.Sc (Forestry)
                      M.Sc. Ag; M.Sc. (Fisheries); M.V.Sc.;
                      M.Tech; M.Sc. (Home Science)
                      Ph.D. (In all faculties except Forestry)
7. Academic Year ; July - June (2 Semesters)
8. Manpower : Scientists
                              660
              Technicians
                              1905
9. Library : Books
                                       230898
             Current Periodicals
                                         1200
             Audiovisuals
                                          1427
             Microforms
                                          6080
10. Publications : Indian Farmers' Digest
                    Kisan Bharti (Hindi)
                    Pantnagar Journal of Research
                    Annual Report
     Budget: Rs. 238.03 million
11.
1. Institution: HARYANA AGRICULTURAL UNIVERSITY (HAU)
                 Hisar, Haryana, India
                  Tel : (01662)
                                   3640/ 2218/ 3721 (PBX)
                  Telex:
                  Cable : AGRIVARSITY, HISAR
                  Fax
2. Year of Establishment: 1970
3. Status: Autonomous body under the Government of Haryana
4. Head : Vice Chancellor - Dr S.D. Arya
5. Principal Units : College of Agriculture, Hisar
                      College of Home Science, Hisar
                      College of Agricultural Engineering, Hisar
                      College of Basic Sciences, Hisar
                      College of Veterinary and Animal Husbandry,
                     Hisar
                      College of Animal Science, Hisar
                     College of Agriculture, Kaul
                     College of Sports
                     Agro-climatic Zones - 2
                     Zonal and other Research Stations - 11
6. Degrees Offered: B.Sc.Ag; B.V.Sc; B.Sc. (Home Science)
                     B.Tech.(Agri.Engg); B.Sc. (Physical Education)
                     M.Sc; M.Sc. Ag; M.V.Sc.; M.Sc. (Animal Sciences);
                     M.Sc. (Home Science); M.Sc. (BasicScience);
                     M. Tech. (Agri. Engq)
                     Ph.D.
7. Academic Year: July - June (2 Semesters)
8. Manpower: Scientists 1347 [ B.Sc.-6; M.Sc.-434; Ph.D-907 ]
9. Library: Books
                                      147074
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Current periodicals
10. Publications : Haryana Kheti (Hindi)
                   Haryana Farming
                   HAU News
                   Journal of Research
                   Annual Report
11. Budget: Rs 206.00 million
1. Institution : HIMACHAL PRADESH KRISHI VISHVAVIDYALAYA (HPKV)
                 Palampur 176002, Himachal Pradesh, India .
                             ) 2621 , 2661
                      : (
                 Cable : HIMKRISHI
2. Year of Establishment: 1978
3. Status : Autonomous body under the Government of Himachal Pradesh
4. Head : Vice Chancellor - Dr R.P.S. Tyagi
5. Principal Units : College of Agriculture, Palampur
                     College of Home Science, Palampur
                     College of Basic Science, Palampur
                     College of Veterinary & Animal Sciences,
                     Palampur
                     Agro-climatic Zones - 4
                     Zonal and other Research Stations - 10
6. Degrees Offered: B.Sc.(Ag.); B.Sc.(Home Sc.); B.V.Sc.
                     M.Sc. (Ag.); M.Sc. (Home Sc.);
                     Ph.D
7. Academic Year : July - June (2 Semesters)
8. Manpower : Scientists
                            279 [ M.Sc.-49; Ph.D.- 230 ]
9. Library: Books
                                     28839
             Current Periodicals
                                      757
10. Publications : Parbatiya Khetibari
                   HPKV Newsletter
                   Himachal Journal of Agricultural Research
                   Agriculture Hand Book
                   Annual Report
11. Budget: Rs. 81.33 million
1. Institution: INDIRA GANDHI AGRICULTURAL UNIVERSITY (IGAU)
                 Labhandi, Krishaknagar, Raipur 492012
                 Madhya Pradesh, India
Tel : (0771) 28481/ 28308/ 28315/ 23923
2. Year of Establishment: 1987
3. Status : Autonomous body under the Government of
            Madhya Pradesh
4. Head: Vice Chancellor - Dr Kirti Singh
5. Principal Units : College of Agriculture, Raipur
                     College of Dairy Technology , Raipur
                     College of Veterinary Science & Animal
                     Husbandry, Anjora, Durg
                     Agro-climatic Zones - 3
                     Zonal and other Research Stations - 6
6. Degrees Offered: B.Sc.(Ag.); B.Tech.(Dairy Tech.);
                     B.V.Sc. & A.H.
                     M. Sc. (Ag.)
7. Academic Year : July - June (2 Semesters)
8. Manpower : Scientists
                                   210
              Technicians
                                    95
9. Library: Books
                                 29224
             Current Periodicals
10. Publications : IGKVV Research Journal
                   Annual Report
11. Budget: Rs. 107.50 million
1. Institution : JAWAHARLAL NEHRU KRISHI VISHWAVIDYALAYA (JNKV)
                 Krishinagar, Adhartal, Jabalpur 482004,
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Madhya Pradesh, India
                 Tel. : (0761) 23606/ 23771 - 3.
2. Year of Establishment: 1964
3. Status: Autonomous body under the Government of
            Madhya Pradesh
4. Head: Vice Chancellor - Dr K.S. Johan
5. Principal Units : College of Agriculture, Jabalpur
                     College of Agriculture, Indore
                     College of Agriculture, Sehore
                     College of Agriculture, Rewa
                     College of Agriculture, Gwalior
                     College of Agriculture, Khandwa
                     College of Agriculture, Mandsaur
                     College of Basic Science
                     College of Agricultral Engineering,
                     Jabalpur
                     College of Veterinary Science, Jabalpur
                     College of Veterinary Science, Mhow
                     Agro-climatic Zones - 9
                     Zonal and other Research Stations - 20
6. Degrees Offered:
7. Academic Year : July - June (2 Semesters)
8. Manpower : Scientists
                            975
              Technicians
                                   54083
9. Library : Books
             Current Periodicals
                                     100
10. Publications : Monthly Newsletter
                   Quarterly magazine
                   Krishi Vishwa
                   Annual Report
11. Budget : Rs.
                  189.87 million
1. Institution : KONKAN KRISHI VIDYAPEETH (KKV)
                 Dapoli 415712, Ratnagiri, Maharashtra, India.
                 Tel
                     : (02352) 26
                 Cable : KONKANAGRI, DAPOLI
2. Year of Establishment: 1972
3. Status : Autonomous body under the Government of Maharashtra
4. Head : Vice Chancellor - Dr S.V. Kadrekar
5. Principal Units : College of Agriculture , Dapoli
                     College of Fisheries, Ratnagiri
                     College of Horticulture, Dapoli
                     College of Forestry, Dapoli
                     College of Veterinary Science, Bombay
                     Agro-climatic Zones - 3
                     Zonal and other Research Stations- 10
                          : B.Sc.(Ag.);
6.
                Offered
     Degrees
                                             B.Sc.(Hort.);
                                                               B.Sc. (Forestry)
                     B.V.Sc. & A.H.; B.F.Sc.
                     M.Sc. (Ag.); M.Sc. (Fish.); M.V.Sc.
                     Ph.D.
7. Academic Year : July - June (2 Semesters)
8. Manpower : Scientists
                                       103
              Technicians
                                        46
                                    40000
9. Library : Books
             Current Periodicals
                                      156
10. Institution: Konkan Krishi Vidyapeeth Newsletter
                  The Journal of Maharashtra Agriculture
                  Universities
                  Annual Report
11. Budget : Rs
                  60.20 million
1. Institution : MAHATMA PHULE AGRICULTURAL UNIVERSITY (MPAU)
                 Rahuri 413722, Ahmednagar, Maharashtra, India.
                 Tel
                      : (241) 8
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Cable: KRISHIVID, RAHURI
2. Year of Establishment: 1968
3. Status : Autonomous body under the Government of Maharashtra
4. Head : Vice Chancellor - S.K. Dorge
5. Principal Units : College of Agriculture, Dhulia
                      College of Agriculture, Pune
College of Agriculture, Kolhapur
                      College of Horticulture, Pune
                      College of Agricultural Engineering, Rahuri
                      KMP College of Veterinary Science, Satara
                      Post Graduate Institute, Rahuri
                      Agro-climatic Zones - 4
                      Zonal and other Research Stations - 17
6. Degrees Offered: B.Sc.(Ag.); B.Sc.(Hort.); B.Tech.(A.E.)
                      B.V.Sc.
                      M.Sc. (Ag.); M.Tech. (A.E.)
                      Ph.D.
7. Academic Year: July - June (2 Semesters)
8. Manpower: Scientists 764 [ B.Sc.-10; M.Sc.-595; Ph.D.- 159 ]
                                    50387
9. Library : Books
             Current Periodicals
                                       350
10. Publications : CurrentResearch Reporter
                    Journal of Maharashtra Agricultural
                    Universities .
                    Annual Report
11. Rs 220.06 million
1. Institution : MARATHWADA AGRICULTURAL UNIVERSITY (MAU)
                  Parbhani 431401, Maharashtra, India
                  Tel
                        : (02452) PBX 301
                  Cable : UNIVERSITY
2. Year of Establishment: 1972
3. Status : Autonomous body under the Government of Maharashtra
4. Head: Vice Chancellor - Dr V.K. Patil
5. Principal Units : College of Agriculture, Parbhani
                      College of Home Science , Parbhani
                      College of Horticulture, Parbhani
                      College of Agricultral Engineering, Parbhani
                      College of Veterinary and Animal Husbandry,
                      Parbhani
                      College of Agriculture, Latur
                      College of Veterinary and Animal Husbandry,
                      Udaigir
                      College of Food Science and Technology,
                      Parbhani
                      Agro-climatic Zones - 3
                      Zonal and other Research Stations - 10
6. Degrees Offered: B.Sc.(Ag.); B.V.Sc.& A.H.; B.Tech.(Food Sc.)
                      B.Sc. (Home Sc.); B.Sc. (Hort.); B.Tech. (A.E.)
                      Masters degree in Agriculture, Veterinary
                      Science, Food Technology and Home Science.
                      Ph. D. in Agriculture
7. Academic Year : July - June (2 Semesters)
8. Manpower : Scientists
                                       556
               Technicians
                                       633
9. Library : Books
                                     45000
             Current Periodicals
                                       800
10. Publications : Shetibnati
                    Annual Report
11. Budget : Rs 120.00 million
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1. Institution: NARENDRA DEVA UNIVERITY OF AGRICULTURE AND TECHNOLOGY
                  (NDUAT)
                 Narendranagar, Kumarganj, Faizabad 224001,
                 Uttar Pradesh, India.
                 Tel : ( )
                 Telex:
                 Cable: AGRIVARSITY, FAIZABAD
2. Year of Establishment: 1975
3. Status : Autonomous body under the Government of Uttar Pradesh
4. Head: Vice Chancellor - Dr S.S. Khanna
5. Principal Units : College of Agriculture, Kumarganj, Faizabad
                     College of Home Science Kumarganj, Faizabad
                     Agro-climatic Zones - 3
                     Zonal and other Research Stations - 7
6. Degrees Offered: B.Sc.(Ag.); B.Sc.(Home Sc.)
                     M. Sc. (Agriculture)
                     Ph.D. (Agriculture)
7. Academic Year : July - June (2 Semesters)
8. Manpower : Scientists
                            233
9. Library: Books
                                     28223
                                       207
             Current Periodicals
10. Publications : NDUAT News
                   Narendra Deva Journal of Agricultural Research
                   Annual Report
11. Budget : Rs
                  80.00 million
1. Institution : ORISSA UNIVERSITY OF AGRICULTURE & TECHNOLOGY (OUAT)
                 Bhubaneswar 751003, Orissa, India
                     : (0674)
                 Tel
                 Telex:
                 Cable : AGRITECH, BHUBANESWAR
2. Year of Establishment: 1962
3. Status : Autonomous body under the Government of Orissa
4. Head : Vice Chancellor - Dr I.C.Mahapatra
5. Principal Units : College of Agriculture, Bhubaneswar
                     College of Agriculture, Chiplima
                     College of Veterinary Science and
                     Animal Husbandry, Bhubaneswar
                     College of Agricultural Engineering and
                     Technology, Bhubaneswar
                     College of Basic Science, Bhubaneswar
                     College of Home Science, Bhubaneswar
                     College of Fishery Science, Rangeilunda
                     College of Sericulture, Semliguda
                     College of Forestry, Bhubaneswar
                     Agro-climatic Zones - 10
                     Zonal and other Research Stations - 13
6. Degrees Offered: B.Sc.; B.Sc.(Ag.); B.V.Sc.& A.H.;
                     B.Sc. (Ag. Engg & Tech); B.Sc. Engg.
                    ( Mech., Civil, Elect. Architecture)
                     B.Sc. (Fishery); B.Sc. (Home Sc.)
                     M.Sc.(Ag.); M.Sc.Ag.(Engg. & Tech.); M.V.Sc.
                     Ph.D. (Veterinary); Ph.D. (Agriculture)
7. Academic Year : July - June (2 Semesters)
8. Manpower : Scientists
                             276
              Technicians
                              14
9. Library : Books
                                    121079
             Current Periodicals
                                       482
10. Publications : Annual Report
11. Budget: Rs 92.84 million
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1. Institution : PUNJAB AGRICULTURAL UNIVERSITY (PAU)
                  Ludhiana 141001, Punjab, India
                  Tel
                        : (0161) 51960 PBX
                  Telex :
                  Cable: AGRIVARSITY, LUDHIANA
 2. Year of Establishment: 1962
 3. Head : Vice Chancellor - Dr A.S. Khera
 4. Status: Autonomous body under the Government of Punjab
 5. Principal Units : College of Agriculture, Ludhiana
                      College of Home Science, Ludhiana
                      College of Basic Sciences & Humanities,
                      Ludhiana
                      College of Agricultral Engineering, Ludhiana
                      College of Veterinary Science, Ludhiana
                      College of Home Science, Kaoni
                      Agro-climatic Zones - 5
                      Zonal Research Stations -14
 6. Degrees Offered : B.Sc.Ag. (Hons.); B.Tech.; B.V.Sc. & A.H.
                      B.Sc. (Home Sc.);
                      M.Sc.; M.Tech.; M.Sc.Ag.; M.V.Sc.
                      M.Sc. (Home Sc.); M.B.A.
                      Ph.D
7. Academic Year : July - June (2 Semesters)
8. Manpower : Scientists
                              1310
               Technicians
                               141
9. Library : Books
                                     182462
              Current Periodicals
                                       1413
10. Publications : Journal of Research
                   Progressive Farming
11. Budget: Rs. 320.79 million
1. Institution : PUNJABRAO KRISHI VIDYAPEETH (PKV)
                 Krishinagar, Akola 444104, Maharashtra, India
                       : (0724) 5365/ 5372 / PBX 6841-56
                 Telex: 0725/215 PKB IN .
                 Cable:
2. Year of Establishment: 1969
3. Status : Autonomous body under the Government of Maharashtra
4. Head : Vice Chancellor - Dr B.G. Bathkal
5. Principal Units : College of Agriculture, Akola
                     College of Horticulture, Akola
                     College of Agricultural Engineering and Technology,
                     Akola
                     College of Veterinary Scince, Nagpur
                     College of Agriculture, Nagpur
                     College of Agriculture, Akola
                     College of Forestry, Akola
                     Post Graduate Institute, Akola
Affiliated Colleges: Anandniketan College of Agriculture,
                     Warora, Chandranpur
                     Sri Shivaji College of Agriculture, Amravati
                     Agro-climatic Zones - 3
                     Zonal Research Stations - 12
6. Degrees Offered : B.Sc.(Ag.; Hort.; Forestry); B.V.Sc. & A.H.
                     B. Tech.
                     M.Sc.Ag.; M.V.Sc; M.Tech. (Agri Engg)
                     Ph.D. (Ag.; Veterinary)
7. Academic Year : July - June
8. Manpower : Scientists
9. Library : Books
                                   92429
             Current Periodicals
10. Publications : PKV Research Journal
                   PKV Newsletter
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PKV Annual report
                   PKV Annual Research Report
11. Budget: Rs. 166.52 million
1. Institution : RAJASTHAN AGRICULTURAL UNIVERSITY (RAU)
                 Bikaner 334001, Rajasthan, India
                 Tel : (0151) 5357/ 6176/ 5836
                 Telex: 03505 - 208 - RKVB IN
                 Cable:
2. Year of Establishment: 1987
3. Status : Autonomous body under Government of Rajasthan
4. Head : Vice Chancellor - Dr H.G. Singh
5. Principal Units: Rajasthan College of Agriculture, Udaipur
                     Dungar College of Agriculture, Bikaner
                     College of Agricultural Engineering and
                     Technology, Udaipur
                     M.S. College of Home Science, Bikaner
                     College of Dairy Technology, Udaipur
                     College of Home Science, Udaipur
                     S.K.N. College of Agriculture, Johner
                     Bikaner College of Veterinary and Animal
                      Sciences, Bikaner
                     Agro-climatic - 9
                     Zonal and other Research Stations -25
6. Degrees Offered : B.Sc.Ag.; B.Sc.A.E.; B.Sc.Home Science
                     B.V.Sc & A.H.; B.Sc. (Dairy Technology)
                     M.Sc. (Ag.); M.V.Sc.; M.E.Ag.;
                     Ph.D. (Vet., Ag.)
7. Academic Year : July - June (2 Semesters)
8. Manpower : Scientists
                          1086
              Technicians 1302
                                  5099
9. Library: Books
             Current Periodicals
10. Publications : Research Journal
                    University News
                    Apna Patra (Hindi)
                    Annual Report
11. Budget: Rs. 270.40 million
1. Institution : RAJENDRA AGRICULTURAL UNIVERSITY (RAU)
                  Pusa, Samastipur 848125, Bihar, India
                  Tel
                       : (06724) 26
                  Telex:
                  Cable:
                  Fax
2. Year of Establishment: 1970
3. Status : Autonomous body under the Government of Bihar 4. Head : Vice Chancellor - Dr K.S. Chauhan
5. Principal Units : College of Agriculture, Sabour
                      College of Agricultral Engineering, Pusa
                      College of Agriculture, Dholi
                      College of Veterinary Science, Patna
                      S.G. Institute of Dairy Technology, Patna
                      College of Home Science, Pusa
                      College of Fisheries, Dholi
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Zonal and other Research Stations - 9 6. Degrees Offered: B.Sc.Ag.; B.V.Sc. & A.H.; B.Sc.(Dairy Tech.)

B.Sc. (A.E.); B.Sc. (Fisheries); B.Sc. (Home Sc.) M.Sc.Ag; M.V.Sc; M.Sc.(A.E.); M.Sc (Fisheries).

Ph.D. (Veterinary, Agriculture)

Agro-climatic Zones - 3

- 7. Academic Year : July June (2 Semesters)
- 8. Manpower : Scientists 677 42486 9. Library : Books

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10. Publications : Adhunik Kisan Patrika (Hindi)
                   RAU Research Journal
                   Adhunik Kisan Diary (Hindi)
                   Annual Report
11. Budget: Rs. 195.60 million
1. Institution : SHER-E-KASHMIR UNIVERSITY OF AGRICULTURAL
                 SCIENCES (SKUAS)
                 Shalimar Campus, Srinagar 191121, India .
                      : (0194) 61257/ 61258/ 61259
                 Telex:
                 Cable:
2. Year of Establishment: 1982
3. Status: Autonomous body under the Government of Jammu
            and Kashmir
4. Head: Vice Chancellor - Dr M.A.Dhar
5. Principal Units : College of Agriculture, Sopore
                     College of Veterinary and Animal Husbandry,
                     Srinagar
                     Post Graduate Institute of Agriculture,
                     Srinagar
                     Agro-climatic Zones - 4
                     Zonal and other Research Stations -13
6. Degrees Offered : B.Sc.Ag.; B.V.Sc.
                     M.Sc.(Ag.); M.V.Sc
7. Academic Year : July - June (2 Semesters)
8. Manpower : Scientists
                             373
              Technicians
                              79
9. Library : Books
                                  35000
             Current Periodicals
                                    400
10. Publications :
11. Budget: Rs. 14.78 million
1. Institution : TAMIL NADU AGRICULTURAL UNIVERSITY (TNAU)
                 Coimbatore 641003, Tamil Nadu, India
                     : (0422)
                 Tel
                 Telex: 855 - 360 TNAU IN .
                 Cable :
2. Year of Establishment: 1971
3. Status : Autonomous body under the Government of Tamil Nadu
4. Head : Vice Chancellor - Dr S. Sankaran
5. Principal Units : Agricultural College and Research
                     Institute, Kumalur
                     Horticultural College and Research
                     Institute, Coimbatore
                     Horticultural College and Research
                     Institute, Periyakulam
                     Agricultural Engineering College, Coimbatore
                     Forestry College and Research Institute,
                     Mettupalayam
                     Agricultural College and Research
                     Institute, Coimbatore
                     Agricultural College and Research
                     Institute, Madurai
                     Home Science College and Research
                     Institute, Madurai
                     Agricultural College and Research
                     Institute, Killikulam
                     Agro-climatic Zones - 7
                     Zonal Research Stations - 29
6. Degrees Offered: B.Sc.Ag; B.Sc. Hort; B.Sc.Home Science;
                     B.Sc.Fisheries; B.V.Sc.; B.E.Agri. Engg.
```

Current Periodicals

393

M.Sc. Sugarcane Production; M.Sc.Ag; M.Sc.Hort; M.Sc.Home Science; M.V.Sc; M.E.Agri.Engg Ph.D. ( Agriculture and Veterinary Science) 7. Academic Year : July - June (2 Semesters) 8. Manpoower : Scientists Technicians 9. Library : Books/Bound Periodicals 186037 Current Periodicals 1287 10. Publications : Valarum Vezhanmai (Tamil) Seithi Medal (Tamil) Uzhavan Thunaivan (Tamil) Journal of Biological Control Rural Development Review Madras Agricultural Journal South Indian Horticulture Tamil Nadu Journal of Extention Education TNAU Newsletter Annual Report 11. Budget: Rs. 262.87 million 1. Institution : TAMILNADU VETERINARY AND ANIMAL SCIENCE UNIVERSITY (TNVASU) Madras 600 007, Tamilnadu, India. Tel : (044) Telex: 041-5049 Cable: UNIVVET, MADRAS Fax : 91 - 44 - 560114 2. Year of Establishment: 3. Status : Autonomous body under the Government of Tamil Nadu 4. Head: Vice Chancellor - Dr V.G. Prakasam. 5. Principal Units : College of Veterinary Science and Research Institute, Madras College of Fishery Science and Research Institute, Tuticorin College of Veterinary Science and Research Institute, Namakkal 6. Degrees Offered: 7. Academic Year: 8. Mnapower: 9. Library: 10. Publications : 11. Budget: 1. Institution : UNIVERSITY OF AGRICULTURAL SCIENCES BANGALORE (UASB) Bangalore 560065, India Tel : (0812) 330153 Telex: UAS, GKVK 845 - 8393 UASK IN Cable : UNIVAGRES 2. Year of Establishment: 1964 3. Status : Autonomous body under the Government of Karnataka 4. Head: Vice Chancellor - Dr K.V. Devaraja 5. Principal Units : College Of Agriculture, Bangalore College of Dairy Science, Bangalore College of Veterinary and Animal Husbandry, Bangalore College of Sericulture, Bangalore College of Marketing and Banking College of Fisheries, Mangalore Agro-climatic Zones - 5 Zonal and other Research Stations - 16

Dairy Technology; Agricultural Marketing &

6. Degrees Offered : B.Sc.in Agriculture; Horticulture;

Co-operation; Forestry; Fisheries B.V.Sc M.Sc.in Agriculture, Horticulture, Dairy Science, Fisheries M.V.Sc. Ph.D. 7. Academic Year : July - June (2 Semesters) 8. Manpower: Scientists 930 9. Library: Books 98314 Current Periodicals 1051 10. Publications: Mysore Journal of Agricultural Sciences Current Research UAS Diary Krishi Vignana Annual Report 11. Budget: Rs. 215.07 million 1. Institution : UNIVERSITY OF AGRICULTURAL SCIENCES DHARWAD (UASD) Krishinagar, Dharwad 580005, India Tel : (0836) 42521 -54 / 42617-18 Telex : 865244 AGCDIN Cable : UNIVAGRIS, DHARWAD 2. Year of Establishment: 1986 3. Status : Autonomous body under the Government of Karanataka 4. Head : Vice Chancellor - Dr P.V. Rai 5. Principal Units: College of Agriculture, Dharwad College of Agriculture, Raichur College of Home Science, Dharwad College of Agricultral Engineering, Raichur College of Veterinary and Animal Husbandry, Bidar College of Forestry, Sirsi College of Agriculture, Bijapur Agro-climatic Zones - 5 Zonal Research Stations - 17 6. Degrees Offered: B.Sc.Ag.; B.V.Sc.; B.Sc. Marketing & Cooperation; B.Sc. Forestry B.Sc. Home Science M.Sc.Ag.; M.V.Sc.; M.Sc. Home Science Ph. D. Agriculture 7. Academic Year : July - June (2 Semesters) 8. Manpower :Scientists 380 [ B.Sc.-62; M.Sc.-212; Ph.D.-106 ] 9. Library : Books 48402 Current Periodicals 558 10. Publications : Karanataka Journal of Agricultural Sciences Krishi Munnade (Kannada) Annual Report 11. Budget: Rs. 150.30 million

# SRI LANKA

# Selected Indicators of Agricultural Development

: SRI LANKA Country : 6,463,000 Ha Total Area

Forest Coverage (%) : 27% : -0.1% Annual Average Change (%)

(For 1980-89)

Cultivated Area

: 17,217,000 Population

: 1.5% Annual Growth Rate

of Population

: 52% Agricultural Population Illiteracy Rate : 12%

: 9,459 million US \$ National GNP

: 540 US \$ GNP Per Capita

GNP: Real Growth Rate : 2.2%

(per capita)

Share of Agriculture : 26%

in GDP

Growth Rate of Agricultural

Production

Agricultural Export as % : 41%

of Total Export

Major Agricutural Commodities : Rice, Root Crops, Livestock,

Coconuts, Vegetables, Tea

Major Agricultural Imports

Cereals, DairyProducts, Vegetable Products, Sugar

Oils, Forestry

: Tea, Vegetable Oils, Major Agricutural Exports Forestry Products, Oil Seeds

# Selected Indicators of Research State of Agriculture and Research

Traditionally agriculture has been the mainstay of Sri Lankan economy, maintaining its share of GDP since early 1970's and providing about 50% of the employment. The overall value of agricultural production during 1978-82 grew at about 4% per annum. This was due to a rise in the contribuition of commodities produced mainly for domestic consumption. In the share of the traditional export crops there has been a steady decline.

#### Agricultural Research System

In Sri Lanka agricultural research is carried out in at least 15 separate research institutes and departments which function under 7 ministries and the Office of the President. These research institutions can be divided into two groups namely:

- 1. Those within departments of individual line ministries and
- 2. Those which are statutary bodies set up by acts of the Parliament and governed by Boards provided in the Acts. These are semi-autonomous units operating within ministries.

#### Ministry of Agricultural Development and Research (MADR)

The Ministry of Agricultural Development and Research is responsible for research and development for all crops except rubber, tea, coconuts and cashewnuts. Within the Ministry, research is carried out in four seperate units:

Department of Agriculture Department of Minor Export Crops Agrarian Research and Training Institute Sugarcane Research Institute

In the Department of Agriculture research is organised on a regional basis. There are three main climatic zones in the country which have been further divided into eight agro-ecological regions on the basis of climate, releif and soils. The main irrigated and associated non-irrigable areas of the Mahaweli system C are regarded as an additional region. There are nine Regional Research Centres (RRC) and three research centres devoted to special crops/ situations. Some of the RRC's have smaller satellite experiment stations.

#### Regional Research Centres

Satellite Stations

killinochchi Thirinelvely (northern dry zone) Paranthan Murunkan

Maha Illuppallama (central dry zone) Karadiyan Aru (eastern dry zone) Angunakolapelessa (southern dry zone)

Makandura Wanathavillu (low country intermediate zone) Kalpitiya

Bandarawela

(up- country intermediate zone)

Monaragala Bibile Gannoruwa Pusellawa

(mid country wet zone)

Bombuwela (low country wet zone) Gira Andura Kotte

(for Mahaweli System C)

Labuduwa Bentota

Rahangala

Ambalantota

### Special research Centres:

- i. Batalopgoda, for rice breding and agronomyii. Sita Eliya, for potatoes and vegetables Aralanganwila, for Mahaweli System B

#### Ministry of Lands and Land Development (MLLD)

Under the Ministry of Lands and Land Development two departments have small research programmes directly concerned with agricultural production. These are;

- 1. Research Division of the Forest Department
- 2. Land Use Division of the Irrigation Department

## Ministry of Rural Industrial Development (MRID)

Within the Ministry of Rural Industrial Development the Deaprtment of Animal Production and Health carries out research mainly on animal health but also does some work on pastures and feeding of livestock.

#### Ministry of Plantation Industries (MPI)

Under the Ministry of Plantation Industries there are two major research institutes namely;

- 1. The Tea Research Institute (TRI)
- 2. The Rubber Research Institute (RRI)

Both these research institutes are statutory bodies controlled by their respective Boards.

# Ministry of Coconut Industries (MCI)

Under the Ministry of Coconut Industries there is a Coconut Development Authority which operates through two Boards namely;

- 1. The Coconut Development Board
- 2. The Coconut Research Board

The Coconut Research Board is responsible for research on the production of coconut crop and on the processing of its kernel and non-kernel products.

#### Ministry of Fisheries (MF)

Under the Ministry of Fisheries there is a National Aquatic Resources Agency (NARA) which is a statutory body having responsibility for research and development of marine and freshwater fishery resources. It has a main research station in Colombo and three sub-stations outside.

# Ministry of Higher Education (MHE)

The Ministry of Higher Education controls the University System. Within the University System agricultural research is carried out by the following units;

- 1. Faculties of Agriculture in the University of Peradeniya
- 2. Faculty of Agriculture in the University of Ruhuna
- 3. Faculty of Agriculture in the University of Jaffna
- 4. Faculty of Agriculture in the Eastern University
- 5. Faculty of Veterinary Medicine and Animal Science, University of Peradeniya
- 6. Postgraduate Institute of Agriculture, University of Peradeniya

These units in the University System represent a substantial resource of trained staff and research infrastructure but recieve very little core funding for research from the Ministry of Higher Education. Project funding is obtained by faculty members from several sources and is used mainly in the postgraduate training programmes in which the staff and students of the Faculty of Agriculture and Faculty of Veterinary Science are involved. The Deans of the two university faculties and Director of the Postgraduate Institute of Agriculture report to the Vice Chancellor and through him to the University Grants Commission and the Ministry of Education.

# The Office of the President

There is a Natural Resources, Energy and Science Authority headed by a Director General who reports directly to the Sri Lankan President. This authority provides some support to agricultural research through grants to individual scientists in the public sector for research on topics of high national priority.

# 1. MINISTRY OF AGRICULTURE, FOOD AND COOPERATIVES (MAFC)

73/1, Galle Road, Colombo 3, Sri Lanka

Tel : 26346/ 26464
Telex : 21434 AGMIN CE
Cable : SECMIN AGRI

2. 1970

3.

4. Secretary

5. Agriculture Department

б.

7. Books 5000 Current Periodicals 15

8.

9. 10.

1. MINISTRY OF PLANTATION INDUSTRIES (MPI)

349, Galle Road, Colombo 3, Sri Lanka Tel : 573263/ 573264

```
Telex:
   Cable:
         : 94/575104
   Fax
2. 1972
3.
4. Secretary
5. Office of the Minister of State for Plantation Industries
   Office of the Minister of State for Plantations
   Office of the Minister of State for Coconut Industries
6.
7. Books
                            250
   Current Periodicals
                             40
8.
9.
10.
1. CENTRAL AGRICULTURAL RESEARCH INSTITUTE
   DEPARTMENT OF AGRICULTURE
   Gannoruwa, Peradeniya, Sri Lanka
   Tel : 08-88011/88012/88013
   Telex:
   Cable:
2. 1958
3.
4. Deputy Director
5. Botany
   Chemistry
   Entomology
   Food Technology
   Horticulture
   Maintenance of Laboratory and Equipment
   Plant Pathology
   Plant Quarantine
   Biotechnology
   Farm Management
   Soyafood Research Centre
   Agricultural Research Station Pallekele and Kundasale
6.
7. Books
                        15000
   Current Periodicals
                          130
   Microforms
                         2000
8. Tropical Agriculturist
   Govikam Sangarawa
   Krushi
9. Scientists
                53
   Technicians 38
10. Rs 0.12 million
1. COCONUT RESEARCH INSTITUTE (CRI)
   Bandirippuwa Estate, Lunuwila, Sri Lanka
        : (030) 3795/ (031) 5300
   Tel
   Telex:
   Cable :
   Fax
         : 0094317195
2. 1929
3.
4. Director
5. Genetics and Plant Breeding
   Soils and Plant Nutrition
  Agronomy
  Crop Protection
  Plant Physiology
  Tissue Culture
  Biometry
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7. Books
  Current Periodicals
                           140
  Microforms
                          2200
8. Coconut Bulletin
   COCOS
   Pol Pawath
   Occasional Publications
  Annual Report
                  37 [B.Sc.-28; M.Sc.-5; Ph.D-4]
9. Scientists
10.
1. RUBBER RESEARCH INSTITUTE OF SRI LANKA (RRISL)
   Tel
        : 034-71426
  Telex :
   Cable: RUBRS AGALAWATTA
2. 1909
4. Director
5. Plant Science
   Plant Pathology
   Plant Breeding and Genetics
   Soils and Plant Nutrition
  Rubber Chemistry
6.
                           4256
7. Books
                            156
   Current Periodicals
8. Journal of the Rubber Research Institute of Sri Lanka
  Annual Review of the Rubber Research Institute of Sri Lanka
   Bulletin of the Rubber Research Institute of Sri Lanka
                42
9. Scientists
   Technicians 76
1. SUGARCANE RESEARCH INSTITUTE (SRI)
   10/1, Laxapana, Mawatha, Jayanthipura
   Battaramulla, Sri Lanka
  Tel : 566733
  Telex: 22094 TWO CE
  Fax: 94 156673
2. 1981
4. Director
5. Agronomy
   Breeding
   Biometry
   Economics and Data Processing
   Chemistry
   Engineering
   Pest Management
  Microbiology
   Extension and Training
б.
7. Books
                            1140
   Current Periodicals
                              12
8. SRI Newsletter
   Annual Research Report
9. Scientists
                15
   Technicians
10. Rs 0.2 million
```

Advisory and Information Services

5000

6.

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1. TEA RESEARCH INSTITUTE (TRI)
   St Coombs, Talawakelle, Sri Lanka
        : (052) 8244/ 8385/ 8386
   Tel
   Telex:
   Cable: (0512) 601
2. 1925
З.
4. Director
5. Agricultural Chemistry
   Agronomy
   Biochemistry
   Entomology
   Nematology
   Plant Pathology
   Plant Physiology
   Statistics
   Plant Propagation and Plant Breeding
   Technology and Land Use Mapping Unit
6.
7. Books
                             4000
   Current Periodicals
                             200
8. Sri Lanka Journal Of Tea Science
   Tea Bulletin
   Annual Report (Technical)
9. Scientists 18
   Technicians 90
10. Rs 1.27 million
1. NATIONAL INSTITUTE OF PLANTATION MANAGEMENT (NIPM)
   M.D.H.Jayawardena Mawatha, Aturugiriya, Sri Lanka
   Tel
        : 561232
   Telex:
   Cable :
2. 1979
3.
4. Director
5. Financial Management
   General Management
   Agricultural Economics
6.
7. Books
                        900
   Current Periodical
                         14
8. Journal of the National Institute of Plantation Management
9. Scientists
   Technicians 3
10. Rs 10 million
1. AGRARIAN RESEARCH AND TRAINING INSTITUTE (ARTI)
   114, Wijerama Mawatha, Colombo 7, Sri Lanka
       : 696981/ 696437/ 698593/ 698541
   Telex: 21434 AGMIN CE
   Cable: AGRATI, Colombo
2. 1972
3.
4. Director
5. Agricultural Planning and Evaluation
   Agricultural Resource Management
   Irrigation Water Management and Agrarian Relation
  Marketing and Food Policy
   Statistics and Data Processing
   Training
6.
7. Books
                         12500
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8. Sri Lanka Journal of Agrarian Studies
   Farmers' Journal in Sinhala and Tamil
   "Diyawara" Newsletter on Irrigation, Water Management and Related Issues
   Food Commodities Bulletin
  ARTI Newsletter
9. Scientists
                36
  Technicians 22
10. Rs 14 million
1. DEPARTMENT OF IRRIGATION (DI)
  Bauddhaloka Mawatha, Colombo 7, Sri lanka
       : 5883301-4
  Telex: 21928 DIRRIG CE
  Cable :
2. 1900
4. Director
5. Planning
  Project Designs
  Remote Sensing
  Land Use
  Engineering Material
  Operation and Maintenance
  Training
  Construction in the Field
  Geology
  Hydrology
  Hydraulics
6.
7. Books
                          5700
  Current Periodicals
                          3000
8. SLNCOLD Bulletin
9. Scientists
                 349
  Technicians
                 2865
10. Rs 669.29 million
1. DEPARTMENT OF METEOROLOGY (DM)
  Baudhaloka Mawatha, Colombo 7, Sri Lanka
       : 694846/ 694104/ 686499
  Tel
  Telex :
  Cable : OBSY COLOMBO
2. 1907
3.
4. Director
5. National Meteorological Centre
  Climatology
  Agrometreology
  Hydro-Meteorology
б.
                            Numerous
7. Books
8. Monthly Weather Summary
  Quarterly Weather Summary
   Annual Report
9. Scientists
   Technicians 199
10. Rs 23 million
1. INSTITUTE OF FUNDAMENTAL STUDIES (IFS)
  Hantana Road, Kandy, Sri Lanka
  Tel: (08) 32002
  Telex: 21700 IFS CE
  Cable: FUNDAMENTAL
   Fax : 094 8 32131
```

Current Periodicals

300

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3.
4. Director
5. Biotechnology
   Earth and Space Sciences (including soil)
   Biological Sciences
   Physical and Chemical Sciences
   Archaeology
   Computer and Mathematical Sciences
6.
7. Books
                         1400
   Current Periodicals
                           20
8.
9. Scientists
                45 [B.Sc.-15; M.Sc.-6; Ph.D.-24]
10. Rs 66.3 million
1. INSTITUTE OF SURVEYING AND MAPPING (ISM)
   Diyatalawa, Sri Lanka
   Tel : (057) 2001
   Telex :
   Cable: SUPSURVE-DIYATALAWA
2. 1967
4. Superintendent of Surveys
5. Technicians Course
   Degree Course
   Post Course
6.
                         5900
7. Books
   Current Periodicals
                           1.0
9. Scientists
               15 [B.Sc.-11; M.Sc-4]
   Technicians 12
10. Rs 7.5 million
1. NATIONAL AQUATIC RESOURCES AGENCY (NARA)
   Crow Island, Colombo 15, Sri Lanka
       : 522000/ 522006/ 522007
   Telex: 22181 NARA CE
   Cable:
2. 1982
3.
4. Director General
5. Marine Biological Resources
  Aquaculture and Inland Fisheries
   Environmental Study Unit
   Institute of Postharvest Technology
   Oceanography
  National Hydrography Office
6.
7. Books
                             2766
   Current Periodicals
                               21
   Recorded High Band Tapes
                              200
   Prints and Slides
                             5000
8. Journal Of Aquatic Resources Agency
9. Scientists
   Technicians
10. Rs 45.2 million
1. CEYLON INSTITUTE OF SCIENTIFIC AND INDUSTRIAL RESEARCH (CISIR)
   P.O.Box 787, 363 Baydhaloka Mawatha, Colombo 7, Sri Lanka
   Tel
       : 598624
   Telex:
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2. 1981

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Cable : CISIR
2. 1955
3.
4. Director
5. Agro-Industries
   Analytical Chemistry
   Applied Physics and Electronics
   Environmental Science and Technology
   Food Technology
   Industrial Economics
   Industrial Microbiology
   Instrument Centre
   Minerals Technology
   Natural Products
   Pilot Plant and Design
   Rubber and Plastics Technology
   Wood and Cellulose Technology
6.
7. Books
                              30000
   Current Periodicals
                               250
8.
9. Scientists
   Technicians 78
10. Rs 36.5 million
1. VETERINARY RESEARCH INSTITUTE (VRI)
   P.O.Box 28, Peradeniya, Sri Lanka
   Tel : (08) 88125
   Telex : VETSEARCH
   Cable :
2. 1967
4. Deputy Director
5. Parasitology
   Bacteriology
  Animal Genetics
   Pasture and Fodder Crops
   Animal Nutrition
   Poultry Diseases
   Reproductive Disorders
   Virology
6.
7. Books
                             2500
   Current Periodicals
                               14
                 40
9. Scientists
  Technicians
                 2.8
10. Rs 8.0 million
1. FOREST DEPARTMENT (FD)
   Rajamalwatta Road, Battarmulla, Sri Lanka
   Tel
        : 566632
   Telex:
   Cable :
2. 1887
4. Conservator of Forests
5. Forest Management
   Environmental Management
   Planning and Development
   Education and Extension
  Working Plan and Inventory
   Forest Research
  Administration and Finance
```

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6.
7. Books
                         4500
   Current Periodicals
8. The Sri Lanka Forester
   Newsletter
                  49 [B.Sc.-28; M.Sc.-20; Ph.D.-1]
9. Scientists
   Technicians 804
10. Rs118.71 million
1. SRI LANKA FORESTRY INSTITUTE (SLFI)
   Moon Plains, Hawa Eliya, Nuwara-Eliya, Sri Lanka
   Telex:
   Cable:
2. 1958
4. Director
5. Sri Lanka Forsetry Training College
   Up-Country Forestry Research Centre
6.
7. Books
                                 2000
   Current Periodicals
                                   15
8. Newsletters on research activities and forestry training*
   Forestry College Annuals*
   ( * to be produced)
9. Scientists
                  2
   Technicians
10. Rs 0.75 million
1. DEPARTMENT OF EXPORT AGRICULTURE
   (Formerly Department of Minor Export Crops)
   1095 Kandy Road Peradeniya, Sri Lanka
Tel : (08) 88651/88362/88363/88364/88365
   Telex:
   Cable :
2. 1972
3.

    Director

5. Crop Production
   Development and Extension
   Agronomic Research
   Economic and Marketing Research
   Training
   Plant Protection
   Publicity
6.
7. Books
                           1000
   Current Periodicals
   Audiovisual Material
8. Minor Export Crops Newsletter
   Administration Reports
   Technical Bulletins
9. Scientists
   Technicians
                208
10. Rs 8.8 million
1. MARGA INSTITUTE (MI)
   61, Isipawana Mawatha, Colombo 5, Sri Lanka
   Tel
   Telex: 21642 Marga
   Cable : MARGA
2. 1972
3.
4.
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6.
7.
8. Marga
9.
10.
1. Institution : EASTREN UNIVERSITY
                 Chankalady, Sri Lanka
                      : (065) 2473
                 Tel
                 Telex:
                 Cable: EASTERN UNIVERSITY, CHANKALADY, SRI LANKA
2. Year of Establishment: 1986; initially established in 1981
                            as the Batticaloa University College
3. Status: Autonomous body under the Ministry of Higher
            Education, Government of Sri Lanka
4. Head : Vice Chancellor - Prof S. Saudanam
5. Principal Units: Faculty of Agriculture and three
                     more faculties
6. Degrees Offered: B.Sc. Ag.-4 years
                     M. Phil.- Minimum 2 years full time by thesis
                     Ph. D. - Minimum 3 years full time by thesis
7. Academic Year : October - July (3 terms)
8. Manpower: Not available seperately for the Faculty of
              Agriculture
9. Library: Books
                                      18429
             Current Periodicals
                                      2091
10. Publications :
11. Budget:
1. Institution : UNIVERSITY OF JAFFNA SRI LANKA (UJSL)
                 Thirunelvely, Jaffna, Sri Lanka
Tel : (021) 22481/ 23626
                 Telex:
                 Cable: UNIVERSITY, JAFFNA, SRI LANKA
2. Year of Establishment: 1979. Previously established in 1974
                           as the Jaffna College of the University
                           of Sri Lanka
3. Status : Autonomous body under the Ministry of Higher
            Education, Government of Sri Lanka
4. Head : Vice Chancellor - Prof A. Thurairajah
  Principal Units : Faculty of Agriculture and three
                      more faculties
6. Degrees Offered : B.Sc.Special - 4 years
                                   - 2 years full time or 3 years
                     M.Sc.
                                       part time usually by
                                       dissertation, written and
                                       oral examination in Plant
                                       Physiology and Horticulture
7. Academic Year : October - September (3 terms)
8. Manpower : Not available seperately for the Faculty
              of Agriculture
9. Library: Books
                                    82146
             Periodicals
                                     4000
10. Publications : Annual Report
11. Budget:
1. Institution : UNIVERSITY OF PERADENIYA (UP)
                 Peradeniya, Sri Lanka
                 Tel. : (08) 88051
                 Telex
                 Fax
                       : 08 - 88151
2. Year of Establishment: 1978. Initially set up in 1942 as
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5.

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the University of Ceylon
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- 3. Status: Autonomous body under the Ministry of Higher Education, Government of Sri Lanka
- 4. Head : Vice Chancellor Prof J.M. Gunadasa
- 5. Principal Units : Faculty of Agriculture Faculty of Veterinary Science and five more faculties.

Also a Post-Graduate Institute of Agriculture established in 1975 to meet need for higher level trained manpower in Agriculture; functions as a unit within the university under a Director, who reports to the Institutes' own Board of Management. Facilities for Post-Graduate training and research (M.Sc., M.Phil. Ph.D., Diplomain Food and Nutrition Policy Planning). The Institute also draws on staff from universities and research institutesin the country, uses the laboratory and farm facilities of those institutions and acts as a coordinating agency in coducting Post Graduate training programmes.

6. Degrees Offered: B.Sc.Ag. - 4 years
B.V.Sc. - 4 years

M.Sc.Ag. - 3 terms full time by coursework

and examination M.V.Sc. - 2 years full time by course work

Ph.D. - 3 years full time in all faculties Ph.D - 2 years for Veterinary Science by thesis

- 7. Academic Year : October September (3 terms)
- 8. Manpower: Not available separentely for the Faculty of Agriculture
- Library : Books 410,112 (total)

Agriculture Library 28,891

- 10. Publications : Annual Report
- 11. Budget :
- 1. Institution: UNIVERSITY OF RUHUNA (UR)

Matara, Sri Lanka Tel : (041) 2683

Telex:

Cable: UNIVERSITY OF RUHUNA, MATARA, SRI LANKA

2. Year of Establishment: 1984. Formerly a campus of the University of Sri Lanka 1978. Reconstituted as Ruhuna University College in 1979

- 3. Status : Autonomous body under the Ministry of Higher Education, Government of Sri Lanka
- 4. Head : Vice Chancellor Prof N. Chandrasiri
- 5. Principal Units : Faculty of Agriculture and three more faculties
- 6. Degrees Offered: B.Sc.Ag. - 4 years full time

M. Phil. Ag. - 21 months full time or 33 months part-time by thesis in Agricultural Biology, Agricultural Chemistry, Agricultural Economics, Agricultural Engineering, Animal Science and

Crop Science.

- 7. Academic Year : October September (3 terms)
- 8. Manpower: Not available seperately for the Faculty of Agriculture
- Library : Books 48516 (Total)\* Periodicals 2063 (Total)\*
- (\* divided into four sections attached to the four faculties)
- 10. Publications : Annual Report
- 11. Budget :

1. Institution : UNIVERSITY OF COLOMBO (UC)

College House, P.O.Box 1490, Cumartunga Munidasa Mawatha, Colombo 3, Sri Lanka Tel : (01) 581835/ 584695/ 585509

Telex: 22039

Cable: UNIVERSITY, COLOMBO

: 01 - 583810 Fax

2. Year of Establishment: 1979. Previously established as Ceylon

University College (1921); University of Ceylon (1942); Colombo campus of the University of Sri Lanka (1972)

3. Status: Autonomous body under the Ministry of Higher Education Government of Sri Lanka

4. Head : Vice Chancellor - Prof G.L. Peiris

5. Principal Units : Faculty of Science and five other faculties

6. Degrees Offered : The Faculty of Science offers B.Sc. (Fisheries Biology) and

M.Sc. (Fisheries)

7. Academic Year: October - September (3 Terms)

8. Manpower :

9. Library: Books 70000

> Current Periodicals 900

10. Publications : Faculty Handbooks Annual Report

11. Budget :

1. Institution : UNIVERSITY OF JAYEWARDANEPURA (UJ)

Gangodawila, Nugegoda, Sri Lanka : (055) 2695/ 2696/ 3191/ 3192

Cable: UNISJAY, Sri Lanka

Fax : 055 - 2604

2. Year of Establishment: 1978. Established first as the Vidyodaya

University of Ceylon (1959); then from 1972 as the Vidyodaya campus of University

of Sri Lanka

3. Status: Autonomous body under the Ministry of Higher Education, Government of Sri Lanka

4. Head : Vice Chancellor - W.B. Dorakinbura

5. Principal Units : Faculty of Applied Science and two other faculties

6. Degrees Offered: The Faculty of Applied Science offers M.Sc. in Forestry

7. Academic Year : October - September (3 Terms)

8. Manpower:

9. Library : Books 118000

Current Periodicals 460

10. Publications : Faculty Handbooks

Annual Report

11. Budget: Rs 69,423,125 (1991)

#### MALDIVE

## Selected Indicators of Agricultural Development

: Maldive Total Area 3% Forest Coverage : 0.0 Annual Average Change (%) (For 1980-89) Cultivated Area : 228,000 Population : 3.3 % Annual Growth Rate of Population (1985-92) Agricultural Population Illiteracy Rate : N.A National GNP (1992) : 114 million US \$ GNP Per Capita (1992) : 500 US \$ : 8.5 % GNP: Real Growth Rate (1985-92)Share of Agriculture in GDP Growth Rate of Agricultural Production Agricultural Export as % of Total Export Major Agricutural Commodities : Major Agricultural Imports

# Selected Indicators of Research State of Agriculture and Research

Major Agricutural Exports

The Republic of Maldive is an archipelago of nearly 1200 tiny coral islands in the Indian Ocean grouped together in clusters or Atolls. These Atolls form a long narrow chain strung over an area of about 106000 sq kms. The northern and southern tips are 820 kms apart. At its widest it measures 130 kms. The nearest landmass lies 400 kms away at Cape Camorin, India's southern extremity. The city of Colombo lies 640 eastwards across the Indian Ocean.

The northern and central Atolls form a narrow eclipse surrounding a strip of sea 16 to 40 kms wide. They rise from a common plateau and are seperated from each other by deep channels most of which are easy to navigate. The southern Atolls are seperated from the main body of the islands by two broad channels. Strong currents in both these channels make them a hazard to navigation. The enclosure reefs to each Atoll contain openings which provide passageways for boats travelling between the Atolls. Most islands are situated close to the Atoll reefs.

The islands vary in size from mere patches of coral or small sand banks to real islands, the largest of which, Gamu in Lammu Atoll is 7.2 kms long. Male, the capital city occupies an island barely 1.6 km long on the east side of the central Atoll Kaffu. The total land area is thought to be about 290 sq kms.

Because they are based on coral the islands are flat, the highest point being rarely more than 2 metres above sea level. The groundwater table is naturally high in all the islands. Several islands have freshwater lakes. All the older islands, where a layer soil has been formed on top of the coral base, are covered by tropical vegetation, typically coconut trees towering above dense scrub. Bread fruit trees and candanuss (screw pine) are widespread. Vegetation is more abundant in the southern Atolls where rainfall is heaviest, but agricultural potential is generally limited by the high

alkaline content of the soil, its poor water retention capacity and lack of nutrients.

Hot and humid, the south-west monsoon comes at the end of April with a steady westerly surface wind that continues until mid-August though it can be irregular. December to March is the driest season of the year when the northeast monsoon prevails. Rainfall at Male is about 2100 mm. The mean daily temperature varies little through the year averaging about 30 degrees celsius. Diagnol variations are only 2 to 3 degrees celcius. Humidity is high throughout the year. During the south-west monsoon it seldom drops below 80 per cent.

Only 202 of the 1200 islands are permanently inhabited. Of these 28 have fewer than 200 inhabitants. Only 19 islands have more than 1000 people. Some of the officially uninhabited islands are seasonally occupied by families engaged in the gathering and processing of coconuts, planting of coconut trees or occupied full time by tourist resorts. Agriculture does not form an important component of the economy of the country.

### NEPAL

# Selected Indicators of Agricultural Development

Country : NEPAL

Total Area : 13,680,000 Ha

Forest Coverage : 18%
Annual Average Change (%) : 0.0%

(For 1980-89)

Cultivated Area : 2,653,000 Ha
Population : 19,143,000

Annual Growth Rate : 2.6%

of Population

Agricultural Population : 92% Illiteracy Rate : 74%

National GNP : 3,285 million US \$

GNP Per Capita : 170 US \$
GNP: Real Growth Rate : 2.1%
Share of Agriculture : 52%

in GDP

Growth Rate of Agricultural

Production

Agricultural Export as % : 40%

of Total Export

Major Agricutural Commodities: Cereals Potatoes, Vegatables, Milk and Milk

Products, Livestock

Forestry Products, Fishery

Major Agricultural Imports : Vegetable oils, Cereals, Fishery

Products, Dairy Products

Major Agricutural Exports : Oilseeds, Vegetable oils, Sugarcane

# Selected Indicators of Research State of Agriculture and Research

Nepal is a land-locked country in the Himalayan mountains. It is roughly rectangular in shape with an average east-west length of 885 kms and an average north-south width of 193 kms. Within this narraow span of width the altitudes range from 60 meters to 8,000 meters above MSL and a variety of climates ranging from sub-tropical to alpine can be found. The major river systems originating in the Himalayas and running east-west act as physical barriers to transportation and communication. Physically the country can be divided into three distinct geographic regions running parallel east to west. Each region has its characterstic agro-ecological features.

#### The Mountain Region:

This is the northern most area lying in the Himalayan mountainswith altitudes ranging from 3000 to 8848 meters. The region covers 35 % of the total land area of the country. 39% of the land here remains covered under perpetual snow above the permanent snowline at 4877 meters. About 9% of the country's population lives in this region. Agricultural activities are limited to a minimum tilling of land and raising of sheep, goat and yak. Acess to the region is limited to walking trails and a number of high altitude grass landing strips.

#### Hill Region

This middle area is composed of two main hill ranges which enclose a large number of small valleys at various altitudes and many rivers and streams. Altitudes range from 300 to 3000 meters. The region covers 42% of the total land area and 48% of the total population. Agricultural activities are intensive and varied. Subsistence farming is predominant. The average operational holding ranges from 0.25 to 0.40 hectare. Many areas experience local food deficits but there is little intra-market exchange because of difficult topography and limited transportation facilities. New land available for cultivation is limited.

#### Tarai Region

This is the southern-most region of the country. It is the northern-most extension of the Indo-Gangetic plains. The altitudes range from 60 to 300 meters. It covers 23% of the total land area and contains 44% of the total population. With its fertile soil and relatively better developed infrastructure the Tarai is a major producer of grains, cash crops, tropical fruits and vegetables. However, because of limited transportation infrastructure in the hills and mountain regions there is little inter-change between the Tarai markets and the other two regions.

The greater part of surplus production in the Tarai Region normally flows across the border into India. With 693 persons per sq km of cultivated land Nepal has one of the highest population densities for cultivated land. Only 7% of the people live in urban areas. As a result of the population pressure in the hill region more and more marginal lands have been brought under cultivation; forests are being denuded and upland pastures are being overgrazed.

Land ownership in Nepal is highly skewed. 50.1% of the of the operational holding are less than 0.5 hectare while another 33.5% range between 0.5 to 2.0 heectare. Land fragmentation is a serious constraint to agricultural development, especially in the hill areas where individual fields may be more than half-a-day's walk from the farmstead across a vertical distance of 1500 meters. Tradional inheritance practices encourage land fragmentation and many of the holdings are no longer capable of producing surplus production for marketing, let alone providing the family with a year-round supply of food. Larger farms tend to be concentrated in the Tarai region where land is either hired out to share croppers or is farmed by employing agricultural labourers. Rice, maize and wheat are the most important cereal crops occupying about 53%, 23% and 18% of the cultivated area respectively. In the Tarai, rice and wheat account for 65% and 25% of the cultivated area respectively. In the hills, maize, rice and millets are the primary crops covering 38%, 28%, and 18% of the cultivated area respectively.

Productivity of all the crops except wheat, has been stagnant or declining. Even in case of wheat productivity has shown only minor growth. The potential for fruit and vegetable development is large but is yet to be fully exploited. Temperate fruits with good quality can be grown in the high hill areas. Citrus is common in the mid-hills and tropical fruits in the Tarai. Because of a wide range of climate, there is also a potential for the development of flowers and vegetable seed programmes. Lack of organised markets has limited the growth of the horticultural sector.

Livestock are an integral part of subsistence farming systems prevalent in the country. The average farm family in the hills maintains 3.7 cattle, 1.9 buffalo, 2.0 goats and 8.0 chicken. Straw yeilding qualities of the cereal crops is regarded as an important consideration in the adoption of new crop varities by the farmers.

Forests cover about 42% (?) of the total land area but commercial exploitation is low.

#### National Agricultural Research System

Government involvement in agricultural development started in 1924 when a Department of Agriculture was opened, a demonstartion farm at Singha Durbar in Kathmandu was establihed, and a fruit nursery at Godavery in nearby Lalitpur was started.

During the 1950's and early 60's a number of disciplinary divisions were establihed in Kathmandu and several agricultural research stations and farms were set up in various parts of the country. In 1965-66 an intensive coordinated agricultal development programme was initiated with USAID assistance in 9 districts possessing high production potential. Village Cooperative socities were establihed to supply the neccessary inputs and credits.

In 1966 the government created the Department of Agricultural Education and Research (DAER). Agricultural research station at Rampur, Janakpur, Bhairawa and Nepalganj in Tarai region were strengthened. Presently, the Ministry of Agriculture consists of the following five major units:

- 1. Department of Agriculture
- 2. Department of Livestock Development and Animal Health
- 3. Department of Food and Agricultural Marketing Services
- 4. Central Food Research Laboratory
- 5. National Agricultural Research and Services Centre (NARSC)

A Research Coordination Committee (RCC) oversees all agricultural research activities. The NARSC with the support of the RCC has the responsibility to carry out the development of appropriate technologies at the national level through the various National Commodity Development Programmes, and also at the site level through the Farming Systems Research and Development Division as well as the outreach programmes of the various agricultural farms and research stations. It has 18 disciplinary divisions, 10 national commodity programmes and 31 agricultural research stations and farms under its command. It has pooled together individual research libraries into a central National Research Library and Publishing Centre. It also provides a centre point for linkages with international agricultural research centres and foreign donors.

In 1985 all research activities related to agriculture were placed under a newly created National Agricultural Research and Srvices Centre (NARSC). Two autonomous, British government funded and managed agricultural research centers, Lumle and Pakhribas are also actively involved within the national agricultural research system. Both have been technically integrated within the NARSC and participate fully in all national programmes. In addition, the Institute of Agriculture and Animal Sciences and the Institute of Forestry, as part of the Tribhuvan University undertake agricultural research which is coordinated with the national programme through the Research Coordination Committee (RCC).

National extension activities are the responsibility of the Extension and Training Section of the Department of Agriculture. The section is headed by a Deputy Director General.

For administrative and developmental purposes the country has ben divided into 75 districts grouped into 5 development regions. Each development region bisects the agro-ecological regions to ensure a regionally more balanced development effort. At the district level there is an agricultural development office headed by an Agricultural Development Officer with a staff of extension agents responsible for extension programmes within the district. In several districts where the T& V ststem has been introduced the Agricultural Development Officer is supported by two subject matter specialists as well as local farmers hired as agricultural assistants to work with contact farmers. In such districts agricultural service centres have been established which integrate the services of agricultural extension staff with those of the Forestry Department, Cooperatives, Agricultural Development Bank (ADB) and Livestock and Animal Health Department.

At the regional level an Agricultural Regional Directorate coordinates the programmes of district agricultural offices with agricultural research stations and farms, Cooperatives and the ADB.

Because of topographical features road construction is very expensive and post-construction maintenance is very difficult. Many of the districts are not properly linked. Lack of effective transport system has resulted in highly fragmented agricultural markets. Price distortions and reduced returns to farmers are common. Though the government has initiated a minimum price support policy, it has not been effective due to various reasons.

In the mountain region opportunities for agricultural development are limited but there is room for the development of livestock and horticultural activities. Research on high altitude varities of livestock, namely yaks, mountain goats and horticultural crops need to be strengthened. In the hills lack of plant nutrients is a major constraint. Inadequate irrigation facilities and inadequate plant protection are also contributing factors. In the Tarai, delivery of inputs is insufficient and untimely. Extension services are inadequate and price incentives are lacking.

```
Khumaltar, Lalitpur, Nepal
        : (5) 23041/ 25703/ 25704/ 25708
   Telex:
   Cable:
2. 1985
4. Executive Director
6. Planning, Monitoring and Evaluation
   Finance
   Administration
   Communication and Documentation
   Central Library and National Agricultural Documentation Centre
   Human Resource Development
   Biometrics
   Seed Science
   Aquaculture
   The NARC is the headquarters responsible for implementing agricultural
   research through central Disciplinary Divisions
                                                          National Commodity
   Research Programs and Agricultural Research Stations.
7.
8. Books
                         6000
   Current Periodicals
                          50
   Audiovisual Equipment
                           3
   Audiovisual Material
                          10
9. Research Highlights
   Annual Report
10. Scientists 429
Technicians 714
11. Rs 126.6 million
1. CENTRAL AGRONOMY DIVISION
   Khumaltar, Lalitpur, Nepal
         : (5) 21169
   Tel
2. 1952
3. A division of the NARC
4. Chief Agronomist
5. Weed Science
   Agro-meteorology
   Cropping Systems
   Rainfed Farming (dryland)
   Environmental and Resource Conservation
6. None
7. N.A
8. Annual Report
9. Scientists
                 11 (B.Sc.-5; M.Sc.-5; Ph.D-1)
10. N.A
1. CENTRAL ENTOMOLOGY DIVISION
   Khumaltar, Lalitpur, Nepal
   Tel
         : (5) 21141
2. 1953
3. A division of the NARC
4. Chief Entomologist
5. Biological Control
  Chemical Control
  Toxicology
  Insect/Pest Identification
   Integrated Pest Management
6. None
```

1. NEPAL AGRICULTURAL RESEARCH COUNCIL (NARC)

7. N.A

8. Annual Report

```
9. Scientists
                  14 [B.Sc.-2; M.Sc.-11; Ph.D.-1]
10. Rs 2 million
1. CENTRAL PLANT BREEDING AND BIOTECHNOLOGY DIVISION
   Khumaltar, Lalitpur, Nepal
        : (5) 21614/ 21615
   Tel
2. 1966
3. A division of the NARC
4. Chief Agricultural Botanist
5. Plant Breeding
   Plant Genetic Resources
6. None
7. N.A
8. Annual Report
9. Scientists
               13 [B.Sc.-6; M.Sc.-6; Ph.D-1]
10. Rs 1.6 million
1. CENTRAL PLANT PATHOLOGY DIVISION
   Khumaltar, Lalitpur, Nepal
   Tel
        : (5) 21197/ 5-23143
2. 1959
3. A division of the NARC
4. Chief Plant Pathologist
5. Mycology
   Virology
   Bacteriology
   Nematology
   Seed Pathology
6. None
7. Books
                       1600
   Current Periodicals 15
8. Annual Report
9. Scientists
                 18 [B.Sc.-2; M.Sc.-12; Ph.D-4]
10. Rs 3.5 million
1. CENTRAL SEED SCIENCE AND TECHNOLOGY DIVISION
   Khumaltar, Lalitpur, Nepal
   Tel
2. 1982
3. A division of the NARC
4. Chief Seed Technologist
5. Seed Research
   Seed Testing Lab (Central)
   Seed Certification
6. None
7. N.A
8. N.A
9. Scientists
                9 [B.Sc.-4; M.Sc.-5]
   Technicians 7
10. Rs 1.15 million
1. CENTRAL SOIL SCIENCE DIVISION
   Khumaltar, Lalitpur, Nepal
   Tel
2. 1957
3. A division of the NARC
4. Chief Soil Scientist
5. Plant Nutrition
   Soil Survey
   Soil Physics
  Microbiology
6. None
7. Books
                         1250
```

Current Periodicals

15

- 8. Soil Survey Report
  - Annual Progress Report
- Scientists 14 Technicians 14 9. Scientists
- 10. Rs 1.78 million
- 1. CENTRAL AGRICULTURAL ENGINEERING DIVISION
  - Khumaltar, Lalitpur, Nepal
  - Tel : (5) 24351/ 21307
- 2. 1954
- 3. A division of the NARC
- Chief Agricultural Engineer
- 5. Irrigation Management
  - Farm Implement Design and development
- 6. None
- 7. N.A
- 8. Annual Report
- 9. Scientists 10 [B.Sc.-6; M.Sc.-4]
- 10. Rs 1.2 million
- 1. CENTRAL ANIMAL BREEDING DIVISION

Khumaltar, Lalitpur, Nepal

: (5) 23160 Tel

- 2. 1961
- 3. A division of the NARC
- 4. Chief Livestock Development Officer
- 5. Animal Breeding

Artificial Insemination

- 6. None
- 7. N.A
- 8. Annual Report
- 9. Scientists 4 [B.Sc.-1; M.Sc.-3]
- 10. Rs 1.2 million
- 1. CENTRAL ANIMAL DISEASE RESEARCH DIVISION

Tripureswor, Kathmandu, Nepal

Tel : (2) 16832

- 2. 1987
- 3. A division of the NARC
- 4. Divisional Chief
- 5. Epidemiology

Pathology

Parasitology

Bacteriology and Mycology

Virology

- 6. None
- 7. N.A
- 8. Annual Report
- 5 [B.Sc.-1; M.Sc.-3; Ph.D-1] 9. Scientists
- 10. Rs 1.9 million
- 1. CENTRAL ANIMAL NUTRITION DIVISION

Khumaltar, Lalitpur, Nepal

Tel : (5) 21650

- 2. 1981
- 3. A division of the NARC
- 4. Chief Nutritionist
- 5. Chemical Analysis

Digestibility

Feed Requirements

- 6. None
- 7. N.A
- 8. Annual Report
- 9. Scientists 4 [B.Sc.-3; M.Sc.-1]

#### 10. Rs 0.7 million

# 1. CENTRAL SOCIO-ECONOMIC RESEARCH DIVISION Khumaltar, Lalitpur, Nepal Tel : (5) 25703

- 2. 1985
- 3. A division of the NARC
- 4. Chief
- 5. Social Science
  Agricultural Economics
- 6. None
- 7. N.A
- 8. Annual Report
- 9. Scientists 6 [B.Sc.-4; M.Sc.-1; Ph.D-1]
- 10. N.A

# 1. CENTRAL FARMING SYSTEM AND OUTREACH RESEARCH DIVISION

Khumaltar, Lalitpur, Nepal

Tel: (5) 24040

- 2. 1987
- 3. A division of the NARC
- 4. Chief
- 5. Agronomy

Livestock/Agroforestry

- 6. None
- 7. N.A
- 8. Annual Report
- 9. Scientists 13 [B.Sc.-5; M.Sc.-8]
- 10. N.A

#### 1. NATIONAL GRAIN LEGUMES RESEARCH PROGRAMME

Rampur, Chitwan, Nepal

Tel

- 2. 1985
- 3. A division of the NARC
- 4. Grain Legumes Coordinator
- 5. Plant Breeding and Varietal Improvement

Agronomy

Plant Pathology

Entomology

Soil Fertility

- 6. None
- 7. N.A
- 8. Annual Report
- 9. Scientists 7 [B.Sc.-5; M.Sc.-2]
- 10. Rs 1.7 million

## 1. RESEARCH LABORATORY FOR AGRICULTURAL

#### BIOTECHNOLOGY AND BIOCHEMISTRY

P.O.Box 2128, Kathmandu, Nepal

Tel : (977) 1-522900

Telex: 2492 NP

Fax : 977 - 1 - 526318

- 2. 1986
- 3. A division of the NARC
- 4. N.A
- 5. Tissue Culture

Rice Biotechnology

Plant Microbiological Interaction

Biochemistry

- 6. None
- 7. Books 150 Current Periodicals 3
- 8. N.A

9. Scientists 18 Technicians 1

10. N.A

#### RESEARCH PROGRAMMES UNDER THE NARC

1. NATIONAL HILL CROPS RESEARCH PROGRAMME

Kabre, Dholakha, Nepal
Tel :

2. NEPAL MAIZE RESEARCH PROGRAMME

Rampur, Chitwan, Nepal

Tel

3. NATIONAL OILSEEDS RESEARCH PROGRAMME

Nawalpur, Sarlahi, Nepal

Tel:

4. NATIONAL RICE RESEARCH PROGRAMME

Parwanipur, Birgunj, Nepal

Tel : (051) 21460

5. NATIONAL SUGARCANE RESEARCH PROGRAMME

Jitpur, Bara, Nepal Tel: (053) 20171

6. NATIONAL TOBACCO RESEARCH PROGRAMME

Belachapi, Dhanusha, Nepal

Tel:

7. NATIONAL WHEAT RESEARCH PROGRAMME

Rupandhehi, Bhairahawa, Nepal

Tel : (071) 20226/ 20431

8. NATIONAL HORTICULTURE RESEARCH PROGRAMME

Kirtipur, Kathmandu, Nepal

Tel: (2) 11549

9. NATIONAL POTATO RESEARCH PROGRAMME

Khumaltar, Lalitpur, Nepal

Tel: (5) 22114

10. NATIONAL TEMEPERATE HORTICULTURE RESEARCH PROGRAMME

Marpha, Mustang, Nepal

Tel

11. NATIONAL PASTURE AND FODDER RESEARCH PROGRAMME

Khumaltar, Lalitpur, Nepal

Tel : (5) 23038

12. NATIONAL AVIAN AND SWINE RESEARCH PROGRAMME

Khumaltar, Lalitpur

Tel : (5) 21110

13. NATIONAL BOVINE RESEARCH PROGRAMME

Khumaltar, Lalitpur, Nepal

Tel: (5) 21423

14. NATIONAL SHEEP AND GOAT RESEARCH PROGRAMME

Guthichaur, Jumla, Nepal

Tel

15. NATIONAL AQUACULTURE RESEARCH PROGRAMME

Janakpur, Dhanusha, Nepal

Tel : (041) 20156/ 20396

# LIST OF RESEARCH STATIONS UNDER NARC

1. AGRICULTURAL RESEARCH STATION

Doti, Dipayal, Nepal

Tel : (094) 40111 Extn 162

2. AGRICULTURAL RESEARCH STATION

Tarahara, Sunsari, Nepal

Tel : (025) 80462
3. AGRICULTURAL RESEARCH STATION

Jumla, Nepal

Tel

4. AGRICULTURAL RESEARCH STATION

Khajura, Nepalganj, Nepal

Tel

5. AGRICULTURAL RESEARCH STATION

Dashrathpur, Surkhet, Nepal

6. AGRICULTURAL RESEARCH STATION

Rampur, Chitwan, Nepal

Tel

7. GOAT RESEARCH STATION

Bandipur, Tanahu, Nepal

8. FISHERY DEVELOPMENT RESEARCH STATION

Trisuli, Nuwakot, Nepal Tel : (010) 60226

9. FISHERY RESEARCH STATION

Pokhara, Kaski, Nepal

1. Institution: TRIBHUVAN UNIVERSITY

P.O.Box 3757, Kathmandu, Nepal

: (2) 11842

2. Year of Establishment: 1958; set up as a teaching and affiliating university; reorganised in 1971

3. Status: Autonomous body under the Ministry of Education, Government of Nepal

4. Head: Vice Chancellor - Prof B.C.Malla

5. Principal Units : Institute of Agriculture and Animal Sciences

Institute of Forestry

There are five other faculties, two other institutes and four research centres. In addition there are 67 campuses of the university and about 90 other private campuses under the university

6. Degrees Offered: B.Sc.Ag; B.Sc.Animal Husbandry

M.Sc.Ag; M.Sc.Animal Husbandry

7. Academic Year : July - June

8. Library : Books 162923

> Current Periodicals 11322

National Depository for UN, UNCRD Japan, WFS Netherland, CSIRO Australia, World Bank

9. Publications : TU Bulletin

Journals of the various institutes

10. Manpower: Teachers 4300

11. Budget :

# PAKISTAN

Selected Indicators of Agricultural Development

: PAKISTAN Country

Total Area : 77,088,000 Ha

Forest Coverage (%) : 5% Annual Average Change (%) : 1.7%

(For 1980-89) Cultivated Area : 20,610,000 : 122,626,000 Population

Annual Growth Rate : 3.8%

of Population

Agricultural Population : 53% Illiteracy Rate : 65%

: 49,477 million US \$ National GNP

GNP Per Capita : 410 US \$ : 1.7%

GNP: Real Growth Rate

(per capita)

Share of Agriculture : 24%

in GDP

Growth Rate of Agricultural

Production

Agricultural Export as % : 32%

of Total Export

Major Agricutural Commodities : Cereals, Milk, Meat, Pulses

Root Crops, Oil Crops

: Cereals, Vegetable Oils, Forestry Major Agricultural Imports

Products, Oil Seeds

: Cereals, Cotton Lint Major Agricutural Exports

## Selected Indicators of Research State of Agriculture and Reserch

Pakistan has large areas of fertile soils , suitable topography, favourable climatic conditions, and water wealth harnessed into a wellorganised system that permits the production of a variety of food feed, and fibre crops. The Indus basin is one of the world's largest natural resources, capable of producing about 100 million tonnes of foodgrains annually, but it barely produces a third of its potential. The country has been delineated into 10 agro-ecological regions:

1-Indus Delta

2-Southern Irrigated Plain

3-Sandy Desert(a&b)

4-Northern Irrigated plain(a&b)

5-Barani Lands 6-Wet Mountains

7-Northern Dry Mountains

8-Western Dry Mountains

9-Dry Western Plateau

10-Sulaiman Piedmont

Out of a total geographic area of 79.6 million hactares the cultivated area (1982-83) is 31.3 million hactare but only 20.4 million hactares are actually cultivated. Aconsiderable part of the remaining 10.9 million hactares could be developed for cultivation, if additional irrigation water becomes available.

The national average yields of major crops are far below the demonstrated production potentials. There is a wide gap (50-80%) in yields obtained at experiment stations using a complete package of improved technology and that of average farmers using traditional farming methods.

Pakistan is the home of some of the finest breeds of livestock having cosiderable scope for improving production. The country has vast inland and marine fisheries resources with enormous scope for further development.

However, despite the potential, the country is not producing enough of

several commodities (animal proteins, edible oils, dairy products, timber) to meet even the basic needs of the population.

The sixth 5-yr plan focussed on attaining greater self- sufficiency in agriculture. The maor components of the strategy were diversification of crops, increasing productivity particularly of small farmers, stengthening production and distribution, adoption of better agronomic practices, modernisation of agriculture, control of water-logging and salinity, enhancing water availability at the farm gate, with research facilities to be expanded accordingly.

The sixth five year plan failed to achieve the anticipated diversification towards high value crops and production of non-traditional oilseeds. In the seventh plan again it has been fully recognised that research, particularly in the evolution of high yielding varieties, plays an important role in the development of agriculture.

Prior to independence in 1947 agricultural research in Pakistan was centred in the agricultural college and research institute at Lyallpur (now Faisalabad). The Pakistan Agricultural Research Council (PARC) had its origin in the bifurcation of the Imperial Council of Agricultural Research in 1947. Initially, PARC had very limited resources, authority and responsibility until the 1970's. The first Director General of PARC was appointed in July 1972. The National Agricultural Research Centre (NARC) was established at Islamabad in 1978.

The Atomic Energy Agency of Pakistan had established the Nuclear Institutes of Biology in Punjab, Sindh and NWFP adjacent to the provincial agricultural research institutes. These nuclear institutes have been relatively well- supported by the Central Atomic Energy Agency. Their research programmes have extended beyond work with radiation and radio isotope tracers. Some of them appear to duplicate much of the work of the provincial agricultural research institutes, particularly in the area of crop breeding.

The Water and Power Development Authority (WAPDA) has done considerable research on the problems of on-farm distribution and use of irrigation water in the various irrigation systems.

There is a University Grants Commission (UGC) which assists all the universities in the country including agricultural universities, in formulating their basic budgets (salaries, capital development, maintenance and communications etc). These budgets are channeled through the central government via the Ministry of Education. The funds as approved and earmarked for each university are in turn provided by the UGC direct to the universities and do not go through the provincial government departments. In these budgets no specific amounts are provided for agricultural research although this element may be considered in framing the estimated requirements in the budget. The UGC also has some extra-fund provision to support proposals from the universities for travel grants.

The Central Cotton Committee (CCC) supports research on cotton production and varietal development at research stations at Multan and Sakrand, and on fibre technology at a laboratory in Karachi. Punjab province also has a cotton research station at Multan adjacent to the Central station of the CCC.

All the four provinces of Pakistan also have research institutes supported and directed through the provincial ministries of agriculture. Some of the major research programmes in the Punjab province seem to have been provided reasonable operating funds. In other provinces funds provided in the non-development budget for operations including seasonal labour, supplies, vehicle repair, fuel and minor equipment are so meagre as to preclude effective functioning of an active field research programme. Equipment repair/replacement funds are also inadequate. Presently, few research budgets contain even 25% for operations. In some cases it is even less than 10%. Having 50% of the total budget as operations excluding capital would be a useful guideline.

Personnel policies based on civil service rules are inappropriate for management of research personnel.

At present there are three agricultural universities in Pakistan,

namely, University of Agriculture, Faisalabad (1961); Sindh Agricultural University, Tandojam (1977) and the NWFP Agricultural University, Peshawar (1981). Several general universities also have a faculty of agriculture or allied sciences. Each university is an autonomous body with their basic financial support derived from the central government through the Ministry of Education and the UGC. The mission of the agricultural universities as well as of the agricultural faculties of general universities is considered by many to be solely academic instruction. A few faculty members obtain research grants from external sources and the post-graduate students produce thesis with limited research components. The universities, however, in general do not have funds or allocation of staff time for research as a recognized part of their basic mandate. The universities generally do not recognize any serious responsibility for agricultural improvement in their respective provinces. They, therefore, tend to become isolated enclaves seperated the mainstream of agricultural development. This in turn denies them adequate opportunity for the context and involvement that are neccessary to facilitate keeping update on advances in agricultural sciences and the corresponding regular revision and updating of syllabi and the content of their teaching programmes. Overall, the present situation inevitably results in gross underutilization of the large pool of scientific talent of the faculty members and the graduate students.

#### 1. PAKISTAN AGRICULTURAL RESEARCH COUNCIL (PARC)

Plot No. 20, G-5/1, P.O.Box 1031, Islamabad, Pakistan

Tel : 819051-70
Telex : 5604 PARC PK
Cable : AGRESCOUNCIL
Fax : 051 812968

2. 1979

- 3. A semi-autonomous body under the Ministry of Food, Agriculture and Livestock, Government of Pakistan
- 4. Chairman
- Crop Sciences
   Natural Resources
   Animal Sciences
   Social Sciences
   Support Services
- 6. None
- 7. Books 40000 Current Periodicals 99 Microforms 1200

Audiovisual Material 35 Video cassettes; 2 laser discs

8. Pakistan Journal of Agricultural Research

Pakistan Journal of Agricultural Social Sciences

PARC News

Progressive Farming

PARC Activities Bulletin

PARC Annual Report

- 9. Scientists 790 [ B.Sc.-276; M.Sc.-405; Ph.D.-109 ]
- 10. Rs 257.25 million

#### 1. NATIONAL AGRICULTURAL RESEARCH CENTRE (NARC)

Park Road, P.O. Nih, Islamabad, Pakistan

Tel : 240794

Telex: 5604 PARC PK Cable: AGRESCOUNCIL Fax: 9251 - 81268

- 2. 1978
- 3. Autonomous body under the PARC
- 4. Dr Munawar Ahmad Sial
- Crop Sciences
   Animal Sciences
   Range Research
   Honeybee Research

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Water Resources
   Land Resources
   Social Sciences
   Farm Machinery
   Training
   Central Laboratories and General Administration
б.
7. yes
8. Journals, annual reports and newsletters
9. 331 Researchers
10. N.A
1. AGRICULTURAL RESEARCH INSTITUTE
   Tarnab, Peshawar, NWFP, Pakistan
   Tel : 64304
   Telex :
   Cable : AGRI; RESEARCH PESHAWAR
2. 1908
3. Ministry of Agriculture, Government of NWFP, Peshawar
4. Abdul Rauf Khattak
5. Soil Nutrition
   Oilseed
   Horticulture (FATA)
   Agricultural Chemistry
   Plant Pathology
   Plant Physiology
   Entomology
   Food Technology
   Agronomy
   Vegetable Botany and Statistical Section
6.

    yes

8. Journals, Annual Reports, Newsletters
9. Researchers 97
10. N.A
1. KARAKORUM AGRICULTURAL RESEARCH INSTITUTE FOR NORTHERN AREAS (KARINA)
   Juglote, Gilgit, Pakistan Tel : 50
   Telex:
   Cable :
2. 1984
4. Director
5. Horticulture
  Agronomy
6.
7.
8.
9. Scientists
                   3
   Technicians
10. Rs 1.0 million
1. NUCLEAR INSTITUTE FOR AGRICULTURE AND BIOLOGY (NIAB)
   P.O.Box 128, Jhang Road, Faisalabad, Punjab, Pakistan
   Tel : 24210/ 28930/ 619726-30
  Telex:
  Cable : NIAB
2. 1972
4. Director
5. Mutation Breeding
  Biological Chemistry
  Soil Biology
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Entomology
  Biochemistry and Natural Product
  Technical Services
6.
                       5740
7. Books
  Current Periodicals
9. Scientists
                 132
  Technicians
                 88
10. Rs 26.73 million
1. NUCLEAR INSTITUTE FOR FOOD AND AGRICULTURE (NIFA)
   Tarnab, P.O. Box 446, Peshawar, NWFP, Pakistan
3. Autonomous body under the Ministry of Science and
   Technology, Islamabad, Pakistan
4. Dr Mohsin Muhammad Iqbal
5. Nuclear Agriculture
  Food Science
7. Yes
8. Journals, Annual Reports and Newsletters
9. Researchers
                 39
   Technicians
10. N.A
1. PAKISTAN CENTRAL COTTON COMMITTEE (PCCC)
   Moulvi Tamizuddin Khan Road, Karachi, Pakistan
   Tel: 524104-6
   Telex: 25992 RUPAK
   Cable : RUIPAK
        : 09221 - 515682
2. 1948
3.
4. Vice President
5. Research Institutes at Karachi, Sakrand and Multan
   Research Stations at Sahiwal, Ghotki, Bhawalpur,
   Multan and Dera Ismail Khan
6.
                         9502
7. Books
   Current Oeriodicals
                           86
8. World Markets Review
   The Pakistan Cottons
   Annual Report
9. Scientists 234 [B.Sc.-50; M.Sc.-176; Ph.D.-8]
10. Rs 39.24 million
1. AGRICULTURAL RESEARCH INSTITUTE (ARI)
   Ratta Kulachi, Dera Ismail Khan, NWFP, Paakistan
   Tel
         : 3769
   Telex:
   Cable :
2. 1962
3.
4. Director
5. Agronomy
   Soil Science
   Food Technology
   Plant Pathology
   Entomology
   Horticulture
   Oilseed
   Millet
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Wheat

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Rice
    Cropping Pattern Research Sections
 6.
7. Books
                          1598
   Current Periodicals
8. Annual Progress Report
9. Scientists
                  47 [B.Sc.-4; M.Sc-41; Ph.D-2]
11. Rs 7.54 million
1. AYUB AGRICULTURAL RESEARCH INSTITUTE (AARI)
   Jhang Road, Faisalabad, Pakistan
         : 24359/ 30548
   Telex :
   Cable :
2. 1962
3.
4. Director General
5. Agronomic Research
                          Institute, Faisalabad Wheat Research Institute,
   Faisalabad Vegetable Research Institute, Faisalabad Sugarcane Research
   Institute, Faisalabad Cotton Research Institute, Faisalabad Oilseeds
   Research Institute, Faisalabad Pulses Research Institute, Faisalabad
   Horticultural
                  Research
                             Institute, Faisalabad Postharvest
   Institute, Faisalabad Agricultural Biotecnology Research Institute, Faisalabad Fodder Research Institute, Sargodha Maize and Millets Research
   Institute, Yusufwala Barani Agricultural Research Institute, Chakwal Soil
   and Water Conservation Institute, Chakwal Rice Research Institute, Kala
   Shah Kaku Soil Salinity Research Institute, Pindi Phattiyan Regional
   Agricultural Research Institute, Bahawalpur Rapid Soil Fertility Survey
   and Soil Testing Institute, Lahore
6.
7. Books
                          15701
   Current Periodicals
                           888
                           7659
   Microforms
   Audiovisual Material
9. Scientists
                 720 [B.Sc-118; M.Sc.-576; Ph.D.-26]
10. Rs 116.04 Million
1. BARANI AGRICULTURAL RESEARCH INSTITUTE (BARI)
   G.P.O.Box 35, Chakwal 48800, Punjab, Pakistan
   Tel
       : (0573)-2797
   Telex:
   Cable:
2. 1979
3.
4. Director
5. Crop Breeding
   Soil Science and Conservation
   Agronomy
   Plant Protection
  Horticulture
  Agricultural Engineering and Food Technology
  Horticulture
7. Books 530
8.
9. Scientists 81 [B.Sc.-40; M.Sc.40; Ph.D-1]
10. Rs 6.43 million
1. CEREAL CROPS RESEARCH INSTITUE (CCRI)
  Pirsabak, Nowshera, NWFP, Pakistan
        : (05231) 2521
  Telex:
  Cable :
```

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2. 1980
4. Director
5. Plant Breeding and Genetics
   Agronomy
   Entomology
   Pathology
   Statistics and Computer
   Agricultural Economy
   Agricultural Engineering
   Agricultural Chemistry
6.
7. Books
                         200
   Audiovisual Material
                         50
8.
9. Scientists 32 [B.Sc.-4; M.Sc.-26; Ph.D.-2]
10. Rs 5.38 million
1. MAIZE AND MILLETS RESEARCH INSTITUTE (MMRI)
   Yusafwala, Sahiwal, Punjab, Pakistan
        : 75710
   Tel
   Telex:
   Cable:
2. 1969
4. Director
5. Breeding
  Agronomy
   Plant Protection
                          70
   Current Periodicals
                         141
  Microforms
                        7500 ???
8.
9. Scientists
                43
   Technicians
                 3
10. Rs 7.74 million
1. NATIONAL NEMATOLOGICAL RESEARCH CENTRE (NNRC)
   University of Karachi, Karachi 75270, Pakistan
   Tel : 479001-6/ 2275
   Telex:
   Cable:
2. 1976
4. Director
5. Taxonomy and Systematics
   Chemical and Biocontrol
6. Ph.D. in Nematology
7. Books
            500
8. Pakistan Journal of Nematology
9. Scientists 7 [M.Sc.-4; Ph.D-3]
10. Rs 0.35 million
1. NATIONAL TEA RESEARCH STATION (NTRS)
   Shinkiari, Mansehra, NWFP, Pakistan
       : 2795
  Telex:
   Cable:
2. 1989
4. Project Director
5. Soil Science
   Entomology
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Agronomy/Horticulture
6.
7.
8.
9. Scientists
                5 [M.Sc.-4; Ph.D.-1]
10. Rs 1.60 million
1. PLANT PROTECTION INSTITUTE (PPI)
   Directorate of Plant Protection Institute
   Faisalabad, Punjab, Pakistan
   Tel
        : 26324
   Telex:
   Cable :
2. 1070
3.
4. Director
5. Pesticides
   Pest Management
   Pest Control Training
   Bee Keeping and Hill Fruit Pests Research Station, Rawalpindi
6.
7. Books
                          388
   Current Periodicals
                         102
9. Scientists 38 [B.Sc.-1; M.Sc.-35; Ph.D -2]
10. Rs 8.03 million
1. DEPARTMENT OF PLANT PROTECTION
   Jinnah Avenue, Malir Halt, Karachi 75100, Pakistan
   Tel : 430111
   Telex: 24057DPPKR PK
   Cable : LOCUSWAR
   Fax
2. 1947
3. Department or division within an Institution. Under the
   Ministry of Food, Agriculture and Cooperatives, Islamabad, Pakistan
4. Dr Muhammad Shafi
5.
6.
7.
8.
9. Researchers
                   45
10. N.A
1. TROPICAL AGRICULTURAL RESEARCH INSTITUTE (TARI)
   Old Block 9 & 10, Karachi University Campus
   P.O.Box 8401, Karachi, Pakistan
        : 470809
   Tel
   Telex:
   Cable : AGRESCOUNCIL
2. 1954
3. Autonomous body under the Pakistan Agricultural
   Research Council, Islamabad, Pakistan
4. Dr M.M.H Baig
5. Pesticide Research Lab
  Grain Storage Research Lab
  Vertebrate Pest Control Research Lab
  Locust and Grass Hoppers Research Lab
6.
7. Yes
8. Journals, Annual Reports, Newsletters
9. Researchers
  Technicians 144
10. N.A
```

```
1. PULSES RESEARCH INSTITUTE (PRI)
   Ayub Agricultural Research Institute
   Faisalabad, Punjab, Pakistan
        : 32633/ 33119
   Telex:
   Cable :
2. 1982
3.
4. Director
5. Plant Breeding
   Plant Pathology
   Entomology
   Soil Bacteriology
   Agronomy
6.
7. Books 50
8.
9. Scientists
               34 [B.Sc.-1; M.Sc.-31; Ph.D.-2]
10. Rs 4.55 million
1. RICE RESEARCH INSTITUTE (RRI)
   Dokri, Larkana, Sindh, Punjab
   Tel: Dokri-5, Larkana-60877
   Telex:
   Cable :
2. 1973
4. Director
5. Rice Breeding
   Agronomy
   Soil Science
   Plant Protection
   Economics
   Statistics
   Communication
   Milling and Store
   Plant Physiology
6.
7. Books
                           3268
   Current Periodicals
8.
9. Scientists
               84
    Technicians 13
10. Rs 7.27 million
1. RICE RESEARCH INSTITUTE (RRI)
   Kala Shah Kaku, Lahore, Punjab, Pakistan Tel : 700368/ 700845
   Telex:
   Cable :
2. 1970
4. Director
5. Breeding
  Agronomy
   Soil Science
   Entomology
   Plant Pathology
   Rice Technology
   Agricultural Engineering
   Statistics
6.
7. Books
         1000
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8.
     Scientists
     Technicians 15
 10. Rs 5.06 million
 1. AGRICULTURAL RESEARCH INSTITUTE
    Tandojam, Hyderabad, Sindh, Pakistan
         : 421
    Telex :
    Cable:
 2. 1926
 3. Department or Division within an Intitution under the
    Agriculture and Wildlife Department, Government of Sindh
    Karachi, Pakistan
 4. Dr K.K. Baloch
 5. Agronomy
    Plant Physiology
   Agricultural Chemistry (Soils)
   Agricultural Chemistry (S.F)
   Soil Fertility
   Cotton
   Sugar
   Entomology
   Statistics
   Plant Pathology
6.
7. Yes
8. Journals, Annual Reports and Newsletter
9. Scientists 201
   Technicians 663
10.N.A
1. AGRICULTURAL RESEARCH STATION
   Mingora, Swat, Peshawar, Pakistan
   Tel
        : 2284
   Telex:
   Cable:
2. 1980
3. Department or Division within an institution; under the
   Agriculture Department, Government of NWFP, Peshawar, Pakistan
4. Mohibullah Khan
5. Horticulture
   Vegetable Botany
   Rice Botany
   Potato Botany
   Food Technology
   Plant Pathology
   Entomology
6.
7. N.A
8. Newsletters
9. Scientists
                 31
10. N.A
1. AGRICULTURAL RESEARCH STATION
   Dhodial, Mansehra, NWFP, Pakistan
   Tel
        : 42
  Telex:
  Cable :
2. 1990
3. Department or Division within an institution; under the Department of
  Agriculture, Governemtnof NWFP, Peshawar, Pakistan.
4. Gulfam Khan
5. Economic Botany
```

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Cereal Botany
  Agricultural Chemistry
  Horticulture
  Maize Botany
   Plant Pathology
   Entomology
6.
7. N.A.
8. Journals and Newsletters
9. Scientists
  Technicians
10. N.A
1. AGRICULTURAL RESEARCH INSTITUTE
   Sariab, Quetta, Balochistan, Pakistan
       : 43581
   Telex :
   Cable:
2. 1070
3. Department or Division within an institution; under the Agriculture
  Department, Government of Balochistan, Quetta, Pakistan
4. Dr Abdul Hameed Bajoi
6.
8.
9. Newsletters
10. Scientists
                  47
10. N.A
1. SOUTHERN ZONE AGRICULTURAL RESEARCH INSTITUTE (SZARI)
   House No. 10-B, Hashimabad Housing Society, Makli,
   District Thatta, Sindh, Pakistan
  Tel
        : (029) 524
  Telex :
   Cable:
2. 1987
3. Autonomous body under the Pakistan Agricultural Research
   Council, Islamabad, Pakistan
4. Dr Haji Khan Keerio
5. Plant Introduction Centre
б.
7.
8. Newsletters
9. Scientists
  Technicians 3
10. N.A
1. SUGAR CROPS RESEARCH INSTITUTE (SCRI)
  Mardan, NWFP, Pakistan
   Tel
       : (0531) 62170
   Telex:
   Cable:
2. 1951
3.
4. Director
5. Sugarcane Agronomy
   Sugarcane Botany
   Sugarbeet Agronomy
   Sugarbeet Botany
   Sugar Crops Chemistry
   Sugar Crops Entomology
   Sugar Crops Pathology
6.
7. Books
                          160
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Current Periodicals
   Audiovisual Material
8.
9. Scientists 19 [B.Sc.-1; M.Sc.-17; Ph.D.-1]
10. Rs 3.20 million
1. SUGARCANE RESEARCH INSTITUTE (SRI)
   Ayub Agricultural Research Institute
   Faisalabad, Punjab, Pakistan
         : 27817/ 610245/ 34879
   Telex:
   Cable:
2. 1978
4. Director
5. Sugarcane Section, Faisalabad
   Pakistan Sugarcane Agronomists' Office, Faisalabad
   Sugarcane Research Station, Khanpur
6.
7. Books
                        345
   Current Periodicals
8.
9. Scientists
                35
   Technicians 22
10. Rs 5.67 million
1. WHEAT RESEARCH INSTITUTE (WRI)
   Faisalabad, Punjab, Pakistan
   Tel
        : 31529
   Telex:
   Cable :
2. 1975
3.
4. Director
5.
6.
7. Books
           131
8.
9. Scientists
                36
   Technicians
10. Rs 5.13 million (1990-91)
1. WHEAT RESEARCH INSTITUTE (WRI)
   Tandojam, Sindh, Pakistan
       : 236
   Tel
   Telex:
   Cable:
2. 1986
3.
4. Director
5. Wheat Breeding
  Barley Breeding
  Agronomy
   Pathology
   Entomology
   Chemistry
   Statistics and Communication
6.
7. Book
             325
8.
9. Scientists 28 [B.Sc.-5; M.Sc.-23]
10. Rs 1.63 million
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1. POTATO RESEARCH CENTRE
   P.O. Mirpur, Abbottabad, NWFP, Pakistan
   Tel: 4573
  Telex:
   Cable :
2. 1978
3.
4. Project Director
6.
7.
8.
               10 [B.Sc.-1; M.Sc.-9]
9. Scientists
10. Rs 2.3 million
1. SINDH HORTICULTURAL RESEARCH INSTITUTE (SHRI)
   Mirpurkhas, Sindh, Pakistan
   Tel : 2417
   Telex:
   Cable:
2. 1985
3. Department or Division within an Institution; under the
  Agriculture Department, Government of Sindh, Karachi, Pakistan.
4. Syed Javed Iqbal Bukhari
5. Statistics
   Soil Science
   Entomology
   Plant Pathology
   Past Harvest Technology
  Horticulture
6.
7. Yes
8. Journals, Annual Reports, Newsletters
9. Scientists
10.
1. VEGETABLE RESEARCH INSTITUTE (VRI)
   Faisalabad 38950, Punjab, Pakistan
   Tel: (0411) 32518
   Telex :
   Cable :
2. 1976
3.
4. Director
5. Vegetable Research Section, Faisalabad Ginger Research Section, Faisalabas
   Vegetable HSP Section, Faisalabad Potato Research Section, Sialkot
6.
7. Books 74
8.
                33 [B.Sc.Ag-2; M.Sc.-30; Ph.D-1]
9. Scientists
   Technicians 30
10. Rs 5.87 million
1. FODDER RESEARCH INSTITUTE (FRI)
   Post Box No. 43, Sargodha, Punjab, Pakistan
   Tel : 65653
   Telex :
   Cable :
2. 1981
4. Director
5. Plant Breeding
   Soil Science
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Plant Pathology
   Entomology
7. Books
                            148
   Current Periodicals
                            636
8.
9. Scientists
                 49
   Technicians
10. Rs 9.32 million
1. SOIL FERTILITY SURVEY AND SOIL TESTING INSTUTUTE (SFSSTI)
   24-A, Ferozepur Road, Lahore, Punjab, Pakistan Tel : (042) 489067/ 489535
   Telex:
   Cable :
2. 1962
4. Director
5. Field Wing
   Laboratory Wing
6.
7. Books
                         481
   Current Periodicals
                          10
8. Annual Report of Soil Fertility Investigations in Farmer's
   Fields
   Annual Report of Advisory Service
9. Scientists 165 [B.Sc.-1; M.Sc.-163; Ph.D.-1]
10. Rs 14.48 million
1. AGRICULTURAL MECHANIZATION RESEARCH INSTITUTE (AMRI)
   P.O.Box 416, Multan, Punjab, Pakistan
   Tel : (061) 32131/ 72207
   Telex :
   Cable : AMRI Pakistan
2. 1978
3.
4. Director
5. Design and Development
   Test and Trial
   Fabrication and Workshop
   Industrial Research and Extension
   Agronomy and Services
   Research
6.
7. Books
                          1031
8.
9. Scientists
                25
   Technicians
                 3
10. Rs 6.98 million
1. COTTON RESEARCH INSTITUTE (CRI)
   Tel : (02234) 456
2. 1976
3. Autonomous body under the Ministry of Food, Agriculture
   and Cooperatives, Islamabad, Pakistan.
4. Asghar Mohammad Khan
5. Plant Breeding
  Plant Genetics
  Cytogenetics
  Entomology
  Agronomy
   Plant Pathology
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Plant Physiology

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7. Yes
8. Journals, Annual Reports, Newsletters
                35
9. Researchers
   Technicians
                 80
10.
1. PAKISTAN INSTITUTE OF COTTON RESEARCH AND TECHNOLOGY (PICRT)
  Moulvi Tamizuddin Khan Road, Karachi, Pakistan
        : 5682228
  Telex: 25992 RUPAK
  Cable : RUIPAK
        : 21992
  Fax
2. 1955
3. Autonomous body under the Ministry of Food, Agriculture and
   Cooperatives, Islamabad, Pakistan
4. I.H.Reshamwala
5. Textile Physics
  Testing
  Textile Chemistry, X-Ray and Microscopy
  Cotton Seed
   Quality Survey
   Electronic Maintenance
  Spinning
б.
7. Yes
8. Journals and Newsletters
9. Researchers
                   25
  Technicians
                   62
10.
1. PAKISTAN TOBACCO BOARD (PTB)
   P.O.Box 188, Peshawar Cantt, NWFP, Pakistan
       : 812 435/ 812491
   Tel
   Telex:
  Cable : PEETEEBEE
2. 1968
4. Chairman
5. General Administration
  Finance and Planning
  Research and Development
  Marketing and Statistics
6.
7. Books
                        700
   Current Periodicals 100
8. Pak Tobacco Journal
9. Scientists 51
   Technicians 11
10. Rs 15.35 million
1. DRAINAGE AND RECLAMATION INSTITUTE OF PAKISTAN (DRIP)
   Tando Jam, Hyderabad, 700060, Sindh, Pakistan
       : (02233) 331, (0221) 40409
   Tel
  Telex:
  Cable :
2. 1975
3.
4. Director General
5. Drainage Engineering
   Soil and Water Reclamation
   Irrigation Practices and Water Management
   Lysimeter Studies, Economics and Statistics
```

6.

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Documentation and Dissemination
6.
7. Books
                          1017
   Current Periodicals
                            37
   Microforms
                            21
   Audiovisual Material
                           47
8. Journal of Drainage and Reclamation
9. Scientists 33
   Technicians 26
10. Rs 8.25 million
1. PAKSITAN COUNCIL FOR RESEARCH IN WATER RESOURCES (PCRWR)
   H.4, St.41, F-6/1, Islamabad, Pakistan
        : (051) 820732/ 813175
   Telex :
   Cable : WATRES
2. 1964
3. Semi-autonomous body under the Ministry of Science and
   Technology, Government of Pakistan, Islamabad
4. Dr Bashir Ahmad Chandio
5. Drainage and Reclamation Institute of Pakistan
   Water Resources Research Centre, Islamabad
   Water Resources Research Centre, Gilgit
   Water Resources Research Centre, Quetta
   Regional Office, Lahore
   Regional Office, Bahawalpur
6.
7. Yes
8. Journals, Annual Reports, Newsletter
9. Scientists
                 77
   Technicians
                 30
10.
1. MONA RECLAIMATAION EXPERIMENTAL PROJECT (WAPDA)
   Tel : (0455) 2756
   Telex :
   Cable :
2. 1965
3. Autonomous body under the Water and Power Development
  Authority, Minsitry of Water and Power Government of
  Pakistan, Islamabad
4.
5. Agronomy
  Hydrology and Water Management
  Soil and Reclamaiation
  Agricultural Economics
  Agricultural Extension
6.
7. Yes
8. Journals and Newsletters
9. Scientists
                      26
  Technicians
                      39
1. SALINITY MONITORING DIRECTORATE (SMD)
  SMO, WAPDA, Canal Bank, Moghalpura, Lahore, Pakistan
        : 331952
  Tel
  Telex:
  Cable :
3. Autonomous body under the Water and Power Development Authority, Ministry
  of Water and Power, Government of Pakistan
4. Muhammad Ahsan Khan
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Soil and Analysis Laboratory

```
5. Water Quality Monitoring Section
   Soil Monitoring and Agricultural Studies
   Soil Salinity Survey
   Soil and Water Laboratory
   Salinity Monitoring Laboratory, Peshawar
7.
8. Newsletter
                 22
9. Scientists
   Technicians
                 45
1. LOWER INDUS WATER MANAGEMENT AND RECLAMATION RESEARCH PROJECT (LIWMRRP)
   P.O.Box 1036, Hyderabad 71800, Pakistan
   Tel
        : 40148-49
  Telex:
  Cable:
2. 1980
4. Project Director
5. Soil and Water Quality
  Agronomy
  Water Management and Hydrology
  Agricultural Economics
6.
7. Books
  Audiovisual Material
8.
9. Scientists
               11 [B.Sc.-3; B.E.-3; M.Sc.-4; Ph.D.-1]
10. Rs 9 million
1. SOIL SURVEY OF PAKISTAN (SSP)
  Multan Road, Shahnoor, Lahore 54570, Pakistan
       : 431377/ 443635
  Telex: 44715 FDFI PAK
  Cable : PAKSOILS
2. 1962
3.
4. Director General
5. Reconnaissance Soil Survey of Pakistan
   Soil Survey Interpretations
   Basic Soil Investigations
  National Institute of Soil Survey
  Transfer of Soils Technology to Agricultural Departments
6.
                        2500
  Current Periodicals
                           2
  Microforms
                53 [ B.Sc.-11; M.Sc.-42 ]
9. Scientists
10.Rs 10.11 million
1. FARMS MACHINERY INSTITUTE (FMI)
  National Agricultural Reserach Centre
   Park Road, Islamabad 45500, Pakistan
        : (051) 820370/ 820380
  Tel
   Telex: 5604 PARC-PK
   Cable : MACDIV
   Fax
        : (051) 812968
2. 1976
3.
4. Director
5. Tillage, Seeding and Planting
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Harvesting and Threshing

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Mechanisation and Industrial Research
6.
7. Books
                            400
   Current Periodicals
                             30
   Audiovisual Material
                             70
8. Published by the Directorate of Publication of the Pakistan
   Agricultural Research Council
9. Scientists
                 25
   Technicians
10. Rs 2.85 million
1. ANIMAL SCIENCES INSTITUTE (ASI)
   P.O.. National Institute of Health
   Chak Shahzad, Islamabad, Pakistan
   Tel : 892813/ 820989
   Telex: PARC 5604 PAK
   Cable : AGRICOUNCIL
2. 1977
3.
4. Director
5. Animal Production
   Animal Health
   Fisheries
   Livestock Research Station
6.
7. Using NARC library
8.
9. Scientists
   Technicians
10. Rs 8.0 million
1. RESEARCH INSTITUTE FOR PHYSIOLOGY OF ANIMAL REPRODUCTION
   Bhunikey (Pattoki), Kasur District, Punjab, Pakistan
   ጥ<sub>ድ</sub> ገ
        : (04942) 2447
   Telex :
   Cable:
2. 1982
3. Department or Division within an Institution; under the
   Livestock and Dairy Developemnt Department, Punjab, Lahore
4. Dr Rizwan-Ul-Muqtadar
5. Livestock Experiment Station
   Inservice Training Institute
   Dairy Training and Technology Centre
  A.I.Division
   Cytogenetics Division
   Microbiology Division
   Harmone and Biochemical Division
   Embryo Transfer Cell
6.
7. Yes
8. Newsletters
9. Scientists
                14
   Technicians
10.
1. HONEYBEE RESEARCH LABORATORY (HRL)
  P.O. NARC, Islamabad, Pakistan
       : 829564/ 820052/ 46, 820052/ 47
  Telex: 5604, PARC-PK
  Cable : AGRESCOUNCIL
2. 1976
4. Deputy Director General (Operations)
5. Natural Resources
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6. Ph.D. in Apiculture
                                1200
7. Books
   Current Periodicals
                                  60
   Audiovisual Material (slides) 50
8.
9. Scientists
                4 [B.Sc.-1; M.Sc.-1; M.Phil.-1; Ph.D.-1]
   Technicians
               12
10. Rs 1.2 million
1. LIVESTOCK PRODUCTION RESEARCH INSTITUTE (LPRI)
   Bahadurnagar, Okara, Pakistan
Tel : 3181/ 3593/ 3557
   Telex:
   Cable : LIVEINST
2. 1977
4. Director
5. Animal Breeding and Genetics
   Feeding and Management
   Development Support Communication
   Economics and Marketing
   Fodder Crops
   Health Control
   Common Service
   Farm Division
   Livestock Experiment Stations
6.
7. Books
                        2700
   Current Periodicals
                          20
   Audiovisual Material
8. Annual Research Report
9. Scientists
                 45 [ B.Sc./D.V.M.-12; M.Sc.-33 ]
   Technicians
                 71
10. Rs 21.77 million
1. VERTEBRATE PEST CONTROL LABORATORY (VPCL)
   Post Box 8401, Karachi University Campus
   Karachi 75270, Karachi, Pakistan
        : 474081-4/ 472257
   Tel
2. 1971
3.
4. Project Director
5. Mammalogy
   Medical Zoology
   Toxicology
   Micrbiology
   Ornithology
6.
7. Books
                          500
   Current Periodicals
                          10
   Audiovisual Material 250
8.
9. Scientists
                11 [B.Sc.-1; M.Phil./M.Sc.-8; Ph.D.-2]
10. Rs 2.82 million
1. LIVESTOCK DEVELOPMENT RESEARCH CENTRE (LDRC)
   P.O.Box 112, Muzaffarabad, Azad Jammu and Kashmir
   Pakistan
   Tel
        : 4124
   Telex:
   Cable:
2. 1989
3. Department or Division within an Institution
4. Dr Muhammad Safdar Durani
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5. Research on Local Non-Discript Animal
   Research on Cross Bred Animal
   Research on Buff
   Research on Goat
6.
7.
8. Newsletters
9. Scientists
                    3
   Technicians
                   11
10.
1. POULTRY DEVELOPMENT CENTRE (PDC)
   Directorate of Poultry Development Centre, Punjab
   Murree Road, Shamsabad, Rawalpindi, Pakistan
   Tel : 840836/ 840685
   Telex:
   Cable : POULTRY
2. 1977
3. Department or Division within an Institution; under the
   Ministry of Livestock and Dairy Development, Government
   of Punjab, Pakistan
4. Dr Bashir Mahmood Bhatti
5. Disease Diagnostic Division
   Nutrition and Feed Testing Division
   Extension and Education Division
   Marketing and Procesing Division
7. Yes
8. Journals, Annual Reports, Newsletters
9. Scientists
                 125
   Technicians
                 189
10.
1. DIRECTORATE OF LIVESTOCK FARMS
   16-KH, Nazim-Ud-Din, Cooper Road, Lahore 6, Punjab, Pakistan
   Tel
        : 222905-6-7
   Telex :
   Cable : LIVE FARMS
2. 1962
3. Department or Division within an Institution; under the Livestock and
   Dairy Development Department, Lahore, Punjab
4. Ch Muhammad Ikram-Ul-Haq
5. Animal Nutrition Centre, Rakh Dera, Chahl District, Lahore
   Sheep and Goat Development Centre, Rakh Khairewala, Layyah District
   Sheep and Goat Development Project, Multan
   Wool Research Lab, Bhawalpur
   18 Livestock Experiment Stations
б.
7. Yes
8. Newsletters
9. Scientists
                   67
   Technicians
                  274
10.
1. VETERINARY RESEARCH INSTITUTE (VRI)
  Ghazi Road, Lahore Cantt, Punjab, Pakistan
   Tel
        : 370006
  Telex :
  Cable : VETRES
2. 1963
4.Director
5. Virology
  Florescence Microscopy and Tisue Culture
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Bacteriology
   Sterilization and Mycoplasmosis
   Poultry Vaccine and Pathology
   Newly-emerging, Obscure and Mycotic Diseases
   Parasitology and Acarology (?)
   Disease Investigation, Disease Intelligence, Zoonosis and Histopatholgy
   Foot and Mouth Disease Research Centre
6.
                        5000
7. Books
   Current Periodicals
                          25
8. Pakistan Journal of Veterinary Research
              99 [ B.Sc.-63; M.Sc.-36 ]
9. Scientists
10. Rs 18.18 million
1. DIRECTORATE OF VETERINARY RESEARCH INSTITUTE (DVRI)
   Bacha Khan Chock, Peshawar, NWFP, Pakistan
        : 274891-2/ 276296 / 274985
   Tel
   Telex:
   Cable : VETRESS
2. 1949
   Department or Division within an Institution; under the Agriculture
  Ministry, Government of NWFP, Peshawar
4. Dr Mohammad Bashir Quresh
5. Biological Production Division
   Parasitology Division
  Microbiology Division
   Biotechnology Division
   Livestock Research and Development Farm Surrezai
6.
7.
8. Journals, Annual Reports, Newsletters
9. Scientists
               44
   Technicians 31
10.
1. FISHERIES RESEARCH INSTITUTE (FRI)
   G.T.Road, Manawan, P.O.Box Batapur, Lahore, Pakistan
   Tel
        : 338415
   Telex :
   Cable :
2. 1969
3. Department or Division within an Institution; under Secretary
   of Forestry; Wildlife; Fisheries and Tourism Department,
   Government of Punjab, Lahore
4. Muhammad Nazir Bhatti
5.
б.
7. Newsletters
                 31
8. Scientists
   Technicians
9.
10.
1. MARINE FISHERIES DEPARTMENT (MFD)
   West Wherf, Fish Harbour, Karachi 2, Pakistan
        : 202795-8
   Tel
   Telex:
   Cable : CANTFISH
2.
4. Director General
5. Fisheries Technology
   Research
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Planning

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7. Books
                       1951
   Current Periodicals
                       30
   Microforms
   Audiovisual Material
8. Handbook of Fisheries Statistics
   Fisheries Newsletter
9. Scientists 33 [ B.Sc-18; M.Sc.-14; Ph.D-1 ]
   Technicians 37
10. Rs 9.23 million
1. PAKISTAN FOREST INSTITUTE (PFI)
   Peshawar, NWFP, Pakistan
        : 40580
   Tel
   Telex : PAKFI
   Cable :
2. 1948
3.
4. Director General
5. Forestry Research
   Forest Products Research
   Sericulture Research
   Watershed Management Research
   Educational and Biological Sciences Research
6. B.Sc. and M.Sc in Forestry
7. Books
                          52000
   Current Periodicals
8. Pakistan Journal of Forestry
9. Scientists
              14
   Technicians 10
10. Rs 11 million
1. PUNJAB FORESTRY RESEARCH INSTITUTE (PFRI)
   Tel
       : 53405-6
   Telex :
   Cable : PUFRI
2. 1986
3. Department or Division within an Institution; under the
   Forestry; Wildlife; Fisheries and Tourism Department,
   Government of Punjab, Lahore
4. Sahibzada Muhammad Hafeez
5. Silviculture Research Division
   Forest Management Research Division
  Range Management Research Division
  Sericulture Research Institution
  Pest Control Reserach Division
  Forestry Education and Training Division
   Forest School Ghora Gali
   Forest School Bhawalpur
6.
7. Yes
8. Journals, Annual Reports, Newsletter
9. Scientists
                37
  Technicians
                  84
10.
1. RANGELAND RESEARCH INSTITUTE (RRI)
  National Agriculture Research Centre, Park Road
  P.O. Box 1031, Islamabad, Pakistan
  Tel
        : (051) 820052/53, 815436 (Director's residence)
  Telex :
  Cable : AGRESCOUNCIL
  Fax : 812968
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2. 1991
З.
4. Director
5. Forage and Pasture Research Programme
  Agroforestry
  Agro-ecology
  Wildlife
  National Herbarium
                            40000
7. Books
  Current Periodicals
                              900
                              500
  Microforms
  Audiovisual Material
   Laser Film
8. Pakistan Journal of Agricultural Research
   Progressive Farming
                 23 [B.Sc.-2; M.Sc.-13; Ph.D.-8]
9. Scientists
                  2
  Technicians
10. Rs 1.8 million
1. FACULTY OF AGRICULTURE, GOMAL UNIVERSITY
  Dera Ismail Khan, NWFP, Pakistan
        : 4395
  Telex:
   Cable :
  Fax: 4673 (0529)
2. 1979
3. Semi-Autonomous; under Gomal University through the UGC
   under the Ministry of Food, Science and Technology
4. Dr Ahmad Khan Baloch
5. Animal Science
  Agricultural Chemistry
  Agricultural Economics
  Entomology
  Horticulture
   Plant Breeding and Genetics
   Food Science and Technology
   Soil Science
  Agronomy
   Farm Mechanization
6.
7. Yes
8. Journals
9. Scientists
                   48
  Technicians
10.
1. UNIVERSITY COLLEGE OF AGRICULTURE
   B.Z.University, Multan 60800, Pakistan
Tel : 75581/ 40316/ 33162
   Telex:
   Cable:
         : 41165
   Fax
2. 1989
3. Department or Division within an Institution; under the
  UGC, Islamabad
4. Dr Zahid Ata Cheema
5. Agronomy
   Entomology
6.
7. Yes
8. Journals, Annual Reports, Newsletters
9. Scientists
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10.

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Rawalkot, Azad Kashmir, Pakistan
   Tel
        : 92-576-2688
   Telex:
   Cable :
   Fax
        : 92-576-2826
3. Autonomous body under the UGC, Isalamabad
4. Dr M. Fasahat Ali Khan
5. Soil Science
  Agronomy
   Horticulture
   Entomology
   Food Technology
   Plant Breeding and Genetics
  Animal Sciences
6.
7. Yes
8.
9. Scientists
                 38
   Technicians
                 14
10.
1. BARANI AGRICULTURAL COLLEGE
   Murree Road, Rawalpindi, Pakistan
   Tel
        : 843882/ 426707
   Telex:
   Cable:
        : 051-426808
   Fax
2. 1979
3. Department or Division within an Institution; under the
   Government of Punjab, Lahore
4. Dr Muhammad Azam Khan
5. Agronomy
  Agriculture
   Entomology and Zoology
  Horticulture
   Soil Science
   Plant Pathology
   Plant Breeding and Genetics
   Food Technology
  Agricultural Economics
6.
7. Yes
8. Journals, Annual Reports, Newsletters
9. Scientists
                42
   Technicians
10.
1. Institution : NORTH -WEST FRONTIER PROVINCE AGRICULTURAL UNIVERSITY
                 (NWFPAU)
                 Peshawar, Pakistan
                 Tel
                     : (0521) 40230 - 9
2. Year of Establishment: 1981
3. Status : Autonomous body under the Ministry of
            Agriculture, Government of NWFP
4. Head: Vice Chancellor - A.R.Khan
5. Principal Units: Animal Husbandry and Veterinary Science
                     Crop Production Science
                     Crop Protection Science
                     Rural Social Science
                     Natural Sciences
                     Institute of Development Studies
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1. UNIVERSITY COLLEGE OF AGRICULTURE

12 off-campus research institutes/centres previously established by the provincial government 6. Degrees Offered: B.Sc.(Hon) - 4 Years full time M.Sc.(Hon) - 4 Terms ( 2 terms course work and 2 terms for thesis research ) 7. Academic Year: 8. Manpower: 9. Library: Books 65,000 Current Periodicals 165 Institute of Development Studies 17,400 10. Publications : 11. Budget: Rs 36,256,796 (1991) 1. Institution : SINDH AGRICULTURAL UNIVERSITY (SAU), Tandojam, Sindh, Pakistan : (02233) 282 Tel Cable: SAUNI, Tandojam, Sindh, Pakistan 2. Year of Establishment: 1977 3. Status: Autonomous body under the Ministry of Agriculture, Government of Sindh 4. Head: Vice Chancellor - I.A. Soomro 5. Principal Units : Crop Production Crop Protection Animal Husbandry and Veterinary Science Agricultural Engineering Agricultural Social Sciences Constituent college: Z.A. Bhutto Agriculture College, Dokri 6. Degrees Offered: B.Sc Ag (Hon) - 4 Years - 4 Years B.E Ag D.V.M -- 4 Years M.Sc (Ag) - 2 Years Ph.D - 2 Years by thesis 7. Academic Year: 8. Manpower: 9. Library : Books 53,670 volumes 10. Publications : Pakistan Journal of Agriculture Pakistan Journal of Agricultural Engineering Pakistan Journal of Veterinary Science 11. Budget: Rs 54.05 million (1990-91) 1. Institution : UNIVERSITY OF AGRICULTURE FAISALABAD (UAF) Faisalabad, Punjab, Pakistan : (0411) 25911 -9 Cable: AGRIVARSITY, Faisalabad, Pakistan Fax: (0411) 27846 2. Year of Establishment: 1961. Initially established as the West Pakistan Agricultural University by upgrading Punjab Agrictural College and Research Institute, Lyallpur, founded in 1909; present name since 1973. 3. Status : Autonomous body under the Ministry of Agriculture, Government of Punjab. 4. Head: Vice Chancellor M. Rafig Khan 5. Principal Units : Agriculture Animal Husbandry Veterinary Science Agricultural Economics and Rural Sociology Science Constituent College: College of Veterinary Science, Lahore Affiliated College: Barani Agricultural College, Rawalpindi. 6. Degrees Offered : B.Sc. (Hon).Ag. - 4 Years - 4 Years B.Sc (Hon) A.H.

B.Sc. Agri. Engg - 4 Years

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D.V.M
                                         - 4 Years
                     M.Sc/M.Sc (Hon)
                                         - 4 Semesters by course work
                                             and thesis.
                                         - 6 to 8 Semesters by course
                                             work and thesis.
7. Academic Year : July - June ( 2 Semesters )
8. Library : Books
                                         143,000
             Current Periodicals
                                             250
9. Publications: Pakistan Journal of Agricultural Sciences
                 Pakistan Veterinary Journal
                 Pakistan Entomologist.
                 Annual Report
10. Manpower : Scientists
                             469
               Technicians
11. Budget: Rs 108.19 million
1. Institution : GOMAL UNIVERSITY
                 Dera Ismail Khan, NWFP, Pakistan.
                 Tel : (0529) 9279/ 9239/ 5260
                 Cable: UNIVERSITY CAMPUS, D I Khan.
                 Fax : (0529) 4673
2. Year of Establishment: 1974
3. Status : Autonomous body under the Ministry of
            Education, Government of NWFP.
4. Head : Vice Chancellor - Prof. G.A.Miana
5. Principal Units : Faculty of Agriculture and two more
                     faculties.
6. Degrees Offered : B.Sc (Hon) Agriculture - 4 Years
                     M.Sc (Hon) Agriculture - 2 Years
7. Academic Year : September - June (2 Semesters)
8. Manpower:
9. Library : Books
                                       16,000
             Current Periodicals
10. Publications : National Research Journal
                   Annual Report
11. Rs 59.539 million (1991-92)
1. Institution : BAHAUDDIN ZAKARIYA UNIVERSITY (BZU)
                 Multan, Punjab, Pakistan.
                     : (061) 33162/ 40316/ 75581/ 75583
                 Cable: UNIVZAKARIA, Multan, Pakistan
2. Established: 1975 as University of Multan; present name since 1979.
3. Status:
4. Head : Vice Chancellor - Khwaja Imtiaj Ali
5. Principal Units : University College of Agriculture
                     at the main campus as a constituent
                     college and several other institutes
                     and affiliated colleges.
6. Degrees Offered : B.Sc (Hon) Ag. - 4 Years
                     M.Sc (Hon) Ag. - 2 Years
7. Academic Year : September - June (2 Semesters)
8. Manpower:
9. Library : Books
                                  16,000
             Current Periodicals
                                     135
10. Publications :
11. Budget:
1. Institution : AZAD JAMMU AND KASHMIR UNIVERSITY (AZKU)
                 Muzzaffarabad, Azad Kashmir, Pakistan.
                      : 2060/ 3328/ 2366/ 3306/ 4444
                 Telex: 4717
                 Cable : UNIVERSITY MUZZAFFARABAD, Pakistan.
2. Year of Establishment: 1974
3. Status:
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4. Head : Vice Chancellor - M.S.Abbasi
5. Principal Units: University College of Agriculture,
                     Rawalakot and six other university
                     colleges/faculties and many affiliated
                     colleges.
6. Degrees Offered: B.Sc. (Hon) Ag. - 4 Years
7. Academic Year:
8. Manpower:
9. Library:
10. Publications :
11. Budget :
1. Institution: NORTH - WEST FRONTIER PROVINCE UNIVERSITY
                 OF ENGINEERING AND TECHNOLOGY (NWFPUET)
                 P.O. Box 841 Peshawar, NWFP, Pakistan.
                      : (0521) 40573/ 40382/ 41297/ 40386/ 44253
                 Telex: 52477 ENG UP PK
                 Cable : NWFP UNIVERSITY OF ENGINEERING AND
                 TECHNOLOGY, Peshawar, Pakistan.
                 Fax : (0521) 45388
2. Year Of Establishment: 1974
3. Status :
4. Head : Vice Chancellor - Karim Khan
5. Principal Units: Department of Agricultural Engineering and
                     several other departments.
6. Degrees Offered: B.Sc Engineering with specialisation
                     in Agricultural Engineering
                     M.Sc Engineering with specialisation in Soil and Water
                     Engineering
7. Academic Year : September-June (2 Semesters)
8. Manpower :
9. Library : Books
                                      16068
             Current Periodicals
                                         76
10. Publications : Journal of Engineering and Applied Science
                   Annual Report
11. Budget: Rs 41 million (1991-92)
1. Institution : UNIVERSITY OF BALOCHISTAN (UB)
                 Sariab Road, Quetta, Balochistan, Pakistan.
                     : (081) 40431
                 Cable: BALOCHISTAN UNIVERSITY, Quetta
2. Year of Establisment: 1970
3. Status:
4. Head: Vice Chancellor - Prof M.K.Raisani.
5. Principal Units : Balochistan Agriculture College, Quetta,
                     affiliated to the university.
6. Degrees Offered: B.Sc(Hon) Ag.
7. Academic Year:
8. Manpower:
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9. Library:

11. Budget :

10. Publications :

