

*Directory of
Agricultural Research Institutions
in the Asia-Pacific Region*

SOUTHEAST ASIA



Asia Pacific Association of Agricultural Research Institutions

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the Asia-Pacific Region***

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FOREWORD

The Asia Pacific Association of Agricultural Research Institutions (APAARI) was formally launched in 1990 with the adoption of its constitution by the General Assembly of apex research and co-ordination organizations of various countries of the region at the FAO Regional office for Asia and the Pacific (RAP), Bangkok, Thailand. It is an outcome of the recommendations of the 17th FAO regional conference held in Islamabad, Pakistan in 1984 and an expert consultation organized by RAP in October, 1985. As of 1996, APAARI includes more than 19 countries from south Asia, southeast Asia, northeast Asia and the Pacific.

Realizing the emerging challenges that the APAARI member countries are expected to face by the turn of the century, the association is committed to promote the development of national agricultural research systems (NARS) in the Asia-Pacific region, through: i) promoting intra-regional, inter-institutional collaboration, ii) assisting to strengthen research, organizational and management capabilities of institutions of member countries, iii) strengthening networks, and iv) improving linkages between national, regional and international research centres. APAARI is continuously supporting the regional research collaboration efforts of the FAO, the CG centres, the upcoming Global Forum and the various funding agencies besides systematically determining NARS research priorities that are common to the region, sub-regions or individual countries.

The APAARI Executive Committee had earlier decided to bring out sub-regional Directories of the National Agricultural Research Institutions with a view to invigorate and facilitate the listed institutions/ organizations/ universities to establish effective cooperation among themselves. The Directory of South Asia was published in 1995 which was well received.

This Directory of Agricultural Research Institutions of Southeast Asia, an outcome of the APAARI assignment given to Ms. Vivian Valdex, Technical Officer, PCARRD, Philippines, enlists 75 institutions/organizations/universities of 8 countries of the sub-region, viz., Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam. It includes selected indicators for agricultural development of countries and brief profiles of their agricultural and forestry related important research institutions/ organizations/ universities. The Directory provides specific information on logo/emblem, the address, contact number(s), year of establishment, current heads of agencies, organizational type, areas/ fields of research, major language(s) used, mandate, total and category/gender-wise manpower, regular publications, other services offered and the total research budget.

I am sure this directory will serve as a useful information document for human resource development as well as for forging research linkages among various institutions in the Asia-Pacific region.

New Delhi
6 June, 1997



(R.S. PARODA)
Executive Secretary
APAARI

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INDONESIA

INDONESIA

Selected Indicators of Agricultural Development

Total Land Area	:	1,904,600 km ²
Share in Total Land Area (1993):		
Agriculture (Cropped Land)	:	17.1%
Permanent Pastures	:	6.5%
Forest & Woodland	:	61.7%
Others	:	14.7%
Cropped Land per Capita	:	0.16 ha
Population	:	195.3 million
Average Annual Population Growth Rate	:	1.7%
Adult Literacy Rate	:	Male-90%; female-78%
Economically Active Population in Agriculture	:	Male-52.5%; female-53.6%
Labor Force Employed in Agriculture	:	40600 million
Total GNP (1994)	:	US \$ 167630 million
Per Capita GNP	:	US \$ 880
Share of Agriculture in GDP	:	65821 billion Rupiah
Production Index, Agriculture	:	177,000 metric tons
Expenditure by Function, Agriculture	:	2812 billion Rupiah
Major Agricultural Products	:	Paddy, cassava, maize, palm oil, copra, sugar, bananas, sweet potatoes, soybeans, peanuts
Agricultural Exports (By Principal Commodity)	:	Rubber, shrimps (fresh & frozen), coffee



Agency for Agricultural Research and Development

Address	: Jl. Ragunan No. 29, Pasar Minggu Jakarta, Indonesia
Phones	: (62-21) 780 6202; 780 1242
Telex	: 46432 AARDJK IA
Fax	: (62-21) 780 0644
Year Founded/Established	: 1974
Mother Institution/Affiliates/Subsidiaries	: Ministry of Agriculture
Current Head of Institution	: Dr. Faisal Kasryno
Position	: Director General
Organization Type	: National
Areas/Fields of Research	: Foodcrops, Horticulture, Industrial crops, Fisheries, Livestock, Estate crops, Soil and Agroclimate, Agricultural Socio-economics, Agricultural Machinery, Communication/Information
Major Language(s) Used	: Bahasa Indonesian, English
Mandate	: To centralize research within the Ministry of Agriculture, and develop, coordinate and implement research programmes in accordance with national needs and development policies
Principal Units/Divisions	: Eleven (11) Research Centres
Total Number of Personnel	: 8240 (Technical-1537; Administrative-6703)
Titles of Regular Publications	: Information of Agric. R & D; Indonesian Agric. R & D Journal; Agric. Research Statistics; Research Journal of each Research Centre of AARD, etc.
Other Services Offered	: Laboratory tests, Partnership with Private Sectors
Total Research Budget (1995)	: Rp. 104,609,705,000



Forest and Nature Conservation Research and Development Centre

Address	: Jalan Gunung Batu No. 5, Bogor 16001, Indonesia
Phone	: (62-251) 325111
Fax	: (62-251) 325111
Cable	: PUSLITHUT BOGOR
Year Founded/Established	: 1913
Mother Institution/Affiliates/Subsidiaries	: Forest Research and Development Agency, Ministry of Forestry
Current Head of Institution	: Ir. Harun Alrasjid
Position	: Director

Organizational Type	: National
Areas/Fields of Research	: Forestry
Major Language(s) Used	: Bahasa Indonesian
Mandate	: Managing, Coordinating, and Reporting all Forest Research and Development Activities
Principal Units/Divisions	: Division of Operational System for Forest Research; Division of Development; Research Groups (Botany, Soil and Water Conservation, Forest Protection, Nature Conservation, Silviculture and Forest Biometrics)
Total Number of Personnel	: 295 Male-238; Female-57 Technical-192; Administrative-103
Titles of Regular Publications	: Forest Research Bulletin and Technical Information



National Coordination Agency for Surveys and Mapping

Address	: JL. Raya Jakarta, Bogor, km 46, Cibinong, West-Java
Phone	: (62-21) 875 2062
Telex	: 48305 BAKOST JA
Fax	: (62-21) 875 2064
Year Founded/Established	: 1969
Mother Institution/Affiliates/Subsidiaries	: Ministry of Research and Technology
Current Head of Institution	: Dr. Paul Suharto
Position	: Chairman
Organizational Type	: National
Areas/Fields of Research	: Geodesy and Geodynamics; Geodynamics; Geography and Regional Studies; Geographical Names; Boundary Demarcations
Major Language(s) Used	: Indonesian
Total Number of Personnel	: 692 Male-567; Female-125 Technical-461; Administrative-231
Titles of Regular Publications	: Geo-Informatika (Semi-Scientific Journal); Geomatika (Scientific Journal)
Other Services Offered	: Other surveys and mapping activities (Digital mapping, remote sensing, GIS, training, etc.)
Total Research Budget	: US\$ 76,000

Purwodadi Botanic Garden

Address	: Raya Purwodadi Street, Pasuruan East Java, Indonesia
Phone	: (62-341) 426046
Fax	: (62-341) 426046
Year Founded/Established	: 1939
Mother Institution/Affiliates/Subsidiaries	: Bogor Botanic Garden
Current Head of Institution	: Mr. Soejano
Position	: Chief
Organizational Type	: International
Areas/Fields of Research	: Botanical Research
Major Language(s) Used	: Indonesian
Mandate	: To inventorize, to explore and conserve semi-arid lowland plant species which have scientific values
Total Number of Personnel	: 155 Male-141; Female-14 Technical-125; Administrative-30
Titles of Regular Publications	: Annual Reports
Other Services Offered	: Educational Services



Research and Development Centre for Limnology

Address	: Jl. Proj. D.A. Tisna Amidjaya, Kompleks LIPI Cibinong, Cibinong 16911, Indonesia
Phone	: (62-21) 875 7071
Fax	: (62-21) 875 7076
Year Founded/Established	: 1987
Mother Institution/Affiliates/Subsidiaries	: Indonesian Institute of Sciences
Current Head of Institution	: Mr. P. E. Hehanussa
Position	: Director
Organizational Type	: National
Areas/Fields of Research	: Tropical Inland Water
Major Language(s) Used	: Indonesian/English
Principal Units/Divisions	: Inland Water Biology and Hydrodynamic Division
Total Number of Personnel	: 68; Male-45; Female-23; Technical-47; Administrative-21
Titles of Regular Publications	: Limnotek Perairan Darat Di Indonesia; Oseanologi Dan Limnologi Di Indonesia
Other Services Offered	: Research and Development
Total Research Budget (1996)	: US\$ 500,000



**Research and Development Centre for Oceanology –
Indonesian Institute of Sciences**

Address	:	JL. Pasir Putih I, Ancol Timur, Jakarta 11001, Indonesia
Phone	:	(62-21) 683 850
Telex	:	62875-PDII-IA
Fax	:	(62-21) 681948
Year Founded/Established	:	1905
Mother Institution/Affiliates/Subsidiaries	:	Indonesian Institute of Sciences
Current Head of Institution	:	Dr. O. K. Sumadhiharga
Position	:	Head
Organizational Type	:	National
Areas/Fields of Research	:	Oceanology
Major Language(s) Used	:	Indonesian
Total Number of Personnel	:	438
		Male-360; Female-78
		Technical-236; Administrative-202
Titles of Regular Publications	:	Oseana, Oseanologi Dan Limnologi di Indonesia, Marine Research in Indonesia, Special Issues
Other Services Offered	:	Marine Survey Services for Industry Development
Total Research Budget (1996)	:	Rp. 30,000,000,000

LAO PDR

LAO PDR

Selected Indicators of Agricultural Development

Total Land Area	: 236,800 km ²
Share in Total Land Area (1993)	
Agriculture (Cropped Land)	: 3.5%
Permanent Pastures	: 3.5%
Forest & Woodland	: 54.2%
Others	: 38.9%
Cropped Land per Capita	: 0.17 ha
Population (1995)	: 4.7 million
Average Annual Population Growth Rate	: 2.6%
Adult Literacy Rate	: Male-69%; female-44%
Economically Active Population in Agriculture	: No data available
Labour Force Employed in Agriculture	: No data available
Total GNP (1994)	: US \$ 1500 million
Per Capita GNP	: US \$ 320
Expenditure in Agriculture (1990)	: 8696 million kips
Major Agricultural Products	: Sugarcane, coconut, rice, corn (shelled), banana, rubber, coffee, abaca
Agricultural Exports (By Principal Commodity)	: Wood products, green coffee

Forest Research Centre

Address	: Department of Forestry Vientiane, Lao PDR
Phone	: (856-21) 215 000
Fax	: (856-21) 215 004
Year Founded/Established	: 1993
Current Head of Institution	: Mr. Khamphay Manivong
Position	: Head
Organizational Type	: National
Areas/Fields of Research	: Silvicultural Research
Major Language(s) Used	: Lao, English
Mandate	: Identify a strategy that will help to fulfill the policies and programmes defined by the Government of Lao PDR. Provide appropriate information to assist government and all other stakeholders to sustainably manage the forests and forest lands and to enhance their economic, social, environmental, and cultural values.
Principal Units/Divisions	: Regional Research Stations, Resource Centres, Research Programmes Unit, Administration Unit, Personnel Unit and Financial Unit
Total Number of Personnel	: 62 Male-35; Female-27 Technical-27; Administrative-12 Others-23
Total Research Budget (1996)	: US\$ 300,000

Houay Khot Northern Regional Upland Crops Research Centre

Address	: Luang Prabang Provincial Agriculture and Forestry Service P.O. Box 600, Luang Prabang, Lao PDR
Phone	: (856-71) 212 310
Fax	: (856-71) 212 310
Year Founded/Established	: 1976
Mother Institution/Affiliates/Subsidiaries	: Ministry of Agriculture and Forestry; Luang Prabang Provincial Agriculture and Forestry Service
Current Head of Institution	: Mr. Onechanh Boonnaphol
Position	: Director
Organizational Type	: National

Areas/Fields of Research	: Upland Rice-Based Cropping Systems, Upland Rice Variety Selection, Testing of Upland and Lowland Rice Varieties, Agroforestry, Forage and Cover Crops, Soil Improvement and Conservation
Major Language(s) Used	: Lao, English, French
Mandate	: Stabilization of Upland Rice Cropping Systems, Alternatives to Shifting Cultivation
Principal Units/Divisions	: Lao-IRRI Project's Upland Rice Program IBSRAM Asia Land and Sloping Lands Project
Total Number of Personnel	: 9 Male-8; Female-1 Technical-2; Administrative-2 Others-5
Titles of Regular Publications Produced	: National Rice Research Program and Lao-IRRI Project Annual Technical Report (Uplands Section); IBSRAM Asia Land Sloping Lands Consortium Reports
Other Services Offered	: Training, Farmer Extension Visits, Limited Propagation of Planting Materials
Total Research Budget (Current Year)	: US\$ 35,000

National Agricultural Research Centre

Address	: NARC, DAE, MAF, P.O. Box 811, Vientiane, Lao PDR
Phone	: (856-020) 511642
Year Founded/Established	: 1984
Current Head of Institution	: Mr. Somnuck Thirasack
Position	: Acting Director
Organizational Type	: National
Areas/Fields of Research	: Applied research on intensive cropping technologies, such as, varietal selection and conservation, soil fertility management, plant protection (IPM), Farming Systems and Development of agricultural tools and machines. All research activities are focused on cereal crops (rice, maize) and cash crops (fiber crops, coffee, sugarcane, vegetable, fruit trees, etc.). Research is done mostly in farmer's fields.
Major Language(s) Used	: Lao, English, French
Mandate	: National Agricultural Research Centre belongs to the Department of Agriculture and Extension of the Ministry of Agriculture - Forestry. There are 7 network stations in Northern, Central and Southern part of the country.
Principal Units/Divisions	: Administration Unit: - Finance - Secretariat

Technology Transfer Unit:

- Training
- Administration

Research Unit:

- *Cultural Practices*: Varietal Improvement, Soil Fertility, Plant Protection, Farming Systems, Agricultural Machinery
- *Crop Commodities*: Cereal Crop, Rice, Corn for Human Consumption
- *Cash Crops*: Maize for Feed Meal, Fiber Crops [cotton, kenaf], Coffee, Sugarcane, Vegetables, Fruit Trees, Root and Tuber Crops, Grain Legumes, Tobacco

Seed Production Unit:

- *On Station*: Breeder Seed, Regeneration 1 [R1], Regeneration 2 [R2]
- *On Farm*: Regeneration 2 [R2], Extension Seed

Pilot Site:

- *Northern Part*: a) Houykhhot station [Upland ecosystem-Luang Prabang Province]; b) 30 ha station [Lowland and irrigated ecosystem - Sayabouri Province]; c) Luang Namtha station [Lowland ecosystem - Luang Namtha Province]
- *Central Part*: a) Hine Heup station [Upland ecosystem-Vientiane Province]; b) Thadokkam NARC [Lowland and irrigated ecosystem - Vientiane Municipality - Head Quarters]; Thasano station [Lowland and irrigated ecosystem - Savannakhet Province]
- *Southern Part*: a) Phone Ngam station [Lowland and Irrigation - Champasack Province]; b) Km 35 station Ban I Tou [Upland ecosystem - Champsack Province]

Three Main Projects:

- Lao-IRRI Project (for rice)
- Upland Farming System Research Project (IDRC)
- Franco-Lao Cotton Project

Total Number of Personnel

: 69
 Male-58; Female-11
 Technical-55 (PhD-3; MSc-25); Administrative-14

Other Services Offered

: Short-term training courses mainly on rice production and English language. Provides facilities for conferences, workshops, and seminars for agriculture sectors. Provides quality rice and cotton seeds for farmers.

Total Research Budget (1996)

Total	-	195,600,000 kips
National	-	139,600,000 kips
Foreign Grants	-	56,000,000 kips

National Research Centre in Fisheries

Address	: Fisheries Division, Department of Livestock and Fisheries Ministry of Agriculture and Forestry
Phone	: (856-21) 215 013
Fax	: (856-21) 215 013 and 217 250
Year Founded/Established	: Proposed in 1996
Current Head of Institution	: ARRU – Mr. Sinthavong Viravong RFMU – Mr. Thonsathit Xaxandasy FEU – Mr. Bounthong Xaphakdy
Positions	: Heads of Principal Units
Organizational Type	: National
Areas/Fields of Research	: Aquatic Resources Research, Reservoir Fisheries, Fisheries Extension
Major Language(s) Used	: Lao, English
Principal Units/Divisions	: Aquatic Resources Research Unit (ARRU), Reservoir Fisheries Management Unit (RFMU), Fisheries Extension Unit (FEU)
Mandate	: ARRU – Inland aquatic resources identification and study (including fish biology); Water quality analysis; Riverine ecology study; Study of fish migration and spawning dynamics; Socio-economical study RMFU – Reservoir aquatic resources identification and study; Water quality analysis; Reservoir ecology study; Stock assessment; Socio-economical study; Research for cage fish culture; Environmental impact assessment of hydropower dams FEU – Testing technology for rearing fish on station and on farm (including both indigenous and exotic fish); Wetland resources management; Training in fish production and farm management for all levels (high, mid, low, and farmers' training); Generating extension packages; Socio- economic survey; Management of broodstock and production of fry/fingerling for distribution
Total Number of Personnel	: 50 Technical–45 (ARRU-10; RFMU–15; FEU–20); Administrative–5
Titles of Regular Publications	: Technical Reports and Annual Reports
Total Research Budget (1996)	: 23.5 million Kips (1 US\$ 920 Kips)

MALAYSIA

MALAYSIA

Selected Indicators of Agricultural Development

Total Land Area	:	329,800 km ²
Share in Total Land Area (1992):		
Agriculture (cropped land)	:	14.9%
Permanent Pastures	:	0.1%
Forest & Woodland	:	67.9%
Others	:	17.2%
Cropped Land per Capita	:	0.25 ha
Population (1995)	:	20.1 million
Average Annual Population Growth Rate	:	2.5%
Adult Literacy Rate	:	Male-48; female-22
Economically Active Population in Agriculture	:	Male-22.%; female-19.0%
Labor Force Employed in Agriculture	:	1518 thousands
Total GNP (1991)	:	US \$ 68,670 million
Per Capita GNP	:	US \$ 3520
Share of Agriculture in GDP	:	16,155 million Ringgit
Production Index, Agriculture	:	225,000 metric tons
Expenditure by Function, Agriculture (1993)	:	2489 million Ringgit
Major Agricultural Commodities	:	Palm oil, palm kernels, rubber, rice, copra, coconut oil, saw logs, sawn timber
Major Agricultural Exports	:	Saw logs & sawn timber, palm oil, rubber

Agricultural Research Centre

Address	: P.O. Box 977, Semongok, 93720 Kuching, Sarawak, Malaysia
Phone	: (60-82) 611 171
Fax	: (60-82) 611 178; 255 876
Year Founded/Established	: 1957
Mother Institution/Affiliates/Subsidiaries	: Department of Agriculture, Sarawak State of Malaysia
Current Head of Institution	: Mr. Kueh Hong Siong
Position	: Senior Assistant Director (Research)
Organizational Type	: State
Areas/Fields of Research	: Crop Research
Major Language Used	: English
Mandate	: To develop and market new or improved farming technology packages which are capable of increasing productivity and efficiency towards commercialized agriculture for income maximization of farmers
Principal Units/Divisions	: Food and Horticultural Crops; Industrial Crops; Crop Protection; Product Development and Technology Promotion; Research Services
Total Number of Personnel	: 250 Male-225; Female-25 Technical-230; Administrative-20
Titles of Regular Publications	: Annual Report of the Research Branch; Proceedings of Annual Research Officials Conference
Total Research Budget (1996)	: R.M. 3.5 Million



Department of Forestry, Forest Research and Development Branch

Address	: Forest Department Headquarters, Wisma Sumber Alam, Jalan Stadium, Petra Jaya 93660 Kuching, Sarawak, Malaysia
Phone	: (60-82) 442 180
Fax	: (60-82) 441 377
E-mail	: info@wsa.forest.gov.my
Year Founded/Established	: 1945
Mother Institution/Affiliates/Subsidiaries	: Forest Department Sarawak
Current Head of Institution	: Mr. A. A. Hamid
Position	: Senior Assistant Director
Organizational Type	: State of Sarawak

Areas/Fields of Research	: Forest pathology, entomology, botany, soils, ecology, silviculture and biochemistry
Major Language(s) Used	: English and Bahasa Malaysia
Mandate	: To conduct fundamental and applied research towards achieving sustainable forest management
Principal Units/Division	: Botany, Biochemistry, Ecology, Entomology, Pathology, Silviculture and Soils
Total Number of Personnel	: 130 Male-101; Female-29 Technical-107; Administrative-23
Titles of Regular Publications	: Forest Research Reports; Forest Research Annual Report; Advisory Leaflets
Total Research Budget (1996)	: RM 4.4 million



Forest Research Centre

Address	: Forestry Department Sabah
Phone	: (60-89) 531 522
Telex	: MA 82016
Fax	: (60-89) 531 068
Year Founded/Established	: 1974
Mother Institution/Affiliates/Subsidiaries	: Sabah Forestry Department
Current Head of Institution	: Mr. Anuar Mohammad
Position	: Head
Organizational Type	: A division within the Sabah Forestry Department
Areas/Fields of Research	: Forestry
Major Language(s) Used	: English
Mandate	: To contribute to the conservation and sustainable management of forest resources in Sabah
Total Number of Personnel	: 300 Male-200; Female-100
Titles of Regular Publications	: Forest Research Biennial Report, Sandakania, Sabah Forest Records, FRC Research Papers
Other Services Offered	: Consultancy and advice
Total Research Budget (1996)	: RM 4 million



Palm Oil Research Institute of Malaysia (PORIM)

Address	: No. 6 Persiaran Institusi, Bandar Baru Bangi, 43000 Kajang, Selangor Malaysia
Phones	: (60-3) 825 9155; 825 9775
Telex	: MA 31609
Fax	: (60-3) 825 9446
E-mail	: yusof@porim.gov. my
Year Founded/Established	: 1979
Current Head of Institution	: Datuk Dr. Yusof Basiron
Position	: Director-General
Organizational Type	: National
Areas/Fields of Research	: Agricultural Research - Oil Palm and Palm Oil
Major Language(s) Used	: English, Malay
Mandate/Mission	: To support the well-being of the palm oil industry in Malaysia through research, development and services
Principal Units/Division	: Administration and Finance, Biology, Chemistry and Technology, Techno-Economics and Technical Services, Central Services
Total Number of Personnel	: 790 Male-494; Female-296 Technical-736; Administrative-54
Titles of Regular Publications	: Elaeis, Porim Bulletin, Porim Technology, Occasional Paper, Palm Oil Developments, Annual Report, Annual Research Review, Workshop Proceedings, Engineering News, Palm Oil Technical Bulletin, Porim Information Series, Porim Reports, Palm Oil Factory Process Hand Book, Pocket Book of Palm Oil Use
Other Services Offered	: Techno-Economics and Technical Advisory Service, Analytical, On-site Technical Audit, Technical Advice, Information and Statistics, Palm Information Centre, Training, Seminars
Total Research Budget (1996)	: RM 48,595,052



Rubber Research Institute of Malaysia

Address	: P.O. Box 10150, 50908 Kuala Lumpur, Malaysia
Phone	: (60-3) 456 7033 (21 lines)
Telex	: MA 30369
Fax	: (60-3) 457 3512
Cable	: Searching Kuala Lumpur
Year Founded/Established	: 1925
Mother Institution/Affiliates/Subsidiaries	: Malaysian Rubber Research Development Board; Tun Abdul Razak Research Centre, Hertford, U.K.
Current Head of Institution	: Abdul Aziz bin Sheikh Abdul Kadir (Datur/Dr.)
Position	: Director
Organizational Type	: National
Areas/Fields of Research	: R&D in Rubber Science and Technology
Major Language(s) Used	: English and Bahasa Malaysia
Total Number of Personnel	: 1687
Titles of Regular Publications	: Annual Report, Journal, Natural Rubber Research Planters Bulletin, Siaran Pekebun, Proceedings, Directories, Statistics
Other Services Offered	: Consultancy (RRIM - Consult)

MYANMAR

MYANMAR

Selected Indicators of Agricultural Development

Total Land Area	: 676,600 km ²
Share in Total Land Area (1992)	
Agriculture (Cropped Land)	: 15.3%
Permanent Pastures	: 0.5%
Forest & Woodland	: 49.3%
Others	: 34.9%
Cropped Land per Capita	: 0.23 ha
Population (1995)	: 44.7 million
Average Annual Population Growth Rate	: 1.9%
Adult Literacy Rate	: Male-89%; female-78%
Economically Active Population in Agriculture (1985)	: Male-67.8%; female-63.0%
Labour Force Employed in Agriculture (1993)	: 10.97 million
Total GNP (1991)	: No data available
Per Capita GNP	: No data available
Share of Agriculture in GDP	: 230706 million kyats
Production Index, Agriculture	: 144,000 metric tons
Major Agricultural Products	: Paddy, sugarcane, groundnut, sesamum, maize (seeds), gram, cotton, jute
Agricultural Exports (By Principal Commodity)	: Teak & other hardwood, rice & rice products, raw rubber

Applied Research Centre for Perennial Crops

Address	: Mudon, Mon State, Union of Myanmar
Phone	: (95-32) 230 14
Telex	: c/o BM 21201 (2341) MPCE
Fax	: c/o (95-1) 89960 (1518)
Year Founded/Established	: 1991
Mother Institution/Affiliates/Subsidiaries	: Myanmar Perennial Crop Enterprise, Ministry of Agriculture and Irrigation
Current Head of Institution	: U Aye Pe
Position	: Manager
Organizational Type	: National
Areas/Fields of Research	: Perennial Crops (rubber, oil palm, cashewnut); Introduction of new economical valued perennial crop
Major Language(s) Used	: Myanmar
Mandate	: The main objective is to increase national income and improve the living standard of the rural people through the centre on perennial crops to support the planting and promoting other tree crops of commercial value
Principal Units/Division	: Soil/Nutrient Division; Agronomy Division; Crop Protection, Processing Technology
Total Number of Personnel	: 43 Male-24; Female-19 Technical-28; Administrative-15
Other Services Offered	: Conducting trainings of staff and private people
Total Research Budget (1996-1997)	: 7.8 Million Kyat Current : 6.4 Million Kyat Capital : 1.4 Million Kyat

Central Agriculture Research Institute (CARI)

Address	: Cari, Yezin, Pyinmana, Myanmar
Phone	: (95-67) 21118
Telex	: 21311 AGRICO BM
Fax	: (95-1) 667991
Year Founded/Established	: 1954
Current Head of Institution	: Dr. Toe Aung
Position	: General Manager

Organizational Type	: National
Areas/Fields of Research	: Rice, other cereals, oil seed crops, food legumes, fibre crops, sugar crops, horticulture
Major Language(s) Used	: Myanmar
Mandate	: To develop improved varieties; to investigate crop management systems; to transfer technologies
Principal Units/Division	: Rice, other cereals, oil seed crops, food legumes, fiber crops, sugar crops, horticulture, agronomy, plant physiology, entomology, agricultural chemistry, plant pathology, small scale farm implement.
Total Number of Personnel	: 365 Male-125; Female-240 Technical-179; Administrative-186
Titles of Regular Publications	: Myanmar Journal of Agricultural Sciences (MJAS)
Total Research Budget (1996)	: K. 90,769,000



Fresh Water Aquaculture Research Unit

Address	: Mya Khwar Nyo Street, Thaketa Township Yangon, Union of Myanmar
Phone	: (95-1) 295 322
Fax	: (95-1) 289 429; 228 258
Telex	: 21310 BM
Year Founded/Established	: 1979
Mother Institution/Affiliates/Subsidiaries	: Development and Research Department, Department of Fisheries, No. 460 Merchant Street, Yangon, Myanmar
Current Head of Institution	: Mr. Win Aung
Position	: Director
Organizational Type	: National
Areas/Fields of Research	: Fresh Water Organism (such as prawn, fish, and plankton)
Major Language Used	: Myanmar
Degrees Offered	: B.Sc (zoology)
Principal Units/Divisions	: Development and Research Department, Department of Fisheries
Total Number of Personnel	: 27 Male-13; Female-14 Technical-16; Administrative-11
Total Research Budget	: 1.5 Millions (in Kyats)



Institute of Agriculture

Address	: Yezin, Pyinmana, Myanmar
Phones	: (95-067) 21098; 21434
Year Founded/Established	: 1924
Current Head of Institution	: Dr. Kyaw Than
Position	: Rector
Organizational Type	: National
Areas/Fields of Research	: Teaching-University Level and Agricultural Research
Major Language(s) Used	: English
<i>For Universities:</i>	
Principal Units	: Bi-semester system 22 weeks in each semester
Degrees Offered	: B. Agr. Sc. M. Phil. M. Agr. Sc.
Mandates	: Ministry of Agriculture and Irrigation
Principal Units/Divisions	: Agronomy, Agricultural Botany, Agricultural Chemistry, Plant Pathology, Entomology, Agricultural Economics and Horticulture
Total Number of Personnel	: 428 Male-237; Female-191 Technical-190; Administrative-238
Titles of Publications	: Prospectus
Total Research Budget	: Ks. 80,000



Institute of Forestry

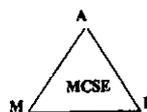
Address	: 05282 Yezin – Pyinmana Township Union of Myanmar
Phones	: (95-67) 21436; 21574
Year Founded/Established	: 1923
Mother Institution/Affiliates/Subsidiaries	: Department of Forest; Ministry of Forestry
Current Head of Institution	: Mr. U Aung Kyin
Position	: Acting Rector
Organizational Type	: National
Areas/Fields of Research	: Training of Professional Graduates in Forestry
Major Language(s) Used	: Myanmar (Mother tongue); English
For Universities: Academic Year	: 1

Principal Units	: Forestry; Arts and Science
Degrees Offered	: BSc (Forestry) MSc (Forestry)
Mandate	: To conduct University level teaching and training
Principal Units/Divisions	: Undergraduate; Postgraduate
Total Number of Personnel	: 187 Technical-71; Administrative-116
Other Services Offered	: Forestry Research Activities conducted by academic staff
Title of Regular Publication	: Myanmar Forestry Journal
Total Research Budget	: not fixed



Livestock Breeding and Veterinary Department

Address	: L.B.V.D. Insein Road, Insein, Yangon, Myanmar
Phones	: (95-1) 604 2018 – DG; 640 07 – Director
Fax	: (95-1) 642 023
E-mail	: 11011 INSEIN
Year Founded/Established	: 1874
Current Head of Institution	: Mr. Tin Ng Myint
Position	: Director General
Organizational Type	: National
Areas/Fields of Research	: Vaccine Production, Genetic Conservation, Disease Diagnosis and Epidemiology, Extension Services, A.I. and Embryo Transfer
Major Language(s) Used	: Myanmar
For Universities: Academic Year	: Six years
Principal Units	: Vaccine Production Division; Planning and Statistic Division; Administration Division; Diagnostic and Epidemiology Division; FMD Division; A.I. and Genetic Conservation Division; Training and Education Division
Total Number of Personnel	: 1777 Male-1,389; Female-388 Administrative-470; Technical 1,307
Titles of Regular Publications	: Annual Reports
Other Services Offered	: Contract Growing for Pig and Poultry, Extension Services Treatment for Clinical Cases
Total Research Budget	: 10,320,810 Kyats (US\$ 1.7 million)



Myanmar Cotton and Sericulture Enterprise

Address	: Thirimingalar Lane, Off Kabaraye Pagoda Road, Yankin, P.O., Yangon, Myanmar
Phones	: (95-1) 665 466; 666 068
Fax	: (95-1) 666 068
Year Founded/Established	: 1994
Mother Institution/Affiliates/Subsidiaries	: Myanmar Agriculture Service
Current Head of Institution	: Dr. Maung Mar
Position	: Managing Director
Organizational Type	: National
Areas/Fields of Research	: Cotton, Mulberry Cultivars; Agro-Techniques, Pest Management; Sericulture, Moriculture, Silkworm Rearing, Silk Reeling
Major Language(s) Used	: Myanmar/English
Mandate	: To boost cotton production and meet the demand of domestic textile industries and export the surplus cotton.
Principal Units/Divisions	: Administration and Planning, Extension, Accounts, Procurement, Cotton Ginnery
Titles of Regular Publications	: Annual Reports
Total Research Budget	: 6,50,000 (Kyat)



Myanmar Forest Research Institute

Address	: Yezin, Union of Myanmar
Phones	: (95-67) 211 01; 216 00
Year Founded/Established	: 1978
Current Head of Institution	: Mr. Shwe Kyaw
Position	: Head
Organizational Type	: National
Areas/Fields of Research	: Forestry and Forest Products
Major Language Used	: English
Mandate	: To provide technical information on all aspects of forestry and forestry based activities
Principal Units/Divisions	: Forest Management and Silviculture, Forest Resources, Forest Protection, Tree Improvement and Botany, Wood Properties and Utilization, Forest Industrial Processes
Total Number of Personnel	: 222; Male-145; female-77; Technical-57; Administrative-165
Titles of Publications	: Research Papers
Other Services Offered	: Research projects requested from States and Divisions, Part-time lectures to the Institute of Forestry, Exchange of Forest Tree Seeds
Total Research Budget	: kyats 11,941,160



Sea Fisheries Survey and Research Unit

Address	: West Gyongon Insein Township Yangon, Union of Myanmar
Phone	: (95-1) 295 322
Fax	: (95-1) 289 429; 228 258
Year Founded/Established	: 1979
Mother Institution/Affiliates/Subsidiaries	: Department of Fisheries
Current Head of Institution	: Mr. Win Aung
Position	: Director
Organizational Type	: National
Areas/Fields of Research	: Rakhine Coast; Shrimp survey by catch from shrimp trawlers; Delta and Tanintharyi Coast: Demersal & Pelagic Fish Survey
Major Language Used	: Myanmar
Degrees Offered	: B.Sc Marine Sciences
Principal Units/Division	: Development and Research Department, Department of Fisheries
Total Number of Personnel	: 37; Male-30; Female-7; Technical-18; Administrative-19
Titles of Regular Publications	: Survey Cruise Reports; Marine Fishes, Shrimp of Continental Shelf of Myanmar; Monthly Reports



Sugarcane Central Research Farm

Address	: Myanma Sugarcane Enterprise Ministry of Agriculture, Kanbe P.O., Yangon, Myanmar
Phones	: (95-1) 666 042; 666 043; 666 004
Telex	: 21311 Agrico BM
Fax	: (95-1) 667 991
Year Founded/Established	: 1925
Mother Institution/Affiliates/Subsidiaries	: Myanma Sugarcane Enterprise
Current Head of Institution	: Mr. San Thein
Position	: Deputy General Manager
Organization Type	: National
Areas/Fields of Research	: Sugarcane varietal improvement and investigations on cultural practices
Major Language(s) Used	: Myanmar
Mandate	: Screening improved varieties in terms of cane tonnage, sugar content, resistance to red rot and earliness through tissue culture and hybridization
Principal Units/Divisions	: Research; Multiplication of pure strains; Demonstration
Total Number of Personnel	: 11; Male-8; Female-3; Technical-6; Administrative-5
Titles of Regular Publications	: Annual Reports, Research Articles
Other Services Offered	: Training at various levels
Total Research Budget (1996)	: Ks. 7,100,000

PHILIPPINES

PHILIPPINES

Selected Indicators of Agricultural Development

Total Land Area	: 300,000 km ²
Share in Total Land Area (1993)	
Agriculture (Cropped Land)	: 30.8%
Permanent Pastures	: 4.3%
Forest & Woodland	: 45.6%
Others	: 19.3%
Cropped Land per Capita	: 0.14 ha
Population (1995)	: 70.3 million
Average Annual Population Growth Rate	: 2.5%
Adult Literacy Rate	: Male-95%; female-94%
Economically Active Population in Agriculture	: Male-52.8%; female-30.5%
Labour Force Employed in Agriculture	: 11.249 million
Total GNP	: US \$ 63310 Million
Per Capita GNP	: US \$ 960
Share of Agriculture in GDP	: 171.0 billion Pesos
Production Index, Agriculture	: 123,000 metric tons
Expenditure by Function, Agriculture	: 18243 million Pesos
Major Agricultural Products	: Sugarcane, coconut, rice, corn (shelled), banana, rubber, coffee, abaca
Agricultural Exports (By Principal Commodity)	: Coconut oil, logs & lumber, copra, centrifugal & refined sugar



Baguio National Crop Research and Development Centre – Bureau of Plant Industry

Address	: Guisad Road, Baguio City, Philippines
Phones	: (63-442) 5270; (63-443) 3540; (63-442) 3048
Fax	: (63-443) 3541
Mother Institution/Affiliates/Subsidiaries	: Department of Agriculture
Current Head of Institution	: Mr. Ceferino A. Baniqued
Position	: Superintendent
Organizational Type	: National
Areas/Fields of Research	: Crop improvement, crop protection, culture and management and postharvest
Major Language(s) Used	: English
Mandate	: Responsible for the generation, development, and dissemination of technologies for semi-temperate crops suitable in the Cordillera and other areas in the Philippines with similar Agro-climatic conditions
Principal Units/Divisions	: Research, Regulatory, Production and Extension
Total Number of Personnel	: 72 Male-33; Female-39 Technical-36; Administrative-36
Titles of Regular Publications	: Crop Improvement, Culture and Management, Crop Protection, Postharvest, Biotechnology and Regulatory, on the following commodities: potato, semi-temperate vegetables, ornamental/medicinal plants, beverages and fruit crops
Other Services Offered	: Training and extension, technical assistance
Total Research Budget (1996)	: P 13,086,106



Bureau of Agricultural Research

Address	: 3rd Floor, ATI Bldg., Elliptical Road Diliman, Quezon City, Philippines
Phones	: (63-2) 928 8505; 928 8814; 928 8624; 920 9790; 928 4907; 928 8405
Telex	: (722) 27726 MOA-PH
Fax	: (63-2) 927 5691; 928 4907
Cable	: Secagri
E-mail	: bar-oad@globe.com.ph bar-isd@globe.com.ph
Year Founded/Established	: 1987
Mother Institution/Affiliates/Subsidiaries	: Department of Agriculture (DA)
Current Head of Institution	: Dr. Jeminiano R. Escaño

Position	: Director
Organizational Type	: National
Major Language(s) Used	: English
Mandate	: To coordinate, integrate, plan, monitor and evaluate the research programmes of the DA and its attached agencies ensuring that there are no unnecessary duplications and that they are within the Department's thrusts and priorities
Principal Units/Divisions	: Programme Development Division, Research Coordination Division, Management and Information Systems Division
Total Number of Personnel	: 61 Male-29; Female-32 Technical-31; Administrative-30
Titles of Regular Publications	: Technotrends, Farming Updates, BAR Annual Report, Journal for Philippine Agriculture, On-farm Research Manual
Total Research Budget (1996)	: P 95,217,000



Cotton Research and Development Institute

Address	: Mariano Marcos State University Batac, Ilocos Norte, Philippines
Phone	: (63-77) 792 3137
Fax	: (63-77) 792 3137
Year Founded/Established	: 1978
Current Head of Institution	: Dr. Isagani G. Catedral
Position	: Director
Organizational Type	: National
Areas/Fields of Research	: Production, protection, agricultural engineering, breeding, physiology
Major Language(s) Used	: English
Mandate	: Attainment of self-sufficiency in cotton at the shortest time possible
Principal Units/Divisions	: Administrative, Research, Research Utilization
Total Number of Personnel	: 142 Male-82; Female-60 Technical-98; Administrative-44
Titles of Regular Publications	: Annual Report, Cotton R&D Highlights, Cottontrends, and Cotton Research Journal (Phils.)
Other Services Offered	: Training cotton farmers
Total Research Budget (1996)	: P 18,027,000



Ecosystems Research and Development Bureau (Formerly Forest Research Institute)

Address	:	College, Laguna 4031, Philippines
Phones	:	(63-49) 536 3481; 536 3628
Fax	:	(63-49) 536 2850
Year Founded/Established	:	1987
Mother Institution/Affiliates/ Subsidiaries	:	Department of Environment and Natural Resources Ecosystems Research and Development Service (Regional)
Current Head of Institution Position	:	For. Celso P. Diaz Director III
Organizational Type	:	National
Areas/Fields of Research	:	The bureau is responsible for generative technologies and providing technical assistance on the sustainable development and uses of Philippine ecosystems and natural resources. The ERDB employs the ecosystem approach in the implementation of R and D programmes which makes use of interdisciplinary means towards solving problems plaguing the ecosystems and natural resources, i.e., it takes into account all major factors affecting the ecosystems and by providing solutions to the same through the use of diverse expertise. <i>Forest Ecosystem:</i> R and D programmes dealing with the regeneration, protection, conservation and management of the dipterocarps, pine, mossy and plantation forest including non-timber forest plants such as rattan, palms, vines, and other economic plants including medicinal plants. <i>Upland Farms Ecosystems:</i> R and D programmes on the plantation, rehabilitation and management of upland areas appropriate to varied bio-physical and socio-cultural situations. <i>Grassland & Degraded Areas Ecosystem:</i> R and D programs on the rehabilitation, protection and management of openlands, critical watersheds, and grassland and degraded areas. <i>Coastal Zone and Freshwater Ecosystem:</i> R and D programs to generate technologies for the proper utilization, protection, rehabilitation and management of mangrove forests and estuarine areas, inland and coastal wetlands, riverine, stagnant and remaining freshwater resources.
Major Language(s) Used	:	English, Filipino
Mandate	:	The bureau is responsible for generative technologies and providing technical assistance on the sustainable development and uses of Philippine ecosystems and natural resources.
Principal Units/Divisions	:	Office of the Director (Office of the Assistant Director, Los Baños Experiment Station, Planning and Management Information Services Unit); Finance and Administrative Services Division; Forest Ecosystem Research Division; Grassland and Degraded Areas Ecosystem Research Division; Upland Farms Ecosystem Research Division; Coastal Zone and Freshwater Ecosystem Research Division; and Technology Development Division.

Total Number of Personnel	: 321 Male-157; Female-164 Technical-178; Administrative-143
Titles of Regular Publications	: Canopy International; Sylvatrop - The Technical Journal of DENR; Research Information Series on Ecosystems (RISE); DENR Recommends; How-to-Manuals; ERDB Annual Report.
Total Research Budget (1996)	: P 37M

Farm and Resource Management Institute

Address	: Visayas State College of Agriculture (ViSCA) 6521-A Baybay, Leyte, Philippines
Phone	: (63-2) 053-415-2630
Fax	: (63-2) 588-692
E-mail	: v+visca@sat.vitanet.org
Year Founded/Established	: 1987
Mother Institution/Affiliates/Subsidiaries	: Visayas State College of Agriculture (VISCA)
Current Head of Institution	: Dr. Dolores A. Alcober
Position	: Director
Organizational Type	: Regional (a research centre of VISCA)
Areas/Fields of Research	: Soil and Water Resources; Agroforestry and Multipurpose Tree Species; Agricultural Ecosystem
Major Language(s) Used	: English
Mandate	: To focus on-farm research thrust on upland agroecosystems with upland rice and corn as base crops
Total Number of Personnel	: 12 Male-8; Female-4 Technical-7; Administrative-5
Titles of Regular Publications	: FARMI Annual Report; On-Farm, Notes (bi-annually)
Other Services Offered	: Resource Person for non-formal training; Instructor for some courses offered by academic departments in VISCA
Total Research Budget	: P 2,317,974.00 (includes government and foreign funding)



Forest Products Research and Development Institute (FPRDI)

Address	: Forestry, College 4031Laguna, Philippines
Phones	: (63-49) 536 3630; 536 2377; 536 2360
Fax	: (63-49) 536-3630
E-mail	: edb@mudspring.uplb.edu.ph dsa@mudspring.uplb.edu.ph
Year Founded/Established	: 1957
Mother Institution/Affiliates/Subsidiaries	: Department of Science and Technology
Current Head of Institution	: Dr. Emmanuel D. Bello
Position	: Director
Organizational Type	: National
Areas/Fields of Research	: Forest products utilization research, Housing and materials, Furniture, Wares and packaging, Chemical products, Technology utilization, Socio-economics, Pulp and paper and Dendro-Energy

Major Language(s) Used	: English
Mandates	: To generate scientific knowledge, technologies and information to attain optimal utilization of forest-based products; to render technical services and provide manpower training for the industries for the ultimate social and economic benefit of the people.
Principal Units/Divisions	: Finance and Administrative Division; Material Properties and Evaluation Division; Mechanical Processing and Products Development Division; Chemical Processing and Products Development Division; Technical Services Staff, Planning Staff
Total Number of Personnel	: 267 Male-149; Female-118 Technical-181; Administrative-86
Titles of Regular Publications	: Annual Reports, Operations Plan, FPRDI Journal, FPRDI Trade Bulletin, Forest Products Technoflow
Other Services Offered	: Technical/Consultancy Services, Testing, Analytical Services, Calibration Services
Total Research Budget (1996)	: P 43,563,000

National Crop Protection Centre

Address	: College of Agriculture, University of the Philippines, Los Baños College, Laguna 4031, Philippines
Phones	: (63-49) 536 2409; 536-0967; 536-0983
E-mail	: LRIV@Mudspring.uplb.edu.ph; EAB@Mudspring.uplb.edu.ph
Year Founded/Established	: 1976
Mother Institution/Affiliates/Subsidiaries	: College of Agriculture, University of the Philippines, Los Baños
Current Head of Institution	: Dr. Luis Rey I. Velasco
Position	: Director
Organizational Type	: National
Areas/Fields of Research	: Crop protection, entomology, plant pathology, weeds, vertebrate pests
Major Language(s) Used	: English
Mandate	: To undertake problem analyses, developmental research and planning required to develop crop protection systems against pests of major economic crops; To develop and implement manpower training programmes designed to upgrade the pool of manpower required to meet the complex pest control needs of the country; To undertake information exchange and extension to provide farmers and the public with coordinated information about the varied facets of pest control and to emphasize the urgent need for safe and effective pest control practices; To establish adequate linkage between research and operational phases at the farm level in order to ensure that the changing research needs of operational activities are met and that the operational activities are based on the most recent and applicable

Principal Units/Divisions	: research findings; To provide scientific advise to government planners for the formulation of policies and regulatory programs necessary for dealing with the complex pest control technologies essential for the protection of crops.
Total Number of Personnel	: Vegetables/legumes; vegetables/nonlegumes/corn; fruits; rice; ornamentals; fiber; industrial; coffee/cacao; root crops
Titles of Regular Publications	: 128 Male-75; Female-53 Technical-47; Administrative-81
Other Services Offered	: Annual Reports
Total Research Budget (1995)	: Pesticide residue analysis, crop protection, literature search, farmers training, data analysis
	: P 12,424,000



National Institute of Molecular Biology and Biotechnology (BIOTECH)

Address	: University of the Philippines, Los Baños College, Laguna 4031, Philippines
Phones	: (63-49) 094 536-2721 to 25
Fax	: (63-94) 536-2721
E-mail	: red@biotech.uplb.edu.ph
Year Founded/Established	: 1979
Current Head of Institution	: Dr. Reynaldo E. dela Cruz
Position	: Director
Organizational Type	: National
Areas/Fields of Research	: Agriculture and Forest Biotechnology, Environmental Biotechnology, Food and Specialty Products Biotechnology, Biotechnology for Health
Major Language(s) Used	: English
Mandate	: To develop cost effective technologies for the production of goods and services that are cheaper and safer alternatives to conventional products, making use of locally available materials but which are safe to the environment
Principal Units/Divisions	: 4 Research Programmes (agriculture and forestry, food and specialty oils, environment, and health biotechnology); 4 Service Laboratories (Microbial Culture Collection and Service Lab, Central Analytical Services Lab, Electron Microscopy Lab, and Fermentation Engineering Lab); Extension and Communication Unit, and Administrative Unit
Total Number of Personnel	: 125 Male-55; Female-70 Technical-55; Administrative-70
Titles of Regular Publications Produced	: Philippine Journal of Biotechnology; Annual Technical Report
Other Services Offered	: Training, seminars, workshops; chemical analyses, electron microscopy, fermentation engineering services, microbial analyses



University of the Philippines Los Baños (UPLB)

Address	: College, Los Baños, Laguna 4031, Philippines
Phones	: (63-49) 536-2894; 536-2567
Fax	: (63-49) 536-3673
E-mail	: rlv@mudspring.uplb.edu.ph
Year Founded/Established	: 1909
Mother Institution/Affiliates Subsidiaries	: University of the Philippines System (UPS)
Current Head of Institution	: Dr. Ruben L. Villareal
Position	: Chancellor
Organizational Type	: National
Areas/Fields of Research	: Agriculture, forestry and related biological and social sciences <i>Prioritized Research Thrusts:</i> Sustainable productivity and efficient resource utilization premised on ecological balance; optimal rural and urban development; appropriate technologies for processing industries; basic research and cutting edge technologies; indigenous knowledge systems and Philippine culture.
Major Language(s) Used	: English, Filipino
Mandate	: To provide leadership in resident instructions, research and professional training in agriculture, forestry and related fields, as well as in the liberal arts, the basic and applied sciences; To enhance its critical influence on national development policies in the economic, political, social and cultural aspects of Philippine life, and; To continue striving to be the premier Asian educational institution in agriculture, forestry, rural development and in the liberal arts and the basic sciences
Total Number of Personnel	: 4,017 Faculty-808; Administrative-2,486 Research, Extension and Professional Staff-723
Total Research Budget (1996)	: P 123,687,000 (internal budget) (excluding external funding)



National Postharvest Institute for Research and Extension (NAPHIRE)

Address	: Central Luzon State University Compound Muñoz, Nueva Ecija, Philippines
Phones	: (63-44) 56 0110; 56 0213; 56 0333; (63-912) 306-70
Fax	: (63-912) 335 8025; (63-2) 926 8159
E-mail	: NAPHIRE@emile.com.ph

Year Founded/Established	: 1978
Mother Institution/Affiliates/Subsidiaries	: Department of Agriculture
Current Head of Institution	: Dr. Silvestre C. Andales
Position	: Executive Director
Organizational Type	: National
Areas/Fields of Research	: Wet grain handling, mycotoxin contamination, postharvest pest and diseases, development of postharvest processes and equipment, postharvest technology adaptation, socio-economic studies, development of postharvest expert system
Major Language(s) Used	: English
Mandate	: To spearhead the development of country's postharvest industry and the various sectors involved in it through the generation and extension of postharvest technologies that would minimize quality and quantity losses of the various food and feed plant crops as well as technologies that provide value added to such crops
Principal Units/Divisions	: Food Protection, Finance and Administrative, Planning and Evaluation, Postharvest Engineering, Training and Extension, and Postharvest Systems
Total Number of Personnel	: 162 Male-90; Female-72 Technical-84; Administrative-78
Titles of Regular Publications	: NAPHIRE Postharvest News, Annual Reports, NAPHIRE Brochure, Calendars, Translated Primers, MFD and OSIS Flyers, Technical Bulletin, Operator's Manual on Mobile Flash Dryer, Outdoor Storage Periodic Kit, KCC Posters (3 kinds), KCC leaflets, Technical Reference Guide
Other Services Offered	: Technical assistance, conduct of postharvest training courses
Total Research Budget (1996)	: P 46,464 M (local funded) P 0.6836 M (foreign funded)



Central Luzon State University (CLSU)

Address	: Muñoz, Nueva Ecija, Philippines
Phones	: (63-44) 56 107 (CLSU, Muñoz, Nueva Ecija) (63-02) 599 557 or 521-4216 (CLSU Manila Office)
Fax	: (63-44) 56 107 and (63-02) 599 557
Year Founded/Established	: 1907
Current Head of Institution	: Dr. Fortunato A. Battad
Position	: University President
Organizational Type	: National
Areas/Fields of Research	: Crops, farm resources, livestock, aquaculture and socio-economics

Major Language(s) Used	: English, Filipino
Mandate	: Research, Instruction, Extension and Training
Principal Units/Divisions	: Office of the Vice President (VP) for Academic Affairs, Office of the VP for Research, Extension & Training and Office of the VP for Administration
Total Number of Personnel	: 806 Faculty-369; Non-Academic-437
Titles of Regular Publications	: CLSU Newsletter, Annual Report of the President, CLSU Scientific Journal
Total Research Budget (1996)	: P 8,160,000 P 6,793,000 (Extension)



National Tobacco Administration

Address	: Scout Reyes St., Corner Panay Ave. 1100, Quezon City, Philippines
Phones	: (63-2) 921-2156; (63-2) 922-2074 to 76; (63-2) 98-26-34
Fax	: (632) 922-38-27
Year Founded/Established	: 1987
Mother Institution/Affiliates/Subsidiaries	: Department of Agriculture
Current Head of Institution	: Atty. Amelia M. Guloy
Position	: Officer-in-Charge
Organizational Type	: National
Areas/Fields of Research	: Tobacco varietal improvement, crop resource management (crop production, crop protection and pest management) and agricultural Engineering (post-harvest management and agricultural machineries)
Major Language(s) Used	: English, Filipino
Mandate	: To improve the economic and living conditions and raise the quality of life of the tobacco farmers including those who depend upon the industry for their livelihood, and to promote the balanced and integrated growth and development of the industry to help make agriculture a solid base for massive industrialization.
Principal Units/Divisions	: Research Services/Agricultural Research Department/Industrial Research Department; Operations Services/Farm Development Department/Market Development and Regulation Department/Branch Operations; and Support Services
Total Number of Personnel	: 1,056 Male-531; Female-525 Technical-687; Administrative-369
Titles of Regular Publications	: Philippine Tobacco News, Tobacco Production Guide (by tobacco type)

Other Services Offered	:	Industrial Research (quality assurance, product development and waste utilization, laboratory facilities instrumentation); Farm Development (technology information and dissemination, technology verification and development, farm services), tobacco market regulation and research
Total Research Budget (1996)	:	P 15,563,469 P 8,609,285 (Agricultural Research) P 6,341,220 (Industrial Research) P 612,964 (DARE)



Philippine Coconut Authority (PCA)

Address	:	Elliptical Road, Diliman, Quezon City, Philippines
Phones	:	(632) 920-0415; 97-4114
Fax	:	(632) 922-0415
Year Founded/Established	:	1974
Mother Institution/Affiliates/Subsidiaries	:	Department of Agriculture PCA-Albay Research Centre, PCA-Davao Research Centre, PCA-Zamboanga Research Centre
Current Head of Institution	:	Mr. Virgilio M. David
Position	:	Administrator
Organizational Type	:	National
Areas/Fields of Research	:	Crop agronomy, farming systems, varietal improvement, tissue culture/biotechnology/integrated crop protection, cocowood utilization, socio-eco/technology utilization
Major Language(s) Used	:	English, Filipino
Mandate	:	Agri-research and development, product and market development, field operations expansion, farmers organization/training
Principal Units/Divisions	:	Crop agronomy/farming systems, varietal improvement, tissue culture/biotechnology, integrated crop protection, cocowood utilization, socio-eco/technology utilization, corporate planning, HRDD, public information/relations, administrative/finance, general services
Total Number of Personnel	:	1,300 Male-842; Female-458 Technical-644; Administrative-656
Titles of Regular Publications	:	Annual Report, Technical Notes
Other Services Offered	:	Plant and soil analysis, fertilizer advisory, disease diagnostics

Philippine Council for Agriculture, Forestry and Natural Resources Research and Development (PCARRD)

Address	(Headquarters) (Liaison Offices)	: Los Baños, Laguna 4030 Philippines : 1st Floor, DOST-CO Bldg. Bicutan, Tagig, Metro Manila 1631 Philippines 2nd Floor, DA-ATI Bldg. Elliptical Road, Diliman, Quezon City 1104 Philippines
Phones		: (63-49) 536-0014 to 15; 536-0017 to 20 (Headquarters) (63-2) 837-1651 (Liaison Office)
E-mail		: pcarrd@phil.gn.apc.org
Cellular Phones		: (63-912) 310 6354; 310 6355
Cable		: AGRESPHIL MLA
Fax		: (63-2) 837-1651 (63-49) 536-0132; 536-0016
Year Founded/Established		: 1972
Mother Institution/Affiliates/Subsidiaries		: Department of Science and Technology
Current Head of Institution		: Dr. William D. Dar
Position		: Executive Director
Organizational Type		: National
Major Language(s) Used		: English, Filipino
Mandates		: Provides central direction, leadership and coordination of scientific and technological efforts; Formulates and implements policies, plans, programs for the development and promotion of science and technology (S&T); Reviews the needs of S&T in the context of the country's development; Formulates strategies, policies, programs and projects for S&T development programmes; allocates government and external funding for research and development (R&D); Monitors R&D projects; Generates external funds
Principal Units/Divisions		: Office of the Executive Director, Office of the Deputy Executive Director for Research and Development, Office of the Deputy Executive Director for Institution Development and Resource Management, Applied Communication Division, Finance and Administration Division, Planning and Development Division, Institution Development Division, Management Information Services Division, Technology Outreach and Promotion Division, Agriculture Resources Management Research Division, Crops Research Division, Forestry and Environment Research Division, Livestock Research Division, Socio-Economic Research Division
Total Number of Personnel		: 295 Male-108; Female-187 Technical-189; Administrative-106

Titles of Regular Publications	: The Philippines Recommends Series; The PCARRD Monitor; Technology Series; Farm News; Research Highlights; PCARRD Annual Report; Book Series; Information Bulletin Series; Staff Paper Series; Data Series; Commodity Industry Analysis; and State of the Art and Abstract Bibliography Series
Other Services	: Training; Scientific Literature Services; R & D Information Data Base
Total Research Budget (1996)	: P 32,349,000



Philippine Industrial Crops Research Institute

Address	: University of Southern Mindanao, Kabacan, Cotabato 9407. Philippines
Phone	: (63-64) 211-211
Fax	: (6211720) 310
Year Founded/Established	: 1978
Mother Institutions/Affiliates/Subsidiaries:	University of Southern Mindanao
Current Head of Institution	: Prof. Reynaldo S. Callano
Position	: Director
Organizational Type	: National
Areas/Fields of Research	: All disciplines of industrial/plantation crops
Major Language(s) Used	: English
For Universities: Academic Year	: 1996-1997, Semestral
Mandate	: Research and development of industrial crops of the Philippines
Principal Units/Divisions	: Rubber, coffee, cacao, fiber crops, spices and essential oils, oil crops
Total Number of Personnel	: 14 Male-6; Female-8 Technical-9; Administrative-5
Titles of Regular Publications	: USM R and D Journal
Other Services Offered	: Farmers' training, demonstration of technologies at farmers' level, publications
Total Research Budget (1996)	: P 3,150,000



Philippine Rice Research Institute

Address (Central Experiment Station)	: Maligaya, Muñoz, Nueva Ecija, 3119 Philippines
(Branch Stations)	: PhilRice San Mateo Malasin, San Mateo; 3318 Isabela PhilRice Los Baños Pili Drive, College, 4030 Laguna PhilRice Midsayap Bual Norte, Midsayap, 9410 North Cotabato PhilRice Agusan Basilisa, Remedios T. Romualdez 8611 Agusan del Norte
Phones Central Experiment Station	: (63-04) 456 112; 456 113; (63-02) 843 5122
PhilRice San Mateo	: (63-076) 664 2280
PhilRice Los Baños	: (63-049) 536 3515; 536 3631 to 3633; (63-049) 536 3635
PhilRice Midsayap	: (63-064) 98 178
Fax Central Experiment Station	: (63-04) 456 112; 456 113
PhilRice Los Baños	: (63-049) 536-3515
E-mail	: philrice@silang.slu.edu.ph
Year Founded/Established	: 1985
Mother Institution	: Department of Agriculture
Current Head of Institution	: Dr. Santiago R. Obien
Position	: Director
Organizational Type	: National
Areas/Fields of Research	: Rice – varietal improvement, planting and fertilizer management, rice-based farming systems, integrated pest management, engineering and mechanization, chemistry and food science, social science and policy research, technology promotion
Major Language(s) Used	: English, Filipino
Mandate	: PhilRice shall lead, unify and strengthen the manpower capabilities and improve the facilities of agencies involved in the national rice research and development programme. PhilRice shall be a vital force in attaining and sustaining the country's goal of self sufficiency in rice and in promoting greater access of farmers to agricultural technology.
Principal Units/Divisions	: Research Department <ol style="list-style-type: none"> 1. Plant Breeding, Genetics & Biotechnology Division 2. Soils, Agronomy & Plant Physiology Division 3. Crop Protection Division 4. Rice Engineering & Mechanization Division 5. Socio-Economics & Statistics Division 6. Rice Chemistry & Food Science Division

	<p>Technology Promotion Department</p> <ol style="list-style-type: none"> 1. Training Division 2. Technology Demonstration Division 3. Development Communication Division 4. Seed Production & Health Division <p>Finance & Administration Department</p> <ol style="list-style-type: none"> 1. Administrative Services Division 2. Finance Division <p>Auxiliary Support Services Department</p> <ol style="list-style-type: none"> 1. Physical Plant Division 2. Auxiliary Services Division 3. Farm Operations Division
Total Number of Personnel	: 303 Male-175; Female-128
Titles of Regular Publications	: Technical-184; Administrative-119 PhilRice Newsletter (quarterly), Philippine Rice R&D Highlights (annual), PhilRice Annual Report, Rice Technology Bulletin, Rice Technical Bulletin, Rice Production Technoguide (English, Tagalog and Ilocano editions), Provincial Rice Statistics (1995), Regional Rice Statistics (1972-1992), Wild Rices of the Philippines and Manual on Rice Genetic Resources. Books - Towards People's Empowerment, and Manual on Rice Field Weeds in the Philippines
Total Research Budget (1996)	: P 56.7 million



Philippine Root Crop Research and Training Centre

Address	: Visayas State College of Agriculture Baybay, Leyte, Philippines
Phones	: (63-2) 521-2027; 58-86-92 (ViSCA Manila Office) (63-53) 415-2612 (Baybay, Leyte)
Fax	: (632) 58-86-92
E-mail	: V+ViSCA@Sat. Vitanet.org
Year Founded/Established	: 1977
Mother Institution/Affiliates/Subsidiaries	: Visayas State College of Agriculture
Current Head of Institution	: Prof. Fernando A. Evangelio
Position	: Officer-in-Charge
Organizational Type	: National
Areas/Fields of Research	: Breeding, production, pest management, production tools

	and processing equipment, post-harvest handling, post production and utilization, socio-economics and extension of root crops
Major Language(s) Used	: English and Tagalog
Mandate	: Development of the root crop industry in the Philippines particularly for the benefit of the rural poor
Principal Units/Divisions	: Crop Management Division, Engineering Division, Post Production and Utilization Division and Extension and Socio-Economics Division
Total Number of Personnel	: 81 Male - 58; Female - 23 Technical - 67; Administrative - 14
Titles of Regular Publications	: The Radix, ISPN Newsletter, PRCRTC Annual Reports
Other Services Offered	: Training on Root Crop Technologies, Cooperative Management, Institution Building, Consultancies, Germplasm Exchange, Soil and Plant Analytical Services



Visayas State College of Agriculture (VISCA)

Address	: Baybay, Leyte, Philippines
Phones	: (63-2) 521-2027; 58-86-92 (VISCA Manila Office) (63-53) 415-2601 (Baybay, Leyte) 723-35 (Cebu Office)
Fax	: (632) 588-692
E-mail	: V+ViSCA@Sat.Vitanet.org
Year Founded/Established	: 1924
Current Head of Institution	: Dr. Samuel S. Go
Position	: President
Organizational Type	: Regional; Zonal (Visayas)
Areas/Fields of Research	: COMMODITIES: Rootcrops, abaca, coconut, farming systems, livestock, vegetables, fruits, cereals and legumes, ecosystems, rural sociology, agricultural economics, agroforestry, marine and aquatic fisheries, spices and botanicals for medicines. AREAS: Breeding, production, processing, extension, marketing and commercialization and technology dissemination
Major Language(s) Used	: English, local dialect for local technoguides
Mandate	: -
Total Number of Personnel	: 336 Technical-293; Administrative-43
Titles of Regular Publications	: Annals of Tropical Research (ATR), R and D Newsletter, Research Digest, Radix, Farm Notes, ViSCA Annual Report, Technoguides
Total Research Budget (1996)	: P 13,651,000



**Philippine Sugar Research Institute Foundation, Inc.
(PHILSURIN)**

Address	: Room 1005, 10th Floor, Ayala Ave. Condo. 6776 Ayala Avenue, Makati City, Philippines
Phones	: (63-2) 891-1398; (63-2) 891-1410 to 12
Fax	: (63-2) 891-1414
Year Founded/Established	: 1995
Current Head of Institution	: Mr. Romeo L. Ledesma
Position	: Director-General
Organization Type	: National
Areas/Fields of Research	: Sugarcane research, development and extension
Major Language(s) Used	: English
Mandate/Mission	: Advancement of the Philippine sugar industry to a sustainable, globally competitive position by providing planters and millers with appropriate and cost-effective technologies.
Total Number of Personnel	: 6 Male-4; Female-2 Technical-3; Administrative-3
Total Research Budget (1996)	: P 10 million



Regional Coconut Research Centre (RCRC)

Address	: Visayas State College of Agriculture Baybay, Leyte, Philippines
Phone	: 63-415-2618
Year Founded/Established	: 1975
Mother Institution/Affiliates/Subsidiaries	: Visayas State College of Agriculture
Current Head of Institution	: Dr. Rebecca M. Santiago
Position	: Director
Organizational Type	: Regional
Areas/Fields of Research	: Crop improvement, cultural management and multiple cropping, processing and utilization, socioeconomics and extension
Major Language(s) Used	: Cebuano, Filipino, English
Mandate	: To generate and disseminate appropriate technologies that augment the Visayan coconut farmers' income and uplift their general well-being
Total Number of Personnel	: 21 Male-14; Female-7 Technical-17; Administrative-4
Total Research Budget (1996)	: P 1,359,782.00



Sugar Regulatory Administration Research and Development, La Granja Agricultural Research and Extension

Address	: La Granja, La Carlota City, Negros Occidental Philippines
Telex	: (63-912) 510-1003
Fax	: (63-912) 510-1003
Mother Institution/Affiliates/Subsidiaries	: Sugar Regulatory Administration
Current Head of Institution	: Mr. Edmundo P. Gotera
Position	: Manager II
Organizational Type	: National
Areas/Fields of Research	: Agricultural research on sugarcane breeding, agronomy, soils and plant nutrition, crop protection, agricultural engineering
Major Language(s) Used	: English, Filipino
Principal Units/Divisions	: Department of Breeding and Genetics, Department of Agronomy, Department of Crop Protection, Department of Soils and Plant Nutrition, Department of Agricultural Engineering, Administration Extension Services Department, and Farm Services Division
Total Number of Personnel	: 110 Male-66; Female-44 Technical-35; Administrative-75
Titles of Regular Publications Produced	: Annual Report
Other Services Offered	: Five-day seminars for sugarcane planters



University of Southern Mindanao Agricultural Research Centre

Address	: USM, Kabacan, 9407 Cotabato, Philippines
Year Founded	: 1976
Mother Institution/Affiliates/Subsidiaries	: University of Southern Mindanao
Current Head of Institution	: Dr. Demetrio V. Oria
Position	: Director
Organizational Type	: National
Areas/Fields of Research	: National centre for corn, sorghum and fruit crops; regional centre for legumes, rice and other cereals, root crops, sugarcane, beef, carabeef and chevon, poultry, farming systems, soil resources, water resources, applied rural sociology, microeconomics; cooperating station for coconut and vegetable crops.
Major Language(s) Used	: English
For Universities: Academic Year	: 1996-1967, Semestral

Principal Units	: Graduate School, College of Agriculture, Arts and Sciences, Education, Engineering, Human Ecology and Food Sciences, Trades and Industries, Veterinary Medicine and Institute of Development Economics Management, Middle East and Asian Studies, Public Health and Sports, Physical Education and Recreation
Degrees Offered	: Ed. D. in Educational Management, Ph.D. in Agricultural Sciences, M.S. in Education, M.S. in Agricultural Sciences, M.P.S. in other fields, Doctor of Veterinary Medicine, B.S. in Engineering, Education, Agriculture, Industrial Education, Chemistry, Biology, Development Communication, Agribusiness, Agricultural Economics, Islamic Studies, Human Ecology and Food Sciences
Mandate	: To generate packages of technology to increase farm productivity through increased yield/unit and/or decreased actual production cost; To generate technology on post-harvest handling and processing technique to improve quality and promote value added farm products; To conduct research that would narrow down the production gap between research CENTRE and farmers field; To develop packages of technology on the proper and optimum utilization of marginal hillyland; To generate technologies on utilization of non-conventional sources of energy for household and agro-industrial use.
Total Number of Personnel	: 183 Male-109; Female-74 Technical-139; Administrative-8; Support Staff-36
Titles of Regular Publications	: USM R & D Journal, USMARC R & D Journal, USMARC R & D Monitor, Durian Newsletter
Other Services Offered	: Extension activities; farmers training; demonstration of technologies at farmers' level; publications; radio programs
Total Research Budget (1996)	: P 7,322,000



Western Mindanao State University College of Agriculture

Address	: Normal Road, Baliwasan, Zamboanga City, Philippines
Telex	: 991-1040
Fax	: (63-62) 991-3065
Year Founded	: 1918
Current Head of Institution	: Erdulfo B. Fernando
Position	: President
Organizational Type	: National
Areas/Fields of Research	: Agriculture, science and technology, educational, socio-economic/cultural research, health research
Major Language(s) Used	: English
For Universities: Academic Year	: Semestral

Principal Units	:	Academic Department, Research Department, Extension Services Department
Degrees Offered	:	Bachelor of Science in Agriculture with majors in Agronomy, Animal Science, Horticulture, Entomology and Soils, Agri-Business, Agricultural Technology; Associate in Agriculture (Non-Degree)
Mandate	:	To develop a curricula designed to produce skilled and technical workers; To generate research programmes that shall foster sustainable agriculture; To establish an extension scheme aimed to promote the development of well-integrated individuals trained under a community-based agricultural outreach programme; and To promote agricultural production system for sustained farm productivity and profitability.
Total Number of Personnel	:	577 Male - 257; Female - 320 Technical - 440; Administrative - 137
Title of Regular Publication	:	Research Journal
Total Research Budget (1996)	:	P 1,759,000



Zamboanga State College of Marine Sciences and Technology

Address	:	Fort Pilar, Zamboanga City, Philippines
Phones	:	(62-62) 991-0643; 993-2567
Year Founded	:	1956
Mother Institution/Affiliates/Subsidiaries	:	Department of Education, Culture and Sports (DECS) Philippine Association of State Colleges and Universities (PASUC)
Current Head of Institution	:	Dr. Edgardo M. Santos
Position	:	College President
Organizational Type	:	Institutional/SUCs
Areas/Fields of Research	:	Marine sciences, fisheries, maritime technology and food technology
Major Language(s) Used	:	English, Filipino
For Universities: Academic Year	:	Semestral
Principal Units	:	Institute of Marine Science Technology, Institute of Maritime Technology, Institute of Arts and Sciences, Institute of Education
Degrees Offered	:	Bachelor of Science (BS) in Marine Biology, BS in Aquaculture, BS in Education Major in Home Management Technology and General Science, BS in Food Technology, and BS in Marine Transportation Major in Navigation and Seamanship and Marine Engineering

Mandate	: It shall provide the necessary leadership in professional and technical instruction in fisheries, maritime technology, marine services and development management in line with the manpower requirement and other development needs of Western Mindanao and neighboring regions. The state college shall offer undergraduate and graduate courses in fisheries, maritime technology, marine sciences, computer technology and development management as well as technical/vocational courses relevant to the needs of fisheries, maritime and other marine resource-based industry. It shall promote research in fisheries and marine sciences and in related agribusiness concerns.
Total Number of Personnel	: 216 Male-122; Female-94 Technical-116; Administrative-100
Title of Regular Publication	: Currents (research journal)
Other Services Offered	: Consultancy, Technical Assistance, Project Management and Feasibility Study, Research and Extension, Hatchery and Wet Laboratory, Food Processing, and Seminar-Workshop
Total Research Budget (1996)	: P 45.314 million

SINGAPORE

SINGAPORE

Selected Indicators of Agricultural Development

Total Land Area	: 600 km ²
Share in Total Land Area (1993):	
Agriculture (Cropped Land)	: 1.6%
Permanent Pastures	: None
Forest & Woodland	: 4.9%
Others	: 93.4%
Cropped Land Per Capita	: 0.00 ha
Population (1995)	: 3.0 million
Average Annual Population Growth Rate (1995)	: 2.0%
Adult Literacy Rate	: Male-96%; female-86%
Labour Force Employed in Agriculture	: 5,000
Economically Active Population in Agriculture	: Male-0.4%; female-0.1%
Adult Literacy Rate	: Male-95%; female-83%
Total GNP	: US \$65840 million
Per Capita GNP	: US \$23360
Share of Agriculture in GDP	: US \$179.8 million
Production Index, Agriculture	: 39,000 metric tons
Expenditure by Function, Agriculture (1990)	: US \$94 million
GDP Share of Agriculture	: US \$179.8 million
Major Agricultural Products	: None
Agricultural Exports (By Principal Commodity)	: Crude rubber, fixed vegetable oils

Institute of Molecular Agrobiolology

Address	: 59 A, The Fleming, 1 Science Park Drive Singapore 118240
Phone	: (65) 872 3339
Fax	: (65) 774 2857
E-mail	: IMATANHC@LEONIS.NUS.SG
Year Founded/Established	: 1995
Mother Institution	: IMA is an autonomous body within the national University of Singapore
Degrees Offered	: Ph.D.
Current Head of Institution	: A/Prof. Venketasan Sundaresan
Position	: Director
Organizational Type	: National
Areas/Fields of Research	: Agrobiological Research
Major Language(s) Used	: English
Mandate	: To undertake innovative research in agrobiolology at the genetic and molecular levels; To provide the focus to attract high calibre researchers to undertake world-class agrobiolological research; To provide training at the postgraduate level in the area of agrobiolology; To provide the international standing and strong 'pull' factor to attract the MNCs to take up agro-biotechnology R&D and manufacturing activities in Singapore; To facilitate the development of niche technologies and commercialisation opportunities in Asia.
Total Number of Personnel	: 77 Technical-66; Administrative-11
Other Services Offered	: Contract research in agriculture
Total Research Budget (1996)	: S\$ 13 Million

Primary Production Department

Address	: 5, Maxwell Road, # 02-00/#03-00 Tower Block, MND Complex, Singapore 069110
Fax	: (65) 220 6068
Year Founded/Established	: 1959
Current Head of Institution	: Dr. Ngiam Tong Tau

Position	: Director
Organizational Type	: National
Areas/Fields of Research	: Agriculture, Fisheries and Veterinary
Major Language Used	: English
Total No. of Personnel	: 107 Technical-47; Other Support Staff-60
Title of Publication	: Singapore Journal of Primary Industries
Total Research Budget (1995)	: S\$ 2.853 million

THAILAND

THAILAND

Selected Indicators of Agricultural Development

Total Land Area	: 513,100 km ²
Share in Total Land Area (1993):	
Agriculture (Cropped Land)	: 40.7%
Permanent Pastures	: 1.6%
Forest & Woodland	: 26.4%
Others	: 31.3%
Cropped Land Per Capita	: 0.36 ha
Population (1995)	: 59.4 million
Average Annual Population Growth Rate	: 1.2%
Adult Literacy Rate	: Male - 96%; female - 91%
Labor Force Employed in Agriculture	: 18.245 million
Adult Literacy Rate	: Male-93%; female-92%
Economically Active Population in Agriculture	: Male - 43.1%; female - 39.7%
Total GNP	: US \$129860 million
Per Capita GNP	: US \$2210
Share of Agriculture in GDP	: 314974 million Baht
Production Index, Agriculture	: 133,000 metric tons
Major Agricultural Products	: Sugarcane, tapioca roots, rice, maize, rubber, coconut, mungbeans, jute and kenaf, cotton
Agricultural Exports (By Principal Commodity)	: Textile products, rice, shrimps (fresh & frozen), rubber, tapioca products



Aquatic Animal Health Research Institute

Address	: Kasetsart University Campus Chatuchak, Bangkok, Thailand 10900
Phones	: (66-2) 579 4122; 579 6977
Fax	: (66-2) 561 3993
E-mail	: aahri@comnet.ksc.net.th
Year Founded/Established	: 1991
Mother Institution/Affiliates/Subsidiaries	: National Inland Fisheries Institute
Current Head of Institution	: Dr. Kamonporn Tonguthai
Position	: Director
Areas/Fields of Research	: Aquatic Animal Disease
Major Language(s) Used	: Thai
Mandate	: Research, training and diagnostic services
Principal Units/Divisions	: Parasitology, Bacteriology, Immunology, Histopathology, Virology
Total Number of Personnel	: 20 Male-7; Female-13 Technical-4; Administrative-3; Other Support Staff-13
Titles of Regular Publications	: Newsletter, Research reports, Book, Technical papers
Other Services Offered	: Health Certificate
Total Research Budget (1996)	: 2,100,000 B 900,000 B from government 1,200,000 B from international donor agencies and private companies



Aquatic Natural Resources Museum

Address	: Department of Fisheries, Kasetsart University Campus, Paholyothin Road, Chatuchak, Bangkok 10900, Thailand
Phones	: (66-2) 562 0600 to 15 ext 6100-2; (66-2) 562 0589 to 90
Fax	: (66-2) 562 0589 to 90
Year Founded/Established	: 1996
Mother Institution/Affiliates/Subsidiaries	: Department of Fisheries, Ministry of Agriculture and Co- operatives
Current Head of Institution	: Dr. Jaranthada Karnasuta
Position	: Director
Organizational Type	: National

Areas/Fields of Research	: Taxonomy and Reference Collection
Major Language(s) Used	: Thai, English
Total Number of Personnel	: 38
	Male-20; Female-18
	Technical-22; Administrative-16
Titles of Regular Publications	: Aquatic Natural Resources, Museum Technical Paper
Total Research Budget (1996)	: 600,000 Baht (US\$ 24,000)



Department of Agriculture

Address	: Paholyothin Road, Chatuchak, Bangkok 10900, Thailand
Phones	: (66-2) 579 9636; 561 4671; 561 4674; 579 8539
Telegrams	: DEPAGRI
Fax	: (66-2) 579-4131
E-mail	: doa-info@mozart.inet.co.th
Year Founded/Established	: 1972
Mother Institution/Affiliates/Subsidiaries	: Ministry of Agriculture and Cooperatives
Current Head of Institution	: Dr. Vichitr Benjasil
Position	: Director-General
Organizational Type	: Agency of the Royal Thai Government
Areas/Fields of Research	: Rice, Field Crops, Horticulture, Sericulture, Rubber, Agricultural Regulatory, Agricultural Chemistry, Agricultural Engineering, Plant Pathology and Microbiology, Entomology, Zoology, Soil Science, Botany and Weed Science, Agricultural Toxic Substances, Agricultural Research Development
Major Language(s) Used	: Thai, English
Total Number of Personnel	: 3,284
	Male-1,896; Female-1,388
	Technical-2,558; Administrative-726
Titles of Regular Publications	: KASIKORN (Bi-monthly Journal of DOA); Proceedings (produced by each research institute/division); DOA Annual Research Report; DOA Personnel Directory; DOA Highlights, Reports, Technical Papers, Periodicals, etc.
Other Services Offered	: Involved in all royal initiative projects, area development, provision of agricultural services to farmers, technology transfer, farmers' training
Total Research Budget (1996)	: 2,302,417,000 BAHT



Division of Agricultural Chemistry

Address	: Ngamwongwan Road, Chatujak, Bangkok 10900, Thailand
Phones	: (66-2) 579 1994; 579 0159
Fax	: (66-2) 5615034
E-mail	: Nongyowt@mozart.inter.co.th
Year Founded/Established	: 1926
Mother Institution/Affiliates/Subsidiaries	: Department of Agriculture, Ministry of Agriculture and Cooperatives
Current Head of Institution	: Ms. Nongyow Thongtan
Position	: Director
Organizational Type	: National
Areas/Fields of Research	: Plant growth regulators; Nuclear technology in agriculture; Food processing of agricultural products; Plant physio- chemistry relations; Natural products; Vegetable oil; Soil, water and fertilizer
Major Language Used	: Thai
Mandate	: Export inspection and certification for agricultural products; Analysis of chemicals, soil and water, fertilizers and agricultural products
Principal Units/Divisions	: Agricultural Chemistry
Total Number of Personnel	: 221 Male - 71; Female - 150 Technical - 211; Administrative - 10
Titles of Regular Publications	: Agricultural Chemistry Division Annual Report
Other Services Offered	: Agricultural products, chemicals, soil, plants, water, and fertilizer analysis service
Total Research Budget	: US\$ 139,200



Division of Aquaculture Feed Quality Control and Development

Address	: Department of Fisheries, Kasetsart University Campus Chatuchak, Bangkok 10900, Thailand
Phone	: (66-2) 579 8007
Fax	: (66-2) 562 0513
Year Founded/Established	: 1993
Mother Institution/Affiliates/Subsidiaries	: Department of Fisheries, Ministry of Agriculture and Cooperative

Current Head of Institution	: Dr. Mali Boonyaratpalin
Position	: Director
Organizational Type	: National
Areas/Fields of Research	: Finfish and Shrimp Nutrition and Feed Development
Major Language(s) Used	: Thai
Principal Units/Divisions	: Fish Nutrition Research Group, Aquaculture Feed Research and Development Group, Natural Fish Food Research Group, Aquaculture Feed Quality Control Office
Total Number of Personnel	: 22 Male-8; Female-14 Technical-6; Administrative-4; Other Support Staff-12
Titles of Regular Publications	: Technical Paper of the National Inland Fisheries Institute
Other Services Offered	: Aquaculture feed quality control, Analysis of proximate composition and Extension
Total Research Budget (1996)	: US\$ 20,000

Fishery Technological Development Institute

Address	: Charoenkrung Road Yannawa, Bangkok 10120, Thailand
Phones	: (66-2) 211 1261; 212 4552
Fax	: (66-2) 212 9446
Year Founded/Established	: 1956
Mother Institution/Affiliates/Subsidiaries	: Department of Fisheries, Ministry of Agriculture and Cooperative
Current Head of Institution	: Dr. Poonsap Virulhakul
Position	: Director
Organizational Type	: National
Areas/Fields of Research	: Post Harvest Fishery Technology and Development
Major Language(s) Used	: Thai
Total Number of Personnel	: 48 Male-17; Female-31 Technical-20; Administrative-12; Other Support Staff-16
Titles of Regular Publications Produced	: Annual Report of Fishery Technological Institute
Other Services Offered	: Fishery Post Harvest Technology Training Centre, Industrial Consultation Centre, Traditional Fishery Product Inspection and Certification
Total Research Budget (1996)	: 60 Million Baht

Forest Products Research Division

Address	: Royal Forest Department, Jatujak, Bangkok 10900, Thailand
Phones	: (66-2) 579 8532; 579 5412
Fax	: (66-2) 579 8532; 561 4872; 579 5412
Year Founded/Established	: 1934
Mother Institution/Affiliates/Subsidiaries	: Royal Forest Department Forest Research Office/Forest Products Research Division
Current Head of Institution	: Mr. Paisal Kuwalairat
Position	: Director
Organizational Type	: National
Areas/Fields of Research	: Wood and Forest Products Properties, Forest Products Chemistry, Wood Industry, Wood Protection, Non-Wood Forest Forest Products, Wood Energy
Major Language(s) Used	: Thai, English
Mandate	: Study and develop utilization of wood and other non-wood forest products as well as serve as forest products technical information centre
Principal Units/Divisions	: Wood and Forest Products Properties, Forest Products Chemistry, Wood Industry, Wood Protection, Non-Wood Forest Products, Wood Energy
Total Number of Personnel	: 143 Male-91; Female-52 Technical-74; Administrative-69
Titles of Regular Publications	: FPRD Annual Research Book, FPRD Annual Report
Other Services Offered	: Technology transfer, technical cooperation between the government and private sector, training and Thai Standards of timber products preparation
Total Research Bduget (1996)	: US\$ 68,960



Marine Fisheries Division

Address	: Department of Fisheries, Kasetsart University Campus Phaholyothin Road, Bangkok 10900 Thailand
Phones	: (66-2) 562 0542; 562 0543
Fax	: (66-2) 562 0543
Year Founded/Established	: 1965
Mother Institution/Affiliates/Subsidiaries	: Department of Fisheries
Current Head of Institution	: Mr. Udom Bhatiyaseve
Position	: Director
Organizational Type	: National
Areas/Fields of Research	: Marine Fisheries Research
Major Language(s) Used	: Thai
Mandate	: Marine fisheries research activities

Principal Units/Divisions	: Marine Fisheries Management and Conservation
Total Number of Personnel	: 279
	Male-195; Female-84
Titles of Regular Publications	: Technical Papers
Other Services Offered	: Advises administrators on technical issues
Total Research Budget (1996)	: 40,379,700 Baht



National Aquaculture Genetics Institute

Address	: Department of Fisheries, Ministry of Agriculture and Cooperatives Thailand
Phones	: (66-2) 579 5591; 562 0600 Ext. 5204. 5205
Fax	: (66-2) 561 3023, 579 5591
Year Founded/Established	: 1989
Mother Institution/Affiliates/Subsidiaries	: Department of Fisheries
Current Head of Institution	: Mr. Panu Tavarutmaneekul
Position	: Director
Organizational Type	: National
Areas/Fields of Research	: Aquaculture genetics
Major Language(s) Used	: Thai, English
Total Number of Personnel	: 85 Male-40; Female-45 Technical-75; Administrative-10
Titles of Regular Publications	: Technical Reports (Individual)
Other Services Offered	: Training, seed distribution
Total Research Budget (1996)	: 5 Million Bahts



National Biological Control Research Centre

Address	: Kasetsart University, P.O. Box 9-52 Bangkok 10900, Thailand
Phone	: (66-2) 579 3649
Fax	: (66-2) 579 3649
Cable	: BIOCONTROL BANGKOK
Year Founded/Established	: 1975
Mother Institution/Affiliates/Subsidiaries	: Kasetsart University, National Research Council of Thailand
Current Head of Institution	: Dr. Banpoth Napompeth
Position	: Executive Director
Organizational Type	: National
Areas/Fields of Research	: Biological control of insect pests and weeds of agricultural importance and insect vectors and pests of medical and public health importance

Major Language(s) Used	: Thai, English
Mandate	: To undertake R&D, implement, transfer and train people in biological control and pest management of insect pests and weeds of agricultural importance and those of medical and public health importance.
Principal Units/Divisions	: NBCRC Regional CENTREs (4), namely: NBCRC Northern Regional CENTRE, Chiang Mai; NBCRC Northeastern Regional CENTRE, Khon Kaen; NBCRC Central Regional CENTRE; Nakhon Pathom; and NBCRC Southern Regional CENTRE, Hat Yai, Songkla
Total Number of Personnel	: 31 Technical-24; Administrative-7
Titles of Regular Publications	: Extension Leaflets; Technical Leaflets; Special Publication, etc.
Other Services Offered	: Advisory service worldwide
Total Research Budget (1996-1997)	: Approx. US\$ 850,000

National Inland Fisheries Institute

Address	: Kasetsart University Campus, Bangkok Bangkok 10900, Thailand
Phone	: (66-2) 5620426
Fax	: (66-2) 5796439
Year Founded/Established	: 1976
Mother Institution/Affiliates/Subsidiaries	: Department of Fisheries
Current Head of Institution	: Mr. Pinit Sihapitukgiat
Position	: Director
Organizational Type	: National
Areas/Fields of Research	: Aquaculture Research
Major Language(s) Used	: Thai
Mandate	: To research on freshwater fishes; To provide information necessary to protect and restore the essential habitats of freshwater fishes.
Principal Units/Divisions	: Aquaculture Technique Unit, Fish Population Unit, Fisheries Environment Division, Aqua-feed Quality Control and Development Division, Aquatic Animal Health Research Institute
Total Number of Personnel	: 136 Male-88; Female-48 Technical-37; Administrative-99
Titles of Regular Publications	: Annual Reports, NIFI Newsletter
Other Services Offered	: To organize the Aquaculture training programme for any Thai student and international delegate by cooperating with the network of Aquaculture CENTREs in Asia-Pacific (NACA)
Total Research Budget (1996)	: 5,527,600 Baht

National Institute of Coastal Aquaculture

Address	: Kaosan Soi 1, Muang District Songkhla, Thailand 90000
Phones	: (66-74) 312 091; 321 036; 311 895
Fax	: (66-74) 442 054
Year Founded/Established	: 1981
Mother Institution/Affiliates/Subsidiaries	: Department of Fisheries, Ministry of Agriculture and Cooperatives
Current Head of Institution	: Dr. Sitdhi Boonyaratpalin
Position	: Director
Organizational Type	: National
Areas/Fields of Research	: Nutrition, Disease, Environment, Natural Resources, Breeding
Major Language(s) Used	: Thai
Principal Units/Divisions	: Administrative Division, Reproductive Biology Research Division, Nutrition Research Division, Pathology Research Division, Coastal Environment Research Division, Coastal Research Division
Total Number of Personnel	: 225 Male-156; Female-69
Titles of Regular Publications	: Technical Paper, Distribution Paper, Newsletter, Annual Report
Other Services Offered	: Issue the aquatic health certificate, diagnosis service for water analysis disease and training service.
Total Research Budget (1996)	: 43,495,610 Baht



Phuket Marine Biological Centre

Address	: 51 Mu 8, Sakdidet Rd., Muang district Phuket, 83000, Thailand
Phone	: (66-76) 391128
Fax	: (66-76) 391127
Year Founded/Established	: 1971
Mother Institution/Affiliates/Subsidiaries	: Department of Fisheries
Current Head of Institution	: Mr. Somsak Chullasorn
Position	: Director
Organizational Type	: Regional
Areas/Fields of Research	: Marine Science
Major Language(s) Used	: Thai
Mandate	: Marine Science Research
Principal Units/Divisions	: Reference Collection, Administration Unit, Marine Ecology, Fisheries Oceanography, Marine Productivity, Marine Endangered Species, Phuket Aquarium

Total Number of Personnel	: 103 Male-70; Female-33
	Technical-25; Administrative-9 Other Support Staff-69
Titles of Regular Publications	: Phuket Marine Biological CENTRE Bulletin, Phuket Marine Biological Centre Special Publication
Other Services Offered	: Training of students
Total Research Budget (1996)	: 36,740,000 Baht



Songkhla Rubber Research Centre

Address	: Khanchanawanich Road, Hat Yai, Songkhla 90110, Thailand
Phones	: (66-74) 212401 to 6
Fax	: (66-74) 212407
Year Founded/Established	: 1965
Mother Institution/Affiliates/Subsidiaries	: Rubber Research Institute of Thailand
Current Head of Institution	: Mr. Charuck Boonsirat
Position	: Director
Organizational Type	: Regional
Areas/Fields of Research	: Rubber
Major Language(s) Used	: Thai
Mandate	: Research on rubber production and processing
Principal Units/Divisions	: Two divisions, Administer and Rubber Activities; Two groups, Rubber Production and Rubber Processing
Total Number of Personnel	: 63 Male-43; Female-20
	Technical-58; Administrative-5
Titles of Regular Publications	: Annual Reports
Other Services Offered	: Rubber testing and training
Total Research Budget (1996)	: US\$ 1,000,000



Thailand Institute of Scientific and Technological Research

Address	: 196 Phahonyothin Road, Chatuchak Bangkok 10900, Thailand
Phones	: (66-2) 579 0160; 579 5515; 579 1121
Telex	: 21392 TISTR TH
Fax	: (66-2) 561 4771
Cable	: TISTR, Bangkok
E-mail	: daranp@mozart.inet.co.th
Year Founded/Established	: 1963
Mother Institution/Affiliates/Subsidiaries	: Ministry of Science, Technology and Environment (MOSTE)

Current of Institution	: Mr. Chalermchai Honark
Position	: Governor
Organizational Type	: National
Areas/Fields of Research	: Biotechnology, Agro-industry, Natural Products, Corrosion Technology, Engineering Materials, Polymers and Composites, Energy Technology, Environmental Technology, Ecology Technology
Major Language(s) Used	: Thai, English
Mandates	: To initiate and conduct research and to provide scientific and technological services to state agencies and private enterprise for economic and social development of the country
Principal Units/DivisionS	: Biological Science Research Department, Industrial Material Research Department, Energy and Environmental Research Department, Engineering Development Department, Material Properties Development Department, Business Development Department
Total Number of Personnel	: 784 Technical-564; Administrative-220
Titles of Regular Publications	: Science and Technology Journal (in Thai) Annual Report (in Thai), List of Cultures (in English), Packaging Journal (in Thai), Abstracts of TISTR Technical Reports
Other Services Offered	: Industrial Metrology and Testing Service Centre, Thai Packaging Centre, Thai National Documentation Centre, Microbiological Resources Centre (Bangkok MIRCEN)
Total Research Budget (1996)	: 280,000,000 Baht Approx. US\$ 11,200,000

VIETNAM

VIETNAM

Selected Indicators of Agricultural Development

Total Area	: 331,700 km ²
Share in Total Land Area (1992)	
Agriculture (Cropped Land)	: 20.6%
Permanent Pastures	: 1.0%
Forest & Woodland	: 29.6%
Others	: 48.8%
Cropped Land per Capita	: 0.10 ha
Population	: 72.54 million
Average Annual Population Growth Rate	: 2.3%
Adult Literacy Rate	: Male-92%; female-84%
Labor Force Employed in Agriculture (1993)	: 23.7 million
Total GNP	: US \$ 12,000 million
Per Capita GNP	: US \$ 170
Share of Agriculture in GDP	: 47082.0 billion Dong
Production Index in Agriculture	: 177
Major Agriculture Products	: Paddy rice, coconut, maize, rubber, coffee, tea
Agricultural Imports (By Principal Commodity)	: Cotton
Agricultural Exports (By Principal Commodity)	: Rice, coffee, frozen shrimp, rubber

Centre for Biotechnology Hanoi University of Technology

Address	: Dai Co Viet Road, Hanoi, Vietnam
Phone	: (84-4) 869 2515
Fax	: (84-4) 869 2006
E-mail	: nhuong@bio.hut.edu.vn
Year Founded/Established	: 1986
Current Head of Institution	: Prof. Dr. Sc. Le Van Nhuong
Position	: Director
Organizational type	: National
Areas/Fields of Research	: Microbial Technology (Fermentation Engineering, Genetic Engineering, etc.); Biochemical technology (Enzyme Engineering, Synthesis of protein, Amino acid); Biotechnology for Environmental Protection (Biological treatment of waste water, solid waste); Bio-technology for Agriculture (Biological, Pesticide, Fertilizer, Animal Feed, Tissue Culture).
Major Language(s) Used	: English, Vietnamese
For Universities: Academic Year	: August-June Semestral
Principal Units	: Biotechnological Engineering, Chemical Engineering, Computer Science, Communication and Electronics, Technology, Electrical Engineering, Food Engineering, Economics and Management, Mechanical Engineering; Power Engineering, Physical Technology
Degrees Offered	: BS Engineering, Master, Ph.D.
Mandate	: 5 years – BS Engineering 2 years – Master 4 years – Ph.D.
Principal Units/Divisions	: Industrial Microbiology, Industrial Chemistry, Industrial Biochemistry, General Biology, Enzyme Engineering, Fermentation Engineering
Total Number of Personnel	: 26 Male-12; Female-14 Technical-5; Administrative-10 Other Support Staff-11
Total Research Budget	: 500,000,000 DVN.

Cuulong Delta Rice Research Institute

Address	: Omon, Cantho – Vietnam
Phone	: (84-71) 861954
Fax	: (84-71) 861457
E-mail	: CLRRI@CLRRI.ac.vn.
Year Founded/Established	: 1977
Mother Institution/Affiliates/Subsidiaries	: –
Current Head of Institution	: Prof. Dr. Nguyen Van Luat
Position	: Director

Organizational Type	: National
Areas/Fields of Research	: Agriculture
Major Language(s) Used	: Vietnamese/English
Mandate	: Study on rice and farming systems based on rice
Principal Units/Divisions	: Departments: Genetic, Plant Breeding, Rice Biotechnology, Hybrid Rice, Plant Pathology, Entomology, Ecology and Biological Control, Agronomy, Multiple cropping, Agricultural Transfer of Technology CENTRE (ATTC)
Total Number of Personnel	: 179 Male-103; Female-76 Technical-116 (PhD, M.Sc, B.Sc, Technician); Administrative-24 Other Support Staff-39
Titles of Regular Publications	: Omon rice, Proceedings
Other Services Offered	: Scientific Research Management, Administrative and Personnel, Accounting
Total Research Budget (1996)	: US\$ 400,000



Food Crops Research Institute

Address	: Gialoc, Haihung, Vietnam
Phone	: (84-32) 826463
Fax	: (84-32) 826385
Year Founded/Established	: 1968
Mother Institution/Affiliates/Subsidiaries	: Ministry of Agriculture and Rural Development
Current Head of Institution	: Prof. Vu Tuyen Hoang
Position	: Director
Organizational Type	: National
Areas/Fields of Research	: Plant Breeding, Cropping System Research, Plant Biotechnology, Agronomy, Seed Production Technology, Development and Transfer of Production Technologies
Major Language(s) Used	: Vietnamese
Mandate	: Research on varietal and technological improvement of major food crops such as rice, root and tuber crops, legumes, vegetable and fruit tree crops.
Principal Units/Divisions	: Rice Breeding, Cropping System, Root and Tuber Crops, Legumes, Plant Biotechnology, Crop Introduction
Total Number of Personnel	: 260 Male-156; Female-104 Technical-220; Administrative-40
Titles of Regular Publications	: Bulletin of Food Crops Research (every 2-3 yr.)
Other Services Offered	: Supervising PhD and MSc students for their thesis research
Total Research Budget (1996)	: US\$ 500,000



Institute of Agricultural Science of South Vietnam

Address	: 121 Nguyen Binh Hiem Street, District 1 Ho Chi Minh City, Vietnam
Phones	: (84-8) 821746; 8297889; 8230950
Fax	: (84-8) 8297650
E-mail	: system@ias.ac.vn.
Year Founded/Established	: 1925
Current Head of Institution	: Prof. Pham Van Bien
Position	: Director
Organizational Type	: National
Areas/Fields of Research	: Crops and Animal Sciences
Major Language(s) Used	: Vietnamese, English
Mandate	: Research on the breeding and screening of plant varieties and animal breeds and on technical aspects of crops and livestock production; Research on the improvement of existing farming systems and on the transfer of technology; Scientific services on agriculture; Post-graduate and non-degree training for researchers and technical staff in agriculture.
Principal Units/Divisions	: The institute is organized into 10 Research Departments: Food Crops Research, Maize Research, Vegetable Research, Legumes Research, Soil Science and Fertilizer Research, Plant Protection Research, Farming Systems Research, Pig and Poultry Research, Ruminant Research, Feedstuffs and Animal Nutrition Research. It has also five affiliated centres, namely: Hung Loc Agricultural Research Centre, Binh Thang Animal Husbandry Research and Development Centre, Ben Cat Ruminant Research and Development Centre, Dong Thap Muoi Agricultural Research Centre, Agricultural Training and Technology Transfer Centre; and three Functional Bureaux, namely: Human Resources and Administration, Planning, Research Management and International Cooperation, Finance and Accounting
Total Number of Personnel	: 365 Male-260; Female-105 Technical-315; Administrative-50
Titles of Regular Publications	: Annual Reports and Directories
Total Research Budget	: US\$ 800,000



National Institute for Agricultural Planning and Projection (NIAPP)

Address	: 61 Hang Chuoi Street, Hanoi, SR Vietnam
Phones	: (844) 821 1639; 821 3317
Fax	: (844) 821 4163
Year Founded/Established	: 1961

Mother Institution/Affiliates/Subsidiaries	: Ministry of Agriculture and Rural Development (MARD)
Current Head of Institution	: Prof. Dr. Tran An Phong
Position	: Director
Organizational Type	: National
Areas/Fields of Research	: Land evaluation, Eco-agricultural zoning, Agricultural planning
Major Languages(s) Used	: Vietnamese, English
Degrees Offered	: MS and PhD in Agronomy and Land Use Planning
Mandate	: Agricultural planning, land evaluation, preparing investment projects on agricultural sector and rural development
Total Number of Personnel	: 462 Technical-342; Administrative-120
Titles of Regular Publications	: Newsletter
Other Services Offered	: Land surveying, household economic surveying, preparing wide range maps (topo, soil, existing landuse, proposed land use), applying advanced techniques like GIS, remote-sensing, etc.
Total Research Budget (1996)	: US\$ 30,000 (approx.)

National Institute for Soils and Fertilizers (NISF)

Address	: Chem, Tu Liem, Hanoi, Vietnam
Phone	: (84-4) 836 2380
Fax	: (84-4) 8343294
Year Founded/Established	: 1969
Current Head of Institution	: Dr. Nguyen Van Bo
Position	: Director
Organizational Type	: National
Areas/Fields of Research	: Soils, fertilizers and environment
Major Language(s) Used	: Vietnamese, English
Mandate	: Soil genesis, classification, survey and mapping; fundamental research on soil physics, soil chemistry and soil biology; utilization, conservation and improvement of soils; rational and economic use of fertilizers; soil monitoring
Principal Units/Divisions	: 6 departments and 4 stations: Department of Soil Genesis, Classification, Survey and Mapping; Department of Soil Ecology and Environment; Department of Soil Chemistry; Department of Soil Biology; Department of Soil Improvement; Department of Plant Nutrition
Total Number of Personnel	: 173 Male-90; Female-83 Technical-143; Administrative-30
Titles of Regular Publications	: Annual Reports
Other Services Offered	: Application of technology (innovative and introductory) to agricultural production
Total Research Budget (1996)	: US\$ 60,000



National Institute of Plant Protection

Address	: Chem, Tu Liem, Hanoi, Vietnam
Phones	: (84-4) 834 4724; 836 3119; 838 5578
Fax	: (84-4) 836 3563
Year Founded/Established	: 1969
Mother Institution/Affiliate/Subsidiaries	: Ministry of Agriculture and Rural Development (MARD)
Current Head of Institution	: Prof. Le Van Thuyet
Position	: Director
Organizational Type	: National
Areas/Fields of Research	: Study on the etiology of diseases and insect pests of agricultural and forestry plants and appropriate methods of control. Study on biological plant protection. Coordinate plant protection works throughout Vietnam
Major Language(s) Used	: Vietnamese and English
Mandate	: Overall research on plant protection. Transfer research results to farmers and technicians, training and providing education in BSc, MSc and PhD degrees in cooperation with other universities
Principal Units/Divisions	: Plant Pathology Division, Entomology Division, Weed and Pesticide Science Division, Biological Control Research Centre, Administrative and International Cooperation, Scientific and Planning Division
Total Number of Personnel	: 141 Male-65; Female-76 Technical-51; Administrative-16 Other Support Staff-74
Titles of Regular Publications	: Plant Protection Journal of Vietnam, Annual Reports, Periodicals, Book Series in Plant Protection
Other Services Offered	: Identification services and consultancies in plant protection
Total Research Budget (1996)	: US\$ 200,000

Postharvest Technology Institute

Address	: 4 Ngo guyen, Hanoi, Vietnam
Phones	: (84-4) 8253846; 8265679
Fax	: (84-4) 8258440
Year Founded/Established	: 1981
Mother Institution/Affiliates/Subsidiaries	: Food Research Institute
Current Head of Institution	: Dr. Nguyen Kim Vu
Position	: Director
Organizational Type	: National

Areas/Fields of Research	: Food processing and storing (grains, fruits, vegetables, meat, fish), design and manufacture of machines for food processing and storing, food quality control and food sanitation, and food standards set up.
Major Language(s) Used	: Vietnamese, English
Mandate	: To conduct the basic and applied research in post harvest stage of agriculture; To transfer technologies to farmers; To undertake educational programs and training courses, To set-up food standards and food quality control
Principal Units/Divisions	: Food Processing, Food Storage, Milling and By-product Utilization, Entomology, Microbiology, Food Physiology and Bio-Chemistry, Food Quality Control and Standardization
Total Number of Personnel	: 108 Male-50; Female-58 Technical-92; Administrative-16
Other Services Offered	: Consultant for the Ministry of Agriculture and Rural Development, Ministry of Science Technology and Environment on Post Harvest Technologies, Food Processing and Food Production
Total Research Budget (1996)	: 3 Billion VND



Research and Design Institute of Agriculture Machine (RIAM)

Address	: Km. No. 9, Nguyen Trai Road, Hanoi, Vietnam
Phones	: (84-4) 854 4331; 854 4429
Fax	: (84-34) 826 6777 RIAM
Year Founded/Established	: 1970
Mother Institution/Affiliate/Subsidiaries	: Industrial Institute
Current Head of Institution	: Dr. Nguyen Van Hoi
Position	: Director
Organizational Type	: National
Areas/Fields of Research	: Research and design of all agricultural machine types including machines for land preparation, plant protection post harvesting and primary processing machines, machines for high quality processed products
Major Language(s) Used	: Vietnamese, English, Russian
Total Number of Personnel	: 130 Male-102; Female-28 Technical-91; Administrative-39
Titles of Regular Publications	: Quarterly Research and Design of Agricultural Machines
Other Services Offered	: Design and install machinery and systems for tea processing, silk yarn reeling and rereeling machines, plastic tube press systems, fruit processing and preservation machine
Total Research Budget	: 5,354 MILVN DONG



Southern Institute of Water Resources Research (SIWRR)

Address	: 2 ^A Nguyen Bieu Street, 5th District Ho Chi Minh City, Vietnam
Phones	: (84-8) 8352320; 8362825
Fax	: (84-8) 8355028
E-mail	: system@SIWRR.ac.vn
Year Founded/Established	: 1978
Mother Institution/Affiliates/Subsidiaries	: -
Current Head of Institution	: Dr. Sci Nguyen An Nien
Position	: Director
Organizational Type	: Regional
Areas/Fields of Research	: Water Resources Research, Environment Impact Assessment and Protection, Disaster Protection, Soil Reclamation, Hydraulic Works
Major Language(s) Used	: Vietnamese
Mandate	: -
Principal Units/Division	: Three CENTRES: CENTRE of Irrigation and Water Supply, CENTRE of New Technology, CENTRE of Information; Six Divisions: Hydraulics, River Hydraulics, EIA, Construction Materials, Geotechnique, and Administration
Total Number of Personnel	: 82 Male-56; Female-26 Technical-71; Administrative-11
Titles of Regular Publications	: Annual Reports
Other Services Offered	: Feasibility study, Design of Hydraulic Works, Mini and micro hydropower stations, Training
Total Research Budget (1996)	: VND 20 Billion (US\$ 2.0 Million)

Vietnam Agricultural Science Institute

Address	: Thanh Tri, Hanoi, Vietnam
Phone	: (84-4) 861 5487
Fax	: (84-4) 861-3937
Year Founded/Established	: 1952
Mother Institution/Affiliates/Subsidiaries	: Ministry of Agriculture and Rural Development (MARD)
Current Head of Institution	: Dr. Nguyen Huu Nghia
Position	: Director General
Organizational Type	: National
Areas/Fields of Research	: Strategies for agricultural development, agro-systems, rice breeding, hybrid rice, wheat and barley breeding, root and tuber crops, vegetables, biofertilizers, soil chemistry, animal genetics, plant genetics and pathology, plant genetics

Major Language(s) Used	: Vietnamese
Mandate	: resources, agricultural environment, grain legumes, animal feed and physiology : Serve as the nodal institution coordinating research activities to improve crop yield and quality, mainly rice, root crop and legumes, with orientation on development of sustainable agricultural production
Principal Units/Divisions	: 11 research departments, 8 administrative offices, 7 research centres and experimental stations
Total Number of Personnel	: 450 Male - 218; Female - 232 Technical - 322; Administrative - 73 Other Support Staff - 55
Titles of Regular Publications	: Vietnam Agroforestry News, Research Results of Postgraduate students, Annual Report, VASI
Other Services Offered	: Serve as the principal institution conducting post graduate training for Master and PhD degrees in agricultural sciences for Vietnamese and foreign researchers
Total Research Budget (1996)	: US\$ 1,000,000

Vietnam Institute for Water Resources Research (VIWRR)

Address	: 299 Tayson Street, Dongda, Hanoi, Vietnam
Phones	: (84-4) 852 2086; 852 3766; 852 1863
Fax	: (84-4) 536 290
Year Founded/Established	: 1959
Mother Institution/Affiliates/Subsidiaries	: Ministry of Agriculture and Rural Development
Current Head of Institution	: Prof. Nguyen Thanh Nga
Position	: Director
Organizational Type	: National
Areas/Fields of Research	: Irrigation and drainage, environmental engineering, hydraulics and hydraulic works, river and coastal engineering, pump and pumping station, turbine, geotechnique, concrete, construction, economical research works
Major Language(s) Used	: Vietnamese, English
Mandate	: Apart from research activities, the VIWRR organizes seminars, implements the Ph.D. program for internal and external staff of VIWRR
Principal Units/Divisions	: Irrigation and Drainage, River and Coastal Engineering, Hydraulics and Hydraulic Works
Total Number of Personnel	: 297; Male-231; Female-66; Technical-252; Administrative-45
Titles of Regular Publications	: Each specific research field has periodicals and directories after completing research topics in plan-period. In addition, research results are also published in Science and Technology Journal issued by the Ministry of Science and Environment, etc.
Other Services Offered	: Advisory activities, application and technology transfer, international cooperation, research on request of client

APPENDICES

Table 1. Major research goals/objectives in Southeast Asia

Countries	Agricultural Modernization	Efficiency	Food Self-Sufficiency	Employment Generation	Resource Conservation/Sustainability	Diversification	Global Competitiveness
Indonesia	x	x	x	x	x	x	x
Malaysia	x	x	x		x		
Philippines	x	x	x	x	x	x	x
Thailand	x	x			x	x	x
Vietnam		x	x	x	x	x	
Lao, PDR		x	x	x	x	x	x
Myanmar		x	x		x		x**
Cambodia		x					x**

* Available reports explicit security as a goal as against food self-sufficiency as a goal.

** Available reports indicated mere generation of surplus for export as a goal rather than to become globally competitive.
Source: DAR, 1993.

Table 2. Major commodity research areas in Southeast Asia

Commodity	COUNTRY									
	Cambodia	Indonesia	Laos	Malaysia	Myanmar	Philippines	Thailand	Vietnam		
<i>1. Cereal</i>										
Rice	x	x	x	x	x	x	x	x		x
Wheat		x			x					
Corn		x	x	x	x	x	x	x		x
<i>2. Rootcrops</i>										
Cassava		x		x		x	x	x		x
Sweet Potato		x				x	x	x		x
Irish Potato		x	x	x		x	x	x		
<i>3. Legumes</i>										
Mungbean		x		x	x	x				x
Peanut		x			x	x	x			x
Soybean		x		x	x	x	x			
<i>4. Vegetables and Fruits</i>										
Tropical vegetables		x		x	x	x	x			x
Starchy bananas		x	x			x				x
Fruits		x	x	x	x	x	x			x
<i>5. Plantation Crops</i>										
Rubber		x			x	x	x			x
Palm oil		x		x	x	x	x			x
Coconut		x		x		x	x			x
Tea		x		x	x		x			
Coffee		x								
Cacao		x		x		x	x			x
Spices		x		x		x	x			x
Cotton						x	x			x
Sugarcane		x			x	x	x			x
Tobacco		x	x	x		x	x			x

Table 2 Continued

Table 2 Continued

Commodity	COUNTRY									
	Cambodia	Indonesia	Laos	Malaysia	Myanmar	Philippines	Thailand	Vietnam		
6. <i>Livestock and Poultry</i>										
Cattle/Carabao		x			x	x	x	x		
Goat/Sheep		x		x		x	x			
Swine						x	x			x
Chicken		x		x	x	x	x			
7. <i>Fisheries</i>										
Aquaculture		x	x	x	x	x	x			x
Artisanal fisheries		x	x	x	x	x	x			x
Deep sea fisheries		x		x	x	x	x			
8. <i>Farming System</i>										
Farming systems research			x		x					x
On-farm research		x				x	x			
9. <i>Postharvest</i>										
Crops		x		x	x	x	x			x
Livestock		x		x		x	x			
Fisheries		x				x	x			
10. <i>Resource-Based</i>										
Agrometeorology		x		x		x	x			
Soil resources		x		x		x	x			x
Water resources		x		x		x	x			
11. <i>Agricultural Engineering</i>										
Farm machinery		x			x		x			
Small tools development		x			x		x			
12. <i>Biotechnology</i>		x				x	x			
13. <i>Socio-Economics</i>		x				x	x			x

Source: ADB (1988), Personal Communication, DA, PCARRD, CARP-ARRD, as reported in Dar, 1993, Philippines.

Table 3. Major commodity research areas classified by regional importance

Commodity Discipline	Importance to region		
	Common	Important to Few Countries	Unique (Country)
Cereal	Rice, Corn	–	Wheat (Myanmar)
Rootcrops	Cassava, Sweet Potato, Irish Potato	–	–
Legumes	Mungbean, Peanut Soybean	–	–
Vegetables and Fruits	Tropical Vegetables Fruits	Starchy Bananas	–
Plantation Crops	Rubber, Palm Oil Coconut, Tea, Coffee, Cacao, Spices, Sugarcane, Tobacco	Cotton	–
Livestock and Poultry	Cattle/Carabao/Goat/ Sheep/Chicken	Swine	–
Fisheries	Aquaculture, Artisanal Fisheries, Deep Sea Fisheries	–	–
Systems	Farming Systems Research	On-Farm Research	–
Postharvest	Crops	Livestock Fisheries	–
Resource-Based	Soil resources	Agrometeorology Water Resources	–
Agricultural Engineering	–	Farm Machinery Small Tools Development	–
Specific Disciplines	Socio-Economics	Biotechnology	–

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