Directory of Agricultural Research Institutions in Asia and the Pacific Region

SOUTH ASIA

Research Development Centre
Research and Technology Development Division
Food and Agriculture Organization of the United Nations
Rome, 1995
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 (APAAARI) 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, APAAARI, 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 of Population : 2.7%
Agricultural Population : 68%
Illiteracy Rate : 65%
National GNP : 24,672 million US $
GNP Per Capita : 220 US $
GNP: Real Growth Rate (per capita) : 1.7%
Share of Agriculture in GDP : 34%
Growth Rate of Agricultural Production :
Agricultural Export as % of Total Export : 13%
Major Agricultural Commodities : Rice, Paddy, Wheat, Jute, Fishery
Major Agricultural Imports : Cereals, Vegetable Oils, Oil Seeds, Forestry Products
Major Agricultural 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 up to the upa zila levels; agricultural extension, public health and land revenue 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 yielding varieties of seeds along with fertilisers and irrigation. However, over the years the country has acquired 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 15%, 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.

Commericalisation 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 up to 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 tenant 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 technical 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 research and less on soil fertility, water management and cultural practices. 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 Tejgoan 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 Tejgoan laboratory. The Bengal Agriculture Institute was established at Tejgoan, 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 sugarcane 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 7

10.

1. **BANGLADESH AGRICULTURAL RESEARCH INSTITUTE (BARI)**
   - Joydebpur, Gazipur 1701, Bangladesh.
   - 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)

7. Books 17000
   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.
6.
7. Books 4500
   Current Periodicals 17
8. Jute and Jute Fabrics Bangladesh
   Bangladesh Journal of Jute and fabrics Research
9. Scientists 154
   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  
   7. Books 1137  
      Current Periodicals 37  
   8. Tea Journal of Bangladesh  
      Annual Report  
   9. Scientists 29 [ B.Sc - 1; M.Sc - 26; Ph.D - 2 ]  
      Technicians 10  

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 4  
   8.  
   9. Scientists 73  
      Technicians 127  
   10. Taka 35 million.  

1. **SUGARCANE RESEARCH AND TRAINING INSTITUTE (SRTI)**  
   Ishurdi, Pabna, Bangladesh.  
   Tel : 414  
   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 28
8. Bangladesh Journal of Sugarcane
   Annual Report
9. Scientists 87
   Technicians 45
10. Taka 19.45 million

1. SOIL RESOURCES DEVELOPMENT INSTITUTE (SRDI)
    Krishi Khanar Sarak, Farmgate, GPO Box 899,
    Dhaka 1215, Bangladesh.
    Tel : 313363/ 310044
2. 1983
3. 
4. Director
5. 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
3. 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
   Current Periodicals 250
9. Scientists 156 [ B.Sc.-5; M.Sc.-142; Ph.D.-9 ]
10. Taka 66.5 million.

1. BANGLADESH 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.
6. Postgraduate diploma in Sericulture
   Diploma in Silk Technology
   Certificate in Sericulture.
7. Books 1300
   Current Periodicals 10

9. Scientists 25
   Technicians 50
10. Taka 8.5 million.

1. FISHERIES RESEARCH INSTITUTE (FRI)
   Tel : (091) 4874/ 4828
2. 1984
3. 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
3. 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)
   Paheli 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

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

1. 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 30
8. Bangladesh Rural Development Studies
   Annual Report.
9. Scientists 37
   Technicians 9
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.
6. 
7. Audiovisual Equipment 14
   Audiovisual Material 30
8. None.
9. Scientists 6
   Technicians 60

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
8. 
9. Scientists 54
   Technicians 67
10.
1. INSTITUTE OF FOOD SCIENCE AND TECHNOLOGY (IFST)
   BCSIR, Mirpur Road, Dhanmondi
   Dhaka 1205, Bangladesh.
   Tel : 502700
   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.
7. Books 300
8.
9. Scientists 67
    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.
7. Books 3833
   Current Periodicals 10
   Audiovisual Material 12
8.
9.
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
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
   Agricultural Engineering
   Agricultural Extension
Agricultural Statistics 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
8.
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
Agroforestry
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 2
8.
9. Scientists 14 [ B.Sc.(Hon) -2; M.Sc.-12; Ph.D -1 ]
10.

1. BANGLADESH AGRICULTURE UNIVERSITY
Mymensingh, Bangladesh.
Tel: (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
M.Sc Ag.; M.Sc.Ag. (Extnd 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
  Bangladesh Journal of Agricultural Sciences.
  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.
10. Manpower : Scientists 385 [B.Sc.- 8; M.Sc.-199; Ph.D-178]

1. CHITTAGONG UNIVERSITY (CU)
   University Post Office, Chittagong, Bangladesh.
   Tel : (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 1
9. Library : Books 149682
   Current Periodicals 405
   3723 Books and 2 periodicals in
   the Institute of Forestry.
10. Publications :
    Institute of Forestry not available.
BHUTAN

Selected Indicators of Agricultural Development

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Area</td>
<td>46,500 Sq Km</td>
</tr>
<tr>
<td>Forest Coverage</td>
<td>55%</td>
</tr>
<tr>
<td>Annual Average Change (1980-89)</td>
<td>0.2%</td>
</tr>
<tr>
<td>Cultivated Area</td>
<td>8.8%</td>
</tr>
<tr>
<td>Population</td>
<td>1.497 million</td>
</tr>
<tr>
<td>Annual Growth Rate of Population</td>
<td>2.2%</td>
</tr>
<tr>
<td>Agricultural Population</td>
<td>...</td>
</tr>
<tr>
<td>Illiteracy Rate</td>
<td>62%</td>
</tr>
<tr>
<td>National GNP (1992)</td>
<td>263 million US $</td>
</tr>
<tr>
<td>GNP Per Capita (1992)</td>
<td>180 US $</td>
</tr>
<tr>
<td>GNP: Real Growth Rate (1985-92)</td>
<td>5.2%</td>
</tr>
<tr>
<td>Share of Agriculture in GDP (1992)</td>
<td>42%</td>
</tr>
<tr>
<td>Growth Rate of Agricultural Production</td>
<td>...</td>
</tr>
<tr>
<td>Agricultural Export as % of Total Export</td>
<td>...</td>
</tr>
<tr>
<td>Major Agricultural Commodities</td>
<td></td>
</tr>
<tr>
<td>Major Agricultural Imports</td>
<td></td>
</tr>
<tr>
<td>Major Agricultural Exports</td>
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</tr>
</tbody>
</table>

Selected Indicators of Research

State of Agriculture and Research

Bhutan has an extremely diverse environment. Perennially 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
4. 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 characteristics 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 small 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
1. CENTRE FOR AGRICULTURAL RESEARCH AND DEVELOPMENT (CARD)
   Wangdiphodrang, Bhutan.
   Tel : 209
   Cable : CARDWANGDI
2. 1982
3.
4. Director
5. Cereal Research (Rice and Wheat)
   Oil crops Research (Mustard and others)
   Vegetable Research (Rice based)
   On-farm Research (Rice, wheat, oil crops and others)
   Seed Maintenance and Production.
6.
7. Books 264
   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
5.
6.
7.
8. Research report and technical manual for East Bhutan will be produced shortly.
9. Scientists 3
   Technicians 4
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 of Population : 2.2%
Agricultural Population : ....
Illiteracy Rate : 62%
National GNP (1992) : 263 million US $
GDP Per Capita (1992) : 180 US $
GDP: Real Growth Rate (1985-92) : 5.2%
Share of Agriculture in GDP (1992) : 42%
Growth Rate of Agricultural Production : ....
Agricultural Export as % of Total Export : ...........
Major Agricultural Commodities :
Major Agricultural Imports :
Major Agricultural Exports :

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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 small 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 practiced 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 extent that many farmers are discouraged from growing 
winter crops at all. Traditional varieties of rice are preferred for their 
grain characteristics. Traditional 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 forest, 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 raised and shifting cultivation areas but without the development of a market farmers have no incentive to produce a surplus for sale. Currently only very small 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 characteristic 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 altogether 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 center (Centre for Agricultural Research and Development, Wangdiphodrang) was established in 1982. The first forestry research center (Forest Research Centre, Taba) was set up in 1987. The most recent center 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 are 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 Training, 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 Division 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, Forestry and Food sub-sectors which are concerned primarily with the implementation of policy, the monitoring of projects and provision of technical services.

1. CENTRE FOR AGRICULTURAL RESEARCH AND DEVELOPMENT (CARD)
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2. 1982
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   Oilcrops Research (Mustard and others)
   Vegetable Research (Rice based)
   On-farm Research (rice, wheat, oil crops and others)
   Seed Maintenance and Production.
6. 7. Books 264
    Current Periodicals 963
8. CARD Annual Report
9. Scientists 5
   Technicians 6
10. Nu 2 million

1. KHANGTA 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 3
   Technicians 4
10. Nu 0.177 million (1989-90)
**INDIA**

Selected Indicators of Agricultural Development

<table>
<thead>
<tr>
<th>Country</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Area</td>
<td>297,319,000 Ha</td>
</tr>
<tr>
<td>Forest Coverage (%)</td>
<td>22%</td>
</tr>
<tr>
<td>Annual Average Change (%)</td>
<td>-0.1%</td>
</tr>
<tr>
<td>(For 1980-89)</td>
<td></td>
</tr>
<tr>
<td>Cultivated Area</td>
<td>169,015,000 Ha</td>
</tr>
<tr>
<td>Population</td>
<td>883,473,000</td>
</tr>
<tr>
<td>Annual Growth Rate of Population</td>
<td>2.1%</td>
</tr>
<tr>
<td>Agricultural Population</td>
<td>63%</td>
</tr>
<tr>
<td>Illiteracy Rate</td>
<td>52%</td>
</tr>
<tr>
<td>National GNP</td>
<td>271,638 million US $</td>
</tr>
<tr>
<td>GNP Per Capita</td>
<td>310 US $</td>
</tr>
<tr>
<td>Real Growth Rate (per capita)</td>
<td>3.3%</td>
</tr>
<tr>
<td>Share of Agriculture in GDP</td>
<td>32%</td>
</tr>
<tr>
<td>Growth Rate of Agricultural Production</td>
<td></td>
</tr>
<tr>
<td>Agricultural Export as % of Total Export</td>
<td>16%</td>
</tr>
</tbody>
</table>

Major Agricultural Commodities:
- Rice, Sugarcane, Wheat, Pulses
- Cotton, Fruits, Vegetables, Buffalo Milk, Cow Milk,

Major Agricultural Imports:
- Palm Oil, Dry Beans, Rice, Soybean Oil

Major Agricultural Exports:
- Tea, Shell Fish, Green Coffee

**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 develop 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 and a multidisciplinary Zonal Research Station along with some sub-zonal /special purpose research stations established 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 system together employs about 30,000 scientists.

For the purpose of agroclimatic regional planning of agricultural development, the Planning Commission, in 1980 initiated the Agroclimatic Regional Planning Project aimed at fuller exploitation of the natural and
man-made resources 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 agro-climatic regions 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. Western Dry Region
15. Islands

The criteria adopted for this delineation were homogeneity in agro-climatic characteristics 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 agro-climatic 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 receive 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 regions 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 receives 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 primarily infertile.

The islands region is a typical equatorial climatic region with annual rainfall of 3086 mm. Because of equatorial 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 44 Central Research Institutes, 20 National Research 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 occurring outside the ICAR-SAUN 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 relevant 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 funded by 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 Education (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
7. 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); 11,081 (Total)
   Technicians 140 (at Headquarters); 13,040 (Total)
10. Rs 3499.10 million (1990-91)

1. INDIAN AGRICULTURAL RESEARCH INSTITUTE (IARI)
    New Delhi 110012, India.
    Tel : 011 - 5754595
    Cable : KRISHIPUSA, NEW DELHI
    Telex : 031 - 77161 IARI IN
    Fax : 91-11-5752006
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
   Agricultural Chemicals
   Plant Physiology
   Biochemistry
   Agricultural Economics
   Agricultural Extension
   Animal Improvement
   Nuclear Research Laboratory
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
Plant Pathology
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 are however, 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, Uttar Pradesh, India
   Tel : (0581) 74230/74035/74332/76095
   Telex: 0577-206 CARI IN
   Cable: POULTRY, IZATNAGAR
   Fax : 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 2549

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 64
    Technicians 60

10. Rs. 13.85 million

---

1. INDIAN VETERINARY RESEARCH INSTITUTE (IVRI)
   Izatnagar, Bareilly 243122, Uttar Pradesh, India
   Tel : (0581) 74069
   Telex : 0577-205 IVRI IN
   Cable : VETEX, IZATNAGAR
   Fax : 91-581-73691

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 Pharmacology
   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 Gynaecology 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

2. 1955
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  
5. 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
Meteorology
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

6. 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 TOBACCO 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

28
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 1500
   Current Periodicals 100
9. Scientists 46
    Technicians 43
10. Rs 11.36 million

1. INDIAN INSTITUTE OF PULSES RESEARCH (IIPR)
   Kalyanpur, Kanpur 208024, India
   Tel : (0512) 250264
   Cable : DALHANSHOH, 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 61
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
   Fax : 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 : GERMLASM, 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 Repository
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 : GUNTSEARCH, JUNAGADH
2. 1979
3. Institution under the ICAR
4. Director - Dr P.S. Reddy
5. Genetic Resources
   Cytogenetics
   Plant Breeding
   Entomology
   Plant Pathology
   Agronomy
   Plant Physiology
   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
   Tel : (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 37
   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
Cable: SOYSEARCH, INDORE

2. 1987
3. Institution under the ICAR
4. Director - Dr P.S. Bhatnagar
5. None
6. Books 455
   Current periodicals 21
7. Annual Reports of NRCS and AICRP on Soyabean
   Technology for Increasing Soyabean in India
   Soyabean Varieties of India
   Technical Bulletin.
8. Scientists 21
    Technicians 22
9. Rs 40 million
10. NATIONAL RESEARCH CENTRE FOR WEED SCIENCE (NRCWS)
    135, Ravindra Nagar, Adhartal, Jabalpur 482004
    Madhya Pradesh, India
    Tel: (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 Statistics
6. None
7. None
8. None
9. Scientists 27
    Technicians 27
10. Rs 1.2 million
11. SUGARCANE BREEDING INSTITUTE (SBI)
    Coimbatore 641007, Tamil Nadu, India
    Tel: (0422) 40986
    Telex: 0835 - 383 SBI IN
    Cable: GANNAPRAJANAN, COIMBATORE
    Fax: 91 - 422 - 25800
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
7. Books 5098
   Current Periodicals 170
8. SBI Newsletter
   Annual Report
   Research Highlight
9. Scientists 78
    Technicians 83
10. Rs 16.9 million
1. **VIVERANANDA PARVATIYA KRISHI ANUSANDHAN SHAALA (VKAS)**
   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 1882
   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. None
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  
9. Scientists  48  
   Technicians  41  
10. Rs 8.42 million  

1. CENTRAL PLANTATION CROPS RESEARCH INSTITUTE (CPCRI)  
   Kasargod 670124, Kerala, India  
   Tel : (04995) 20094/ 20067/ 20320  
   Telex : 0800-1202 PALM IN  
   Cable : RESEARCH, KASAROGD  
   Fax : 91 - 4995 - 23300  
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.  
7. Books  9018  
   Current Periodicals  225  
8. CPCRI Newsletter  
   Annual Report  
   Research Highlight  
   Technical Bulletin  
9. Scientists  135  
   Technicians  151  
10. Rs 37.82 million  

1. CENTRAL POTATO RESEARCH INSTITUTE (CPRI)  
   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  
7. Books  31834  
   Current Periodicals  588
8. The Annual Scientific Research Highlight
Annual Report
9. Scientists 180
Technicians 205
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
8. Newsletter
Annual Report
9. Scientists 70
Technicians 39
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 140
8. Annual Report
9. Scientists 17
Technicians 4
10. Rs 1.5 million

1. NATIONAL RESEARCH CENTRE FOR CASHEW (NRCC)
Darbe, Puttur 574202, Dakshina Kannada
Karnataka, 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
7. Books 480
   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) 334196
    Telex : 0715-348 INRCC IN
    Cable : CITRUSEARCH, NAGPUR
2. 1985
3. Institution under the ICAR
4. Director - Dr H.C. Das
5.
6.
7. Books 84
   Current Periodicals 33
8. Annual Report
9. Scientists 20
    Technicians 13
10. Rs 7.67 million

1. NATIONAL RESEARCH CENTRE FOR SPICES (NRCS)
    Post Box 1701, Marikunnu, Calicut 12, Kerala, India
    Tel : (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
   Nematology
   Plant Physiology
   Biochemistry
   Agricultural Statistics
   Extension
6. None
7. Books 2725
   Current Periodicals 126
8. Annual Report
9. Scientists 41
    Technicians 28
10. Rs 8.40 million

1. PROJECT DIRECTORATE OF VEGETABLE RESEARCH (PDVR)
    Varanasi 221001, Uttar Pradesh, India
    Tel : (0542) 313904
    Fax : 91 - 542 - 313904
2. 1971
3. Institution under the ICAR
4. Director - Dr G. Kallow
5.
6. None
7.
8. Technical Bulletin
   Annual Report

36
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
   Economics and Sociology
6. None
7. Books 2777
    Current Periodicals 210
8. Annual Report
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 Survey and 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 : 0435-6252 DARIP 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

1. CENTRAL SOIL AND WATER CONSERVATION RESEARCH AND TRAINING INSTITUTE (CSWCRTI)
    216, Kaulagarh Road, Dehra Dun, Uttar Pradesh, India
    Tel: 0135-24213/23385/
    Telex: 0585-237 SCR1 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 85

8. Farming Systems Newsletter

9. Scientists 17
   Technicians 22

10. Annual Budget. Rs 45 million

1. ICAR RESEARCH COMPLEX FOR GOA (ICARCG)

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 21
   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

39
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) 532396

40
Telex : 0715-262 NBSL IN  
Cable : SOILANDBRU, NAGPUR  
Fax : 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 76
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 
   Tel : (0517) 442364/ 442366 
   Cable : KRISHIVANIKI, JHANSI
   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 11
   Technicians 13
10. Rs 3 million

1. CENTRAL INSTITUTE OF AGRICULTURAL ENGINEERING (CIAE)
    Nabibag, Berasia Road, Bhopal 462018, India
    Tel : (0755) 74016 / 530980 - 87
    Telex : 0705-273 CIAE IN 
    Cable : KRIYANTRA, BHOPAL
    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

41
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
5. Quality Evaluation (including regional units)
   Mechanical Processing (including Ginning)
   Physics
   Chemistry
   Microbiology and Biochemistry
   Statistics
6. Provides thesis research facilities 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
6. 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, Water and Plant Relationship
   Drainage
   Transfer of Technology and Training
6. None
7. Books 224
   Current Periodicals 1
8. Annual Report
9. Scientists 15
   Technicians 15
10. Rs 1.5 million
1. CENTRAL INSTITUTE FOR RESEARCH ON BUFFALOES (CIRB)
   Sirsa Road, Hisar, Haryana, India
   Tel : (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 40
10. Rs 12.5 million
1. CENTRAL INSTITUTE FOR RESEARCH ON GOATS (CIRG)
   Makhdooom, 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

43
6. None

   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 9
   Technicians 7
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 9
   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. Research:
   Equine Infectious Disease
   Equine Clinical
   Equine Production
   Equine Reproduction
6. None
7. Books 40
   Current Periodicals 3
8. Scientific Bulletin on Equines
   Annual Report
9. Scientists 10
   Technicians 12
10. Rs 6 million

1. NATIONAL RESEARCH CENTRE ON MITHUN (NRCM)
Cedar Lodge, Jowai Road,
Dhankheti, Shillong 797106, India
Tel: (0364) 22433/ 22434
Telex: 0237-214
Cable: AGRICOMPLEX, SHILLONG
2. 1988
3. Institution under the ICAR
4. Director - Dr N.D. Verma
5. Research:
   Animal Genetics and Breeding
   Animal Physiology
   Animal Health
6. None
7. Annual Report
9. Scientists 6
   Technicians 5
10. Rs 5 million
1. NATIONAL RESEARCH CENTRE ON YAK (NRCY)
   Dirang 790101, West Kameng, Arunachal Pradesh, India
   Tel : ( ) 259
   Cable : YAKSEARCH, DIRANG

2. 1989
3. Institution under the ICAR
4. Director - Dr R.N. Pal
5. 
6. 
7. 
8. Annual Report
9. Scientists 6
   Technicians 5
10. Rs 100 million (Plan outlay) 1990-95

1. PROJECT DIRECTORATE ON CATTLE (PODC)
   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 375
   Current Periodicals 10
8. Ongole Cattle in India
   Technical Bulletin
   Annual Report
9. Scientists 18
   Technicians 73
10. Rs 20 Million

1. PROJECT DIRECTORATE ON POULTRY (PDP)
   Rajendranagar, Hyderabad 500030,
   Andhra Pradesh, 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 CIIF 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, Matsuquperi, Cochin 682029, Kerala, India
   Tel: (0484) 666845
   Telex: 0085-6449 CIFT IN
   Cable: MATSYAOUDYOJGIKI/ 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)
Kaushalyaganga, 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)

7. Library : Books 732
   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, Ernakulam
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 (CIFFE)

7. Library : Books 23,000
   Current Periodicals 350
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
1. NATIONAL RESEARCH CENTRE ON COLDWATER FISHERIES (NRCCF)
   Post Box No. 28, Roopnagar, Haldwani 263139, India
   Tel : (05946) 20445
   Cable : MAHSEER, HALDWANI

2. 1987
3. Institution under the ICAR
4. Director - Dr K. L. Sehgal

5. None
6. Books 650
   Current Periodicals 113
7. Annual Report
8. Scientists 31
    Technicians 18
9. Rs 9.90 million

1. INDIAN AGRICULTURAL STATISTICS RESEARCH INSTITUTE (IASRI)
   Library Avenue, New Delhi 110012, India
   Tel : (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 275
8. Publications : Newsletter
   Annual Report
9. Manpower : Scientists 133
    Technicians 234
10. Budget : Rs 3.36 million

1. NATIONAL ACADEMY OF AGRICULTURAL RESEARCH MANAGEMENT (NAARM)
   Rajendranagar, Hyderabad 500030, Andhra Pradesh, India
   Tel : (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
Information and Documentation

6. None

7. Books
   Current Periodicals 400

8. NAARM News
   ARMA (Agricultural Research Management Abstracts)
   NAARM Alumni News
   Green and Glory
   Annual Report

9. Scientists 43
   Technicians 41

10. Rs 13.97 million

1. CENTRAL SILVICULTURAL 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
   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

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

4. Director of Research

5. Agricultural Economics

50
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
7. Books
   20463
   Current Periodicals 483
   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
   Tel : (0135) 27021-28/ 23225-23228 Telex : 585-258 FRIC-IN
   Fax : 91-0135-28381/ 91-0135-26865
2. 1987
3. An autonomous society under the Ministry of Environment and
   Forests, (MOEF), Government of India. The Minister of Environment and
   Forests is the ex-officio President 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 one advanced centre under the
   Council.
4. Director General - Dr D.N. Tewari
5. Administration
   Research
   Extension
6. Degrees offered by ICFRE's constituent institutes
7. 
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
Forest Products
Cellulose and Paper


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:
   Fax: 0422-440549

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

5.
6.
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10.

1. INSTITUTE OF WOOD SCIENCE AND TECHNOLOGY (IWoST)
   Bangalore 560002, India
   Tel: (080) 3341731/ 3346811/ 3345965
   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 research 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.

1. TROPICAL FOREST RESEARCH INSTITUTE (TFRI)
   Jabalpur 482021, India
   Tel: (0761) 322585/ 321759
   Telex:
   Cable:
   Fax: 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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10.
1. ARID FOREST RESEARCH INSTITUTE (AFRI)
   Jodhpur 342008, India
   Tel : (0291) 26034/ 28640/ 26475
   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 DECIDUOUS FOREST RESEARCH (IRMDFR)
   Jorhat 785001, India
   Tel : (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. TEMPERATE 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.

53
10.

1. CENTRE FOR SOCIAL FORESTRY AND ECO-REHABILITATION (CSFER)
   Allahabad 211001, India
   Tel  : (0532) 609037

2.

3. Institution under the ICFRE
4. Deputy Conservator Forests --- A.N. Tripathi
5.
6. None
7.
8.

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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
   Tel  : (0135) 620912 - 620915
   Fax  : 0135-820217
   2.
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.
1. **NATIONAL AFFORESTATION AND ECO-DEVELOPMENT BOARD (NAEB)**
   New Delhi, India
   Tel : (011) 4361712

2. Organisation under the Ministry of Environment and Forests,
   Government of India

3. Additional Secretary - B.P. Singh

4. None

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**FOREST COLLEGES IN STATES**

1. **State Forest Service College Dehra Dun,**
   FRI Campus, Dehra Dun, India
   Tel : (0135) 26168/ 26256
   Principal - R.K. Zutshi

2. **State Forest Service College**, Coimbatore, India
   Tel : (0422) 32609
   Principal -

3. **Southern Forest Rangers College**, Coimbatore, India
   Tel : (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 -

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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 :
9. Library:
10. Publications:
11. Budget: Rs 410 million for the Eighth Five Year Plan

1. Institution: KERALA AGRICULTURAL UNIVERSITY (KAU)
   Vellanikara 680654, Kerala, India
   Tel: (0487) 23034/ 23439
   Telex: 
   Fax: 91 - 487 - 21259,
   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 Agricultural 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)
8. Manpower: Scientists 704 (Ph.D.-602; M.Sc.-102)
   Technicians 1574
9. Library: Books 75012
   Current Periodicals 7
10. Publications: Kalpadhenu
    Agriculture Research Journal of Kerala
    Veterinary Research Journal
    Newsletter
    Anivet Abstract and Agres News
    Technical Bulletin
    Annual Report


1. Institution: ANDHRA PRADESH AGRICULTURAL UNIVERSITY (APAU)
   Rajendranagar, Hyderabad 500030, India
   Tel: (0842) 245011 / 245161
   Telex: 0425 6936 APAU IN
   Cable: AGRIVARSITY, HYDERABAD

2. 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, Tirupati
   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
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.(Ag.Engg.);
   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
   Current Periodicals 520
   Microforms 100
10. Publications: Journal of Research
    APAU News
    Annual Report
11. Rs. 344.01 million

1. Institution: ASAM AGRICULTURAL UNIVERSITY (AAU)
   Jorhat 785013, Assam, India
   Tel :
   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.V. 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)
8. Manpower: Scientists 575
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
   Tel: ( ) 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. Principal 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)
8. Manpower : Scientists 338
     Technicians 73
9. Library : Books 57898
     Current Periodicals 267

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. Ag.; 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
   Tel : (0512) 244466
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
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
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 Agricultural 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)
8. Manpower: Scientists 432
Technicians 39

9. Library: Books 15397
Current Periodicals 201

Krushi - Go - Vidya (Gujarati)
Annual Report

11. Budget:

1. Institution: Dr YASHWANT SINGH PARMAR UNIVERSITY OF HORTICULTURE AND
FORESTRY (DYSFUHF)
Solan 173230, Himachal Pradesh, India
Tel: (0179) 62, 19
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

9. Library: Books 25420
Current Periodicals 1400

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:
Fax:
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
11. Budget : Rs. 238.03 million

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.Engg)
   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
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
    Tel : ( ) 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 100
    Annual Report
11. Budget : Rs. 107.50 million

1. Institution : JAWAHARLAL NEHRU KRISHI VISHWA VIDYALAYA (JNKV)
    Krishinagar, Adhartal, Jabalpur 482004
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. Johar
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 Agricultural 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 82
9. Library : Books 54083
   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
6. Degrees Offered : B.Sc.(Ag.); 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
9. Library : Books 40000
   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

62
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
KMF 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 ]
9. Library : Books 50387
   Current Periodicals 350

    Journal of Maharashtra Agricultural Universities
    Annual Report

11. Rs 220.06 million

1. Institution : MARATHWADA AGRICULTURAL UNIVERSITY (MAU)
Parbhani 431401, Maharashtra, India
Tel : (02452) 3801
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 Agricultural Engineering, Parbhani
College of Veterinary and Animal Husbandry, Parbhani
College of Agriculture, Latur
College of Veterinary and Animal Husbandry, Udalgiri
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
1. Institution: NARENDRA DEV UNIVERSITY 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  
                          Current Periodicals 207  
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  
Tel: (0674)  
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, Semiliguda  
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  
11. Budget: Rs 92.84 million
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 Agricultural 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

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1. Institution: **PUNJABRAO KRISHI VIDYAPEETH (PKV)**
   Krishinagar, Akola 444104, Maharashtra, India
   Tel: (0724) 5365/5372 / PBX 6841-56
   Telex: 0725/215 PKV 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 Science, Nagpur
   - College of Agriculture, Nagpur
   - College of Forestry, Akola
   - Post Graduate Institute, Akola
   - Anandniketan College of Agriculture,
     Warora, Chandrapur
   - 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: 1040
9. Library:
   - Books: 92429
   - Current Periodicals: 621
10. Publications:
    - PKV Research Journal
    - PKV Newsletter
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, Jodher
   - 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
9. Library : Books 5099
   Current Periodicals 5
10. Publications : 
    - Research Journal
    - University News
    - Apna Patra (Hindi)
    - Annual Report

11. Budget : Rs. 270.40 million

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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 Agricultural 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
   - Agro-climatic Zones - 3
   - 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)

7. Academic Year : July - June (2 Semesters)
8. Manpower : Scientists 677
9. Library : Books 42486
1. Institution: **SHER-E-KASHMIR UNIVERSITY OF AGRICULTURAL SCIENCES (SKUAS)**
   Shalimar Campus, Srinagar 191121, India.
   Tel: (0194) 61257/ 61258/ 61259
   Telex: 
   Cable: 
2. Year of Establishment: 1982
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.
   Tel: (0422)
   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,昆山ur
   - 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;
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. Manpower : Scientists 1033
              Technicians 84
9. Library : Books/Bound Periodicals 186037
              Current Periodicals 1287
10. Publications : Valarum Vezhammai (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 (TANVASU)
                        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. Manpower :
9. Library :
10. Publications :
11. Budget :

1. Institution : UNIVERSITY OF AGRICULTURAL SCIENCES
                     BANGALORE (UASB)
                        Bangalore 560065, India
                        Tel : (0812) 330153
                        Telex : UAS, GVKV 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

6. Degrees Offered : B.Sc.in Agriculture; Horticulture;
                     Dairy Technology; Agricultural Marketing &
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. 219.07 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 Karnataka
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 Agricultural 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: Karnataka Journal of Agricultural Sciences
    Krishi Munnade (Kannada)
    Annual Report
11. Budget: Rs. 150.30 million
SRI LANKA

Selected Indicators of Agricultural Development

Country: SRI LANKA
Total Area: 6,463,000 Ha
Forest Coverage (%): 27%
Annual Average Change (%): -0.1%
(For 1980-89)
Cultivated Area:
Population: 17,217,000
Annual Growth Rate of Population: 1.5%
Agricultural Population: 52%
Illiteracy Rate: 12%
National GNP: 9,459 million US $
GNP Per Capita: 540 US $
GNP: Real Growth Rate (per capita): 2.2%
Share of Agriculture in GDP: 26%
Growth Rate of Agricultural Production: 
Agricultural Export as % of Total Export: 41%

Major Agricultural Commodities: Rice, Root Crops, Livestock, Coconuts, Vegetables, Tea
Major Agricultural Imports: Cereals, Dairy Products, Vegetable Products, Sugar
Major Agricultural Exports: Tea, Vegetable Oils, 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 contribution 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 statutory 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 separate 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, relief 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**

<table>
<thead>
<tr>
<th>Killinochchi</th>
<th>Satellite Stations</th>
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<tbody>
<tr>
<td>(northern dry zone)</td>
<td>Thirinellvely</td>
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<tr>
<td></td>
<td>Paranthan</td>
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<tr>
<td></td>
<td>Murunkan</td>
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<tr>
<td>Maha Illuppallama</td>
<td></td>
</tr>
<tr>
<td>(central dry zone)</td>
<td></td>
</tr>
<tr>
<td>Kazadiyan Aru</td>
<td></td>
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<tr>
<td>(eastern dry zone)</td>
<td></td>
</tr>
<tr>
<td>Angunakolapelessa</td>
<td></td>
</tr>
<tr>
<td>(southern dry zone)</td>
<td>Ambalantota</td>
</tr>
<tr>
<td>Makandura</td>
<td>Wanathavillu</td>
</tr>
<tr>
<td>(low country intermediate zone)</td>
<td>Kalpitiya</td>
</tr>
<tr>
<td>Bandarawela</td>
<td></td>
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<tr>
<td>(up-country intermediate zone)</td>
<td>Rahangala</td>
</tr>
<tr>
<td></td>
<td>Monoaragala</td>
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<td></td>
<td>Bibile</td>
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<tr>
<td>Gannoruwa</td>
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<tr>
<td>(mid country wet zone)</td>
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</tr>
<tr>
<td>Bombaruwa</td>
<td></td>
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<tr>
<td>(low country wet zone)</td>
<td></td>
</tr>
<tr>
<td>Gira Anduza Kotte</td>
<td></td>
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<tr>
<td>(for Mahaweli System C)</td>
<td></td>
</tr>
</tbody>
</table>

**Special research Centres:**

1. Batalopgoda, for rice breeding and agronomy
2. Sita Eliya, for potatoes and vegetables

**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 Department 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 receive 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
6.
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:
Fax: 94/575104

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
    Tel: (030) 3795/ (031) 5300
    Telex:
    Cable:
    Fax: 8094317195

2. 1929

3.

4. Director
5. Genetics and Plant Breeding
   Soils and Plant Nutrition
   Agronomy
   Crop Protection
   Plant Physiology
   Tissue Culture
   Biometry
Advisory and Information Services

6. Books 5000
   Current Periodicals 140
   Microforms 2200

8. Coconut Bulletin
   COCOS
   Pol Pawath
   Occasional Publications
   Annual Report

9. Scientists 37 [B.Sc.-28; M.Sc.-5; Ph.D-4]

10. RUBBER RESEARCH INSTITUTE OF SRI LANKA (RRISL)
    Tel : 034-71426
    Telex :
    Cable : RUBRS AGALAWATTA

2. 1909
3.
4. Director
5. Plant Science
   Plant Pathology
   Plant Breeding and Genetics
   Soils and Plant Nutrition
   Rubber Chemistry

6. Books 4256
   Current Periodicals 156

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

9. Scientists 42
   Technicians 76

10. SUGARCANE RESEARCH INSTITUTE (SRI)
    10/1, Laxapana, Mawatha, Jayanthipura
    Battaramulla, Sri Lanka
    Tel : 566733
    Telex : 22094 TWO CE
    Fax : 94 156673

2. 1981
3.
4. Director
5. Agronomy
   Breeding
   Biometry
   Economics and Data Processing
   Chemistry
   Engineering
   Pest Management
   Microbiology
   Extension and Training

6. Books 1140
   Current Periodicals 12

8. SRI Newsletter
   Annual Research Report

9. Scientists 15
   Technicians 8

10. Rs 0.2 million
1. **TEA RESEARCH INSTITUTE (TRI)**  
   St Coombs, Talawakelle, Sri Lanka  
   Tel : (052) 8244/ 8385/ 8386  
   Telex :  
   Cable : (0512) 601  
   2. 1925  
   3.  
   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** 7  
      Technicians 3  
   10. Rs 10 million  

1. **AGRARIAN RESEARCH AND TRAINING INSTITUTE (ARTI)**  
   114, Wijerama Mawatha, Colombo 7, Sri Lanka  
   Tel : 696901/ 696437/ 698593/ 698541  
   Telex : 21434 AGMIN CE  
   Cable : AGRATTI, 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
Current Periodicals 300

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)
    Baudhaloka Mawatha, Colombo 7, Sri Lanka
    Tel: 5883301-4
    Telex: 21928 DIRRIG CE
    Cable: 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. Books 5700
   Current Periodicals 3000

8. SINGOLD Bulletin

9. Scientists 349
   Technicians 2865

10. Rs 669.29 million

1. DEPARTMENT OF METEOROLOGY (DM)
    Baudhaloka Mawatha, Colombo 7, Sri Lanka
    Tel: 694104/ 694104/ 689499
    Telex: OBSY COLOMBO
    Cable: 1907

   4. Director
   5. National Meteorological Centre
      Climatology
      Agrometeorology
      Hydro-Meteorology

6. Books Numerous

8. Monthly Weather Summary
   Quarterly Weather Summary
   Annual Report

9. Scientists 21
   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
2. 1981
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
3.
4. Superintendent of Surveys
5. Technicians Course
   Degree Course
   Post Course
6.
7. Books 5900
   Current Periodicals 10
8.
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
    Tel: 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 38
    Technicians 48
10. Rs 45.2 million

1. CEYLOINSTITUTE OF SCIENTIFIC AND INDUSTRIAL RESEARCH (CISIR)
    P.O.Box 787, 363 Baydhaloka Mawatha, Colombo 7, Sri Lanka
    Tel: 598624
    Telex:
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 59
    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
3.
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

8.
9. Scientists 40
    Technicians 28
10. Rs 8.0 million

1. FOREST DEPARTMENT (FD)
   Rajamalwatta Road, Battarmulla, Sri Lanka
   Tel : 566632
   Telex :
   Cable :
2. 1887
3.
4. Conservator of Forests
5. Forest Management
   Environmental Management
   Planning and Development
   Education and Extension
   Working Plan and Inventory
   Forest Research
   Administration and Finance

78
6.
7. Books  4500
   Current Periodicals  70
8. The Sri Lanka Forester Newsletter
9. Scientists  49 [B.Sc.-28; M.Sc.-20; Ph.D.-1]
   Technicians  804
10. Rs.118.71 million

1. SRI LANKA FORESTRY INSTITUTE (SLFI)
   Moon Plains, Hwa Eliya, Nuwara-Eliya, Sri Lanka
   Tel. :
   Telex :
   Cable :
2. 1958
3. 
4. Director
5. Sri Lanka Forestry Training College
   Up-Country Forestry Research Centre
6. 
   Current Periodicals  15
8. Newsletters on research activities and forestry training*
   Forestry College Annuals*
   ( * to be produced)
9. Scientists  2
   Technicians  5
10. Rs 0.75 million

1. DEPARTMENT OF EXPORT AGRICULTURE
   (Formerly Department of Minor Export Crops)
   1035 Kandy Road Peradeniya, Sri Lanka
   Tel. : (08) 88651/ 88362/ 88363/ 88364/ 88365
   Telex :
   Cable :
2. 1972
3. 
4. Director
5. Crop Production
   Development and Extension
   Agronomic Research
   Economic and Marketing Research
   Training
   Plant Protection
   Publicity
6. 
7. Books  1000
   Current Periodicals  25
   Audiovisual Material
8. Minor Export Crops Newsletter
   Administration Reports
   Technical Bulletins
9. Scientists  55
   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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8. Marga  
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1. Institution: **EASTERN UNIVERSITY**  
   Chankalady, Sri Lanka  
   Tel : (065) 2473  
   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 separately 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  

   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  

5. Principal Units: Faculty of Agriculture and three more faculties  

6. Degrees Offered:  
   B.Sc. Special - 4 years  
   M.Sc. - 2 years full time or 3 years 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 separately for the Faculty of Agriculture  

9. Library:  
   Books: 82146  
   Periodicals: 4000  


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
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 Institute's own
   Board of Management. Facilities for Post-Graduate training and research
   (M.Sc., M.Phil. Ph.D., Diplomats in Food and Nutrition Policy Planning). The
   Institute also draws on staff from universities and research institute in
   the country, uses the laboratory and farm facilities of those institutions
   and acts as a coordinating agency in co-ducting 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 coursework
   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 separately for the Faculty of
   Agriculture
9. Library: Books 410,112 (total)
    Agriculture Library 28,891
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 separately for the Faculty of
   Agriculture
9. Library: Books 48516 (Total)*
    Periodicals 2063 (Total)*
    (* divided into four sections attached to the four faculties)
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
   Fax : 01 - 583810

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, Nuwegoda, Sri Lanka
   Tel : (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

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

Selected Indicators of Research

State of Agriculture and Research

The Republic of Maldives 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 separated from each other by deep channels most of which are easy to navigate. The southern Atolls are separated 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 north-east 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 celsius. 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

<table>
<thead>
<tr>
<th>Country</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Area</td>
<td>13,680,000 Ha</td>
</tr>
<tr>
<td>Forest Coverage</td>
<td>18%</td>
</tr>
<tr>
<td>Annual Average Change (%)</td>
<td>0.0%</td>
</tr>
<tr>
<td>(For 1980-89)</td>
<td></td>
</tr>
<tr>
<td>Cultivated Area</td>
<td>2,653,000 Ha</td>
</tr>
<tr>
<td>Population</td>
<td>19,143,000</td>
</tr>
<tr>
<td>Annual Growth Rate of Population</td>
<td>2.6%</td>
</tr>
<tr>
<td>Agricultural Population</td>
<td>92%</td>
</tr>
<tr>
<td>Illiteracy Rate</td>
<td>74%</td>
</tr>
<tr>
<td>National GNP</td>
<td>3,285 million US $</td>
</tr>
<tr>
<td>GNP Per Capita</td>
<td>170 US $</td>
</tr>
<tr>
<td>GNP: Real Growth Rate</td>
<td>2.1%</td>
</tr>
<tr>
<td>Share of Agriculture in GDP</td>
<td>52%</td>
</tr>
</tbody>
</table>

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 narrow 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 characteristic agro-ecological features.

The Mountain Region:

This is the northern most area lying in the Himalayan mountains with 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. Access 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 hectare. 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 yielding 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 demonstration farm at Singha Durbar in Kathmandu was established, 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 established in Kathmandu and several agricultural research stations and farms were set up in various parts of the country. In 1965-66 an intensive coordinated agricultural development programme was initiated with USAID assistance in 9 districts possessing high production potential. Village Cooperative societies were established 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:

86
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 Services Centre (NARSC). Two autonomous, British government funded and managed agricultural research centers, Lumle and Pakribas 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 been 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 Ts V system 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.
1. NEPAL AGRICULTURAL RESEARCH COUNCIL (NARC)
   Khumaltar, Lalitpur, Nepal
   Tel : (5) 23041/ 25703/ 25704/ 25708
   Telex : 
   Cable :
2. 1985
3. 
4. Executive Director
5. 
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
   Tel : (5) 21169
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) 2141
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
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
   Tel : (5) 21614/ 21615
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  
9. Scientists 14  
Technicians 14  
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  
4. 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  
Tel: (5) 23160  
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  
9. Scientists 5 [B.Sc.-1; M.Sc.-3; Ph.D-1]  
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 TEMPERATE 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
    Gutchhaur, 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
Dashrhathpur, Surkhet, Nepal
Tel :

6. AGRICULTURAL RESEARCH STATION
Rampur, Chitwan, Nepal
Tel :

7. GOAT RESEARCH STATION
Bandipur, Tanahu, Nepal
Tel :

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
Tel : (2) 11842

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


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
   Ph.D

7. Academic Year: July - June

8. Library: Books 162923
   Current Periodicals 11322
   National Depository for UN, UNCRD Japan,
   WFS Netherland, CSIRO Australia, World Bank

   Journals of the various institutes

10. Manpower: Teachers 4300

11. Budget:
PAKISTAN

Selected Indicators of Agricultural Development
Country : PAKISTAN
Total Area : 77,088,000 Ha
Forest Coverage (%) : 5%
Annual Average Change (%) : 1.7%
(For 1980–89)
Cultivated Area : 20,610,000
Population : 122,626,000
Annual Growth Rate of Population : 3.8%
Agricultural Population : 53%
Illiteracy Rate : 65%
National GNP : 49,477 million US $
GNP Per Capita : 410 US $
GNP: Real Growth Rate (per capita) : 1.7%
Share of Agriculture in GDP : 24%
Growth Rate of Agricultural Production :
Agricultural Export as % of Total Export : 32%
Major Agricultural Commodities : Cereals, Milk, Meat, Pulses
Root Crops, Oil Crops
Major Agricultural Imports : Cereals, Vegetable Oils, Forestry Products, Oil Seeds
Major Agricultural Exports : Cereals, Cotton Lint

Selected Indicators of Research
State of Agriculture and Research
Pakistan has large areas of fertile soils, suitable topography, favourable climatic conditions, and water wealth harnessed into a well-organised 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(a6b)
4-Northern Irrigated plain(a6b)
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 hectares the cultivated area (1982-83) is 31.3 million hectare but only 20.4 million hectares are actually cultivated. A considerable part of the remaining 10.9 million hectares 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 considerable 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 major components of the strategy were diversification of crops, increasing productivity particularly of small farmers, strengthening 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 channelled 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 Sukrand, 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 separated from the mainstream of agricultural development. This in turn denies them adequate opportunity for the context and involvement that are necessary 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 under-utilization 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

5. 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

5. Crop Sciences
   Animal Sciences
   Range Research
   Honeybee Research
Water Resources
Land Resources
Social Sciences
Farm Machinery
Training
Central Laboratories and General Administration

6.
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
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.
7. 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
3.
4. Director
5. Horticulture
   Agronomy
6.
7.
8.
9. Scientists 3
   Technicians 5
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
3.
4. Director
5. Mutation Breeding
   Biological Chemistry
   Soil Biology
Entomology
Biochemistry and Natural Product
Technical Services

6.
7. Books 5740
   Current Periodicals 96
8.
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
2. 1982
3. Autonomous body under the Ministry of Science and Technology, Islamabad, Pakistan
4. Dr Mohsin Muhammad Iqbal
5. Nuclear Agriculture
   Food Science
6.
7. Yes
8. Journals, Annual Reports and Newsletters
9. Researchers 39
   Technicians 22
10. N.A

1. PAKISTAN CENTRAL COTTON COMMITTEE (PCCC)
   Moulvi Tamizuddin Khan Road, Karachi, Pakistan
   Tel : 524104-6
   Telex : 25992 RUPAK
   Cable : RUIPAK
   Fax : 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.
7. Books 9502
   Current Periodicals 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, Pakistan
   Tel : 3769
   Telex :
   Cable :
2. 1962
3.
4. Director
5. Agronomy
   Soil Science
   Food Technology
   Plant Pathology
   Entomology
   Horticulture
   Oilseed
   Millet
   Wheat

98
Rice Cropping Pattern Research Sections

6.
7. Books 1598
   Current Periodicals 12
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
   Tel : 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 Research
   Institute, Faisalabad Agricultural Biotechnology 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 Phattian Regional
   Agricultural Research Institute, Bahawalpur Rapid Soil Fertility Survey
   and Soil Testing Institute, Lahore

6.
7. Books 15701
   Current Periodicals 888
   Microforms 7659
   Audiovisual Material 2
8.
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
6.
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 INSTITUTE (CCRI)
   Pirsabak, Nowshera, NWFP, Pakistan
   Tel : (05231) 2521
   Telex :
   Cable :
2. 1980
3.
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 (DMRI)
   Yusafwala, Sahiwal, Punjab, Pakistan
   Tel : 75710
   Telex :
   Cable :
2. 1969
3.
4. Director
5. Breeding
   Agronomy
   Plant Protection
6.
7. Books 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
3.
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)
   Shinkliari, Mansehra, NWFP, Pakistan
   Tel : 2795
   Telex :
   Cable :
2. 1989
3.
4. Project Director
5. Soil Science
   Entomology

100
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
8.
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
   Tel : 470809
   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 44
   Technicians 144
10. N.A
1. **PULSES RESEARCH INSTITUTE (PRI)**
   Ayub Agricultural Research Institute
   Faisalabad, Punjab, Pakistan
   Tel : 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
3.
4. Director
5. Rice Breeding
   Agronomy
   Soil Science
   Plant Protection
   Economics
   Statistics
   Communication
   Milling and Store
   Plant Physiology

6.
7. Books 3268
   Current Periodicals 45
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
3.
4. Director
5. Breeding
   Agronomy
   Soil Science
   Entomology
   Plant Pathology
   Rice Technology
   Agricultural Engineering
   Statistics

6.
7. Books 1000
8. Scientists 39
    Technicians 15
10. Rs 5.06 million

1. AGRICULTURAL RESEARCH INSTITUTE
    Tandojam, Hyderabad, Sindh, Pakistan
    Tel : 421
    Telex :
    Cable :
2. 1926
3. Department or Division within an Institution 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. Yes
7. Journals, Annual Reports and Newsletter
8. 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. N.A
7. Newsletters
8. 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, Government of NWFP, Peshawar, Pakistan.
4. Gulam Khan
5. Economic Botany
Cereal Botany
Agricultural Chemistry
Horticulture
Maize Botany
Plant Pathology
Entomology

6.
7. N.A.
8. Journals and Newsletters
9. Scientists 4
   Technicians 0
10. N.A

1. AGRICULTURAL RESEARCH INSTITUTE
    Sariab, Quetta, Balochistan, Pakistan
    Tel : 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

5.
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
6.
7.
8. Newsletters
9. Scientists 4
   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
Current Periodicals 415
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
Tel : 27817/ 610245/ 34879
Telex :
Cable :
2. 1978
3.
4. Director
5. Sugarcane Section, Faisalabad
Pakistan Sugarcane Agronomists' Office, Faisalabad
Sugarcane Research Station, Khanpur
6.
7. Books 345
Current Periodicals 4
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 1
10. Rs 5.13 million (1990-91)

1. WHEAT RESEARCH INSTITUTE (WRI)
Tandojam, Sindh, Pakistan
Tel : 236
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
1. **POTATO RESEARCH CENTRE**  
P.O. Mirpur, Abbottabad, NWFP, Pakistan  
Tel : 4573  
Telex :  
Cable :  

2. 1978  

3.  

4. Project Director  

5.  

6.  

7.  

8.  

9. Scientists 10 [B.Sc.-1; M.Sc.-9]  
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  
   Post Harvest Technology  
   Horticulture  

6.  

7. Yes  

8. Journals, Annual Reports, Newsletters  

9. Scientists 73  
10.  

1. **VEGETABLE RESEARCH INSTITUTE (VRI)**  
Faisalabad 30950, Punjab, Pakistan  
Tel : (0411) 32518  
Telex :  
Cable :  

2. 1976  

3.  

4. Director  

5. Vegetable Research Section, Faisalabad Ginger Research Section, Faisalabad Vegetable HSP Section, Faisalabad Potato Research Section, Sialkot  

6.  

7. Books 74  

8.  

9. Scientists 33 [B.Sc.Ag-2; M.Sc.-30; Ph.D.-1]  
   Technicians 30  

10. Rs 5.87 million  

1. **FOODDER RESEARCH INSTITUTE (FRI)**  
Post Box No. 43, Sargodha, Punjab, Pakistan  
Tel : 65653  
Telex :  
Cable :  

2. 1981  

3.  

4. Director  

5. Plant Breeding  
   Soil Science
Plant Pathology
Entomology

6.
7. Books 148
   Current Periodicals 636
8.
9. Scientists 49
    Technicians 1
10. Rs 9.32 million

1. SOIL FERTILITY SURVEY AND SOIL TESTING INSTITUTE (SFSSTI)
   24-A, Ferozepur Road, Lahore, Punjab, Pakistan
   Tel : (042) 489067/ 489535
   Telex :
   Cable :
2. 1962
3.
4. Director
5. Field Wing
   Laboratory Wing
6.
7. Books 481
   Current Periodicals 10
    Fields
9. Annual Report of Advisory Service
10. Scientists 165 [B.Sc.-1; M.Sc.-163; Ph.D.-1]
   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
   Plant Physiology

107
6.
7. Yes
8. Journals, Annual Reports, Newsletters
9. Researchers 35
Technicians 80
10.

1. **PAKISTAN INSTITUTE OF COTTON RESEARCH AND TECHNOLOGY (PICRT)**
Moulivi Tamizuddin Khan Road, Karachi, Pakistan
Tel : 5682228
Telex : 25992 RUPAK
Cable : RUPAK
Fax : 21992
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

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
Tel : 812 435/ 812491
Telex :
Cable : PEEETEEEED
2. 1968
3.
4. Chairman
5. General Administration
   Finance and Planning
   Research and Development
   Marketing and Statistics

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
Tel : (02233) 331, (0221) 40409
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

108
Soil and Analysis Laboratory
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 9.25 million

1. PAKISTAN COUNCIL FOR RESEARCH IN WATER RESOURCES (PCRWR)
   H.4, St.41, F-6/1, Islamabad, Pakistan
   Tel: (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 RECLAIMATION EXPERIMENTAL PROJECT (WAPDA)
   Tel : (0455) 2756
   Telex:
   Cable:
2. 1965
3. Autonomous body under the Water and Power Development
   Authority, Ministry of Water and Power Government of
   Pakistan, Islamabad
4.
5. Agronomy
   Hydrology and Water Management
   Soil and Reclamation
   Agricultural Economics
   Agricultural Extension
6.
7. Yes
8. Journals and Newsletters
9. Scientists 26
   Technicians 39
10.

1. SALINITY MONITORING DIRECTORATE (SMD)
   SMO, WAPDA, Canal Bank, Moghalpura, Lahore, Pakistan
   Tel : 331952
   Telex:
   Cable:
2. 1960
3. Autonomous body under the Water and Power Development Authority, Ministry
   of Water and Power, Government of Pakistan
4. Muhammad Ahsan Khan
5. Water Quality Monitoring Section
   Soil Monitoring and Agricultural Studies
   Soil Salinity Survey
   Soil and Water Laboratory
   Salinity Monitoring Laboratory, Peshawar

6.

7.

8. Newsletter

9. Scientists  22
   Technicians  45

10. LLOWER INDUS WATER MANAGEMENT AND RECLAMATION RESEARCH PROJECT (LWRMP)
    P.O.Box 1036, Hyderabad 71800, Pakistan
    Tel    : 40148-49
    Telex  :
    Cable  :
    2. 1980

3.

4. Project Director

5. Soil and Water Quality
   Agronomy
   Water Management and Hydrology
   Agricultural Economics

6.

7. Books     2
   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
    Tel    : 431377/ 443635
    Telex  : 44715 FDPI 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.

7. Books     2500
   Current Periodicals  2
   Microforms         1

8.

9. Scientists  53 [ B.Sc.-11; M.Sc.-42 ]

10. Rs 10.11 million

1. FARMS MACHINERY INSTITUTE (FMI)
    National Agricultural Research Centre
    Park Road, Islamabad 45500, Pakistan
    Tel    : (051) 820370/ 820380
    Telex  : 5604 PARK-PK
    Cable  : MACDIV
    Fax    : (051) 812968
    2. 1976

3.

4. Director

5. Tillage, Seeding and Planting
   Harvesting and Threshing
Mechanisation and Industrial Research

6. 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 15

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 45
    Technicians 3

10. Rs 8.0 million

1. RESEARCH INSTITUTE FOR PHYSIOLOGY OF ANIMAL REPRODUCTION
    Bhunikey (Pattoki), Kasur District, Punjab, Pakistan
    Tel : (04942) 2447
    Telex :
    Cable :

2. 1982

3. Department or Division within an Institution; under the
    Livestock and Dairy Development Department, Punjab, Lahore

4. Dr Rizwan-Ul-Mugtadar

5. Livestock Experiment Station
    Inservice Training Institute
    Dairy Training and Technology Centre
    A.I. Division
    Cytogenetics Division
    Microbiology Division
    Hormone and Biochemical Division
    Embryo Transfer Cell

6.

7. Yes

8. Newsletters

9. Scientists 14
    Technicians 9

10.

1. HONEYBEE RESEARCH LABORATORY (HRL)
    P.O. NARC, Islamabad, Pakistan
    Tel : 829564/ 820052/ 46, 820052/ 47
    Telex : 5604, PARC-PK
    Cable : AGRES'COUNCIL

2. 1976

3.

4. Deputy Director General (Operations)

5. Natural Resources
6. Ph.D. in Apiculture
7. Books 1200
   Current Periodicals 60
   Audiovisual Material (slides) 50
8. 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
3.
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
    Tel : 474081-4/ 472257
2. 1971
3.
4. Project Director
5. Mammalogy
   Medical Zoology
   Toxicology
   Microbiology
   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

112
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, Shamsabed, 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 Processing Division
6.

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 Khairwala, Laiyah District
   Sheep and Goat Development Project, Multan
   Wool Research Lab, Bhawalpur
   18 Livestock Experiment Stations
6.

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
3.
4. Director
5. Virology
   Flowescence Microscopy and Tissue Culture
Bacteriology
Sterilization and Mycoplasmosis
Poultry Vaccine and Pathology
Newly-emerging, Obscure and Mycotic Diseases
Parasitology and Acarology (?)
Disease Investigation, Disease Intelligence, Zoonosis and Histopathology
Foot and Mouth Disease Research Centre

6.

7. Books 5000
   Current Periodicals 25

8. Pakistan Journal of Veterinary Research

9. Scientists 99 [ B.Sc.-63; M.Sc.-36 ]

10. Rs 18.18 million

1. DIRECTORATE OF VETERINARY RESEARCH INSTITUTE (DVRI)
   Bacha Khan Chock, Peshawar, NWFP, Pakistan
   Tel : 274891-2/ 276296 / 274985
   Telex :
   Cable : VETRESS
   2. 1949
   3. 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. Journals, Annual Reports, Newsletters

8. 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.

6.

7. Newsletters

8. Scientists 31
   Technicians 11

9.

10.

1. MARINE FISHERIES DEPARTMENT (MFD)
   West Wharf, Fish Harbour, Karachi 2, Pakistan
   Tel : 202795-8
   Telex :
   Cable : CANTFISH

2.

3.

4. Director General

5. Fisheries Technology
   Research
   Planning
6. Books 1951
   Current Periodicals 30
   Microforms 3
   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
    Tel : 40580
    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 97
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 : PFRI
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 Research Division
   Forestry Education and Training Division
   Forest School Chora 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
2. 1991
3.
4. Director
5. Forage and Pasture Research Programme
   Agroforestry
   Agro-ecology
   Wildlife
   National Herbarium
6.
7. Books 40000
   Current Periodicals 900
   Microforms 500
   Audiovisual Material
   Laser Film
8. Pakistan Journal of Agricultural Research
    Progressive Farming
9. Scientists 23 [B.Sc.-2; M.Sc.-13; Ph.D.-8]
   Technicians 2
10. Rs 1.8 million

1. FACULTY OF AGRICULTURE, GOMAL UNIVERSITY
   Dera Ismail Khan, NWFP, Pakistan
   Tel : 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 2
10.

1. UNIVERSITY COLLEGE OF AGRICULTURE
   B.Z.University, Multan 60800, Pakistan
   Tel : 75581/ 40316/ 33162
   Telex :
   Cable :
   Fax : 41165
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 6
10.

116
1. UNIVERSITY COLLEGE OF AGRICULTURE
   Rawalkot, Azad Kashmir, Pakistan
   Tel : 92-576-2688
   Telex :
   Cable :
   Fax : 92-576-2826
2. 1980
3. Autonomous body under the UGC, Islamabad
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 : 843802/ 426707
   Telex :
   Cable :
   Fax : 051-426808
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  15
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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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:

1. Institution: SINDH AGRICULTURAL UNIVERSITY (SAU),
   Tandojam, Sindh, Pakistan
   Tel: (02233) 282
   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
   B.E Ag - 4 Years
   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
    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
   Tel: (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 Agricultural 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. Rafiq 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
   B.Sc (Hon) A.H. - 4 Years
   B.Sc. Agri. Engg - 4 Years
D.V.M - 4 Years
M.Sc/M.Sc (Hon) - 4 Semesters by course work and thesis.
Ph.D - 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 35
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
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 135
    Annual Report

1. Institution : BHAUDDIN ZAKARIYA UNIVERSITY (BZU)
   Multan, Punjab, Pakistan.
   Tel : (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 (AJKU)
   Muzzaffarabad, Azad Kashmir, Pakistan.
   Tel : 2060/ 3328/ 2366/ 3306/ 4444
   Telex : 4717
   Cable : UNIVERSITY MUZZAFFARABAD, Pakistan.
2. Year of Establishment : 1974
3. Status :
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.
Tel: (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

1. Institution: UNIVERSITY OF BALOCHISTAN (UB)
   Sariab Road, Quetta, Balochistan, Pakistan.
   Tel: (081) 40431
   Cable: BALOCHISTAN UNIVERSITY, Quetta
2. Year of Establishment: 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:
9. Library:
10. Publications:
11. Budget: