

行政院所屬機關因公出國人員出國報告  
(出國類別：訪問考察)

## 馬來西亞高等農業教育訪問考察報告

馬來西亞農業大學(University Putra Malaysia)

服務機關：國立屏東科技大學

出國人員：劉顯達 校長

陳兆鉞 總務長

古源光 技術合作處 處長

趙志燁 機械工程系 主任

出國地點：馬來西亞

出國期間：89年12月16日至89年12月20日

報告日期：90年3月19日

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## 一、訪問緣起與目的

近二十年來，由於科技發展和全球化經濟變動，未來國內技職教育需具備國際文化特質，培育具國際觀的技術人才，始能符合國際時代潮流。國立屏東科技大學主要係由屏東農業專科學校、屏東技術學院改制而來，學校本質上具備農業色彩及新興工商管理特質，因此本校發展主要以兼具高科技工業、精緻化農業與資訊企業管理為主軸。而未來由於科技的發展，各類產業不論在研發、品質控制、空間利用、生產技術與管理方式等，將產生重大變革且變化迅速。因此，未來人才的培育已非傳統教育管道或單一培育管道能夠達到。過去，屏東科技大學除積極與國內大專院校技術交流外，也積極擴展與國外學校加強學術交流，包括：遠距教學，教授、學生互訪，資源共享，以及共同研究之實質交流活動，以期達到培訓國際級之技術人才。

目前與本校簽訂學術交流合作之學校計有：美國維吉尼亞州立綜合技術大學、華盛頓州立大學、伊利諾技術學院、愛荷華州立大學、俄勒岡州立大學、北卡羅萊納州立大學、普渡大學、夏威夷大學、夏威夷大學茂宜社區學院、澳洲查理史都大學、泰國農業大學、泰國奈瑞森大學、加拿大曼尼托巴大學、果夫大學、奧茲學院、維多利亞大學、哥倫比亞技術學院、宏都拉斯泛美農業技術學院及日本酪農學園大學等二十個學校。近期相關國際合作與交流之成效茲略述如下：

1. 熱帶農業研究所於八十七學年度起本所與國際合作發展基金會合作，進行「教學外交」，已有索羅門群島、甘比亞、塞內加爾、海地、哥斯大黎加及薩爾瓦多等國學生於本所攻讀碩士學位。全部課程以英語教授，開創本校國際化教學之新紀元。
2. 家畜廢棄物管理中心，於民國八十七年在國立屏東科技大學與美國國際開發總署的亞洲環保聯盟及美國大學聯盟合作下，正式成立於中華民國屏東科技大學。大學聯盟初期成員包括伊利諾技術學院、愛荷華州立大學、俄勒岡州立大學、北卡羅萊納州立大學及普渡大學。本中心設置之豬廢棄物處理系統所用之設備由中華民國政府及美國工業界捐贈。該中心並於八十八年十月六~九日，舉行跨國性國際研討會。
3. 本校與宏都拉斯泛美農業技術學院及哥斯大黎加國家大學，簽定協議，並進行中美洲地區農企業現況調查、共同制定農企業發展策略、邀請企業界與學

術界共同舉辦研討會、中南美洲水土保持現況調查等。

4. 本校與泰國農業大學、荷蘭瓦根尼罕大學及澳洲新英格蘭大學，建立在本校開設生物技術與熱帶花卉網路教學。
5. 本校泰國農業大學簽訂兩校合作協議，合作項目設定在食品加工、熱帶農業、熱帶花卉及畜牧養殖、水土保持等方面。日前，已有多次交換學生，如有三名學生於 2000 年 3 月在本校實習二個月；多次交換教授，如開授泰語課程；多次國際性研討會，如「邁向 2010 年之高等教育國際研討會」與「中泰食品科技交流研討會」等。

整體而言，國立屏東科技大學在教育部、經濟部、外交部與農委會相關機關的支持下，在國際合作領域方面成果，十分豐碩。未來，除繼續與歐亞美等國建立實質交流外，並配合國家南進政策，將積極與東南亞各國建立關係與進行實質交流活動。

綜合上述，本次訪問團參訪馬來西亞農業大學，主要係配合國家加強東南亞國家合作政策，以及國立屏東科技大學學校之發展，擬與馬來西亞農業大學(UPM)，進行相關研合作討論。其主要目標為：

1. 討論與決定未來學術合作領域及可能的研究計畫案。
2. 決定雙方合作領域或研究計劃之負責人員。
3. 決定雙方合作計劃或行動方案之機制。
4. 討論與議決交換教授與學生可行方式。

## 二、訪問學校基本背景資料

馬來西亞農業大學(University Putra Malaysia，以下簡稱 UPM) 於 1969 年 3 月 31 日由成立於 1931 年 5 月 21 日之農業學校改制而來，校區位於馬來西亞 Serdang, Selangor，介於馬來西亞首都 Kuala Lumpur 和馬來西亞政府新行政區 Putra Jaya 之間，佔地 22 英畝，為馬來西亞國家最高級農業大學。

目前學校由十一個學院(faculties)和六個中心組成，包括：外語、人文社會、企業管理、動物科學與獸醫、工程、教育研究、森林、生物醫藥與健康科學、農業、環境科學、食品科學等十一個學院，以及入學考試中心、社會科學研究與管理中心、科技應用研究中心、成人教育中心、電算中心與回教中心。

目前學校由十一個學院(faculties)、六個中心和四個機構組成，包括：外語、人文社會、企業管理、動物科學與獸醫、工程、教育研究、森林、生物醫藥與健康科學、農業、環境科學、食品科學等十一個學院，以及入學考試中心、社會科學研究與管理中心、科技應用研究中心、成人教育中心、電算中心與回教中心，最新技術機構、生物感測機構、遠具教學機構及 Multimedia 機構。十一個研究生學位、四十個學士學位、及四個文憑證書。教師 1126 位、職員 2386 位、學生 33519 位，包括：研究生 5288 位、學士 24237 位、其他進修生 3994 位。

整體而言，其教學目標成為教學研究中心，不僅增加人文的進步與新知的擴展，同時創造健康自然的社會環境。

### 三、訪問行程

<p>十二月十六日(星期六)</p>	<p>清晨自高雄搭乘華航 MH87 班機，過境東馬，於當地下午 13:45 抵達，Kuala Lumpur International Airport，由 UPM Dr. Liang Juan Boo 接待，並安排於 Kuala Lumpur 之 J.W. Marriot 飯店住宿，晚間由 UPM Vice-Chancellor 陪同於於 Kuala Lumpur 之 Berputar Sri Angkasa 餐廳用餐。</p>
<p>十二月十七日(星期日)</p>	<p>上午由參觀 Historical City of Malacca and Safari Park 下午與僑胞 Dr. Tan Kim Siew 討論台灣農業經驗與馬來西亞農業發展經驗，以及未來合作方向。 晚餐由屏東科技大學馬來西亞校友會長 Tan Jin Yew 接待。</p>
<p>十二月十八日(星期一)</p>	<p>上午正式拜會馬來西亞農業大學與該校一級主管討論，共同決議雙方合作重點：</p> <ol style="list-style-type: none"> <li>1.共同研究領域與主題：畜牧廢棄物處理技術、動物行為與畜養、水產養殖技術、食品工程技術、水土保持技術、獸醫、環境科學與工程等，及其他雙方學校發展重點。</li> <li>2.加強雙方學生交換。</li> <li>3.加強雙方教授互訪與講學。</li> <li>4.馬來西亞農業大學派教授至屏東科技大學講授馬來語。</li> <li>5.屏東科技大學加強參與馬來西亞農業大學研究園區之合作計畫。</li> <li>6.馬來西亞農業大學協助屏東科技大學修業完畢之馬來西亞學生或中華國僑生繼續升學或進修。</li> </ol>

	<p>7.雙方可推動共同指導研究生。</p> <p>下午馬來西亞農業大學校園研究園區參訪</p>
十二月十九日(星期二)	<p>參觀馬來西亞農業大學校園參觀</p> <p>09:00~10:00 Visit to Faculty of Agriculture</p> <p>10:00~11:00 Visit to Faculty of Veterinary Medicine</p> <p>11:00~12:00 Visit to Faculty of Modern Languages and Communication</p> <p>13:00~14:00 Visit to Faculty of Science and Environmental Studies</p> <p>14:00~15:00 Visit to Faculty of Engineering</p> <p>15:00~16:00 Visit to Faculty of Food Science and Biotechnology</p> <p>16:00~18:00 City tour</p> <p>18:30 與校長及該校一級主管晚宴</p>
十二月二十日(星期三)	<p>離開 Kuala Lumpur 之 J.W. Marriot 飯店，自 Kuala Lumpur International Airport 搭乘華航 MH86 班機返國。</p>

## 四、訪問心得與未來發展建議

### 一、訪問心得

1. 馬來西亞農業大學在歷任校長的推動下，逐漸在東南亞區域與國際間機構或組織建立合作管道，其國際化腳步相當快速。此外，其教授群年輕化，教職員生英語能力毫無問題，故在國際化工作方面已具相當成效，值得本校借鏡。
2. 馬來西亞農業大學位於馬來西亞首都 Kuala Lumpur 和馬來西亞政府新行政區 Putra Jaya 之間，佔地 22 英畝，部分國家重大交通建設皆與該校有密切關係，且其校政商關係良好，故該校除現有成就外，發展潛力十分雄厚，值得本校加強與其合作。
3. 馬來西亞農業大學為發展學術研究與應用推廣，在校園內投資大量設備，並集中相關設備成立中心善加運用，發揮精密設備之教學與研究極致功效。
4. 馬來西亞農業大學在校園內亦設置有研究園區，與國內外學校機構或廠商合作，共同開發新產品，除對該校研發水準提升外，亦促進馬來西亞國家經濟。
5. 馬來西亞農業大學機械系相關設備規劃完善，幾乎任何加工機械、電腦、精密分析設備、小型風洞皆有，雖然量少但可謂種類多、質量佳。此點值得本校在規劃教學研究設備參考。

### 二、未來發展建議

馬來西亞農業大學希望與屏東科技大學合作領域

7. 共同研究領域與主題：畜牧廢棄物處理技術、動物行為與畜養、水產養殖技術、牧草管理、中藥、食品工程技術、水土保持技術、獸醫、分子生物學、環境科學與工程等。
8. 關於學生交換方面：
  - A. 屏東科技大學每年培訓五名馬來西亞農業大學學生，在畜牧與



獸醫領域之技藝訓練。

B. 屏東科技大學提供碩士學位獎學金一名，供馬來西亞農業大學學生至屏東科技大學進修。

9. 關於教授交換方面：

A. 馬來西亞農業大學組織四人訪問教授，至屏東科技大學研究畜牧、環境工程等，包括：豬、牛與雞畜養之水濂式環控溫室。

B. 馬來西亞農業大學 Dr. Liang Juan Boo，至屏東科技大學亞洲廢棄物處理管理中心擔任訪問教授。

C. 馬來西亞農業大學 Dr. Liang Juan Boo，至屏東科技大學亞洲廢棄物處理管理中心擔任訪問教授。

D. 馬來西亞農業大學派教授至屏東科技大學，開授二學期馬來西亞語課程。

E. 馬來西亞農業大學邀請屏東科技大學教授，至該校建立中文圖書管理系統、講授中文課程、以及建立運動科學與管理學程。

F. 馬來西亞農業大學希望屏東科技大學協助高階企業家訓練課程。

10. 關於馬來西亞農業大學研究園區之合作計畫：

A. 馬來西亞農業大學邀請屏東科技大學教授，將在屏東科技大學發展成熟可在馬來西亞商業化之技術，至該校科技園區推廣。

B. 馬來西亞農業大學希望與屏東科技大學資訊管理方面教授合作，包括：multi-media, e-university, AI/IA: Artificial intelligence and intelligent agent, e-commerce 等。

屏東科技大學希望與馬來西亞農業大學合作項目

1. 一般主題：

A. 馬來西亞農業大學協助魚屏東科技大學修業完畢之馬來西亞學生或華國僑生。

B. 雙方研究生共同執行研究計畫。

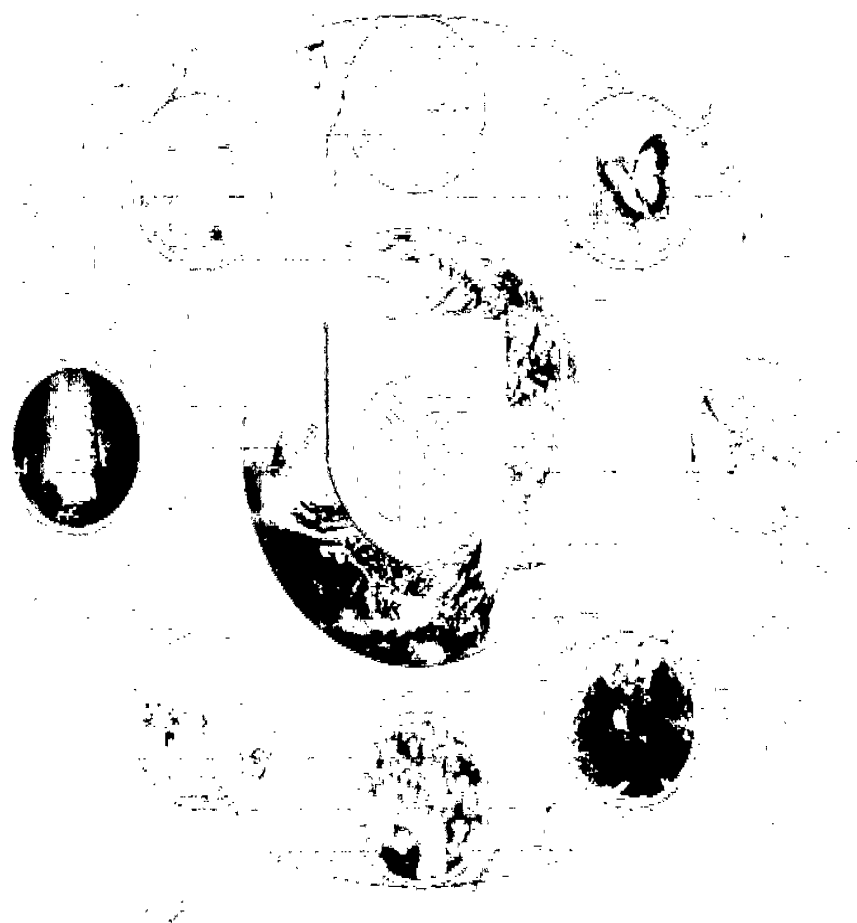
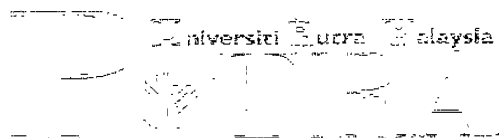
- C. 雙方共同指導雙方之研究生。
- D. 建立雙方有興趣合作領域之雙聯學制。
- 2. 畜牧科學與生產技術領域：
  - A. 乳牛與家畜在水濼式環境下之養護。
  - B. 高密度養殖技術。
  - C. 邀請 Professor Liang Juan Boo 參與 ECLWM 訓練課程
  - D. 家畜廢棄物管理
  - E. 畜牧技藝訓練技術
- 3. 獸醫科學領域：
  - A. 分子辨識
  - B. VM 生物科技應用
  - C. 毒物學
  - D. 動物與魚病
  - E. 大動物手術技術。
- 4. 農園生產領域：
  - A. 花卉生產、培育與育種
  - B. 花卉生物科技
  - C. 藥草
  - D. 蔬菜育種與栽培
  - E. 經濟作物
- 5. 資訊管理系統領域
  - A. 參與馬來西亞科技園區計畫
  - B. Multi-media 技術
  - C. e-commerce 技術
  - D. AI 和 IA
- 6. 環境科學與工程領域：
  - A. 空氣污染控制技術

- B. 農業土壤污染
  - C. 工業土壤污染
  - D. 農業廢棄物處理
7. 車輛工程領域：
- A. 低污染之引擎、燃燒與噴油系統設計
  - B. 車輛自動控制系統設計
  - C. 輕運量軌道工程
8. 食品工程領域：
- A. 食品包裝技術與訓練課程
  - B. 食品酵素、生物感測元件、食品生物科技
  - C. 生機食品與健康食品
  - D. 食品加工製造與控制工程技術
  - E. 自然食品抗氧化與抗癌物萃取
  - F. 精緻食品製程技術
  - G. 教師與學生交換與訓練課程
9. 水土保持領域：
- A. rice patties 侵蝕
  - B. 坡地耕種
  - C. 土石流
  - D. 水土保持技術
10. 外語領域：
- A. 馬來西亞農業大學提供馬來語課程
  - B. 屏東科技大學提供中文課程
  - C. 交換學生，尤其是修研馬來語學生。

## 五、附錄

- UPM 馬來西亞農業大學簡介
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# UPM 馬來西亞農業大學簡介



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## HISTORY



University Putra Malaysia can trace its origins to the School of Agriculture, which was officially instituted on 21 May 1931 by John Scott, an administrative officer of the Straits Settlements. The School was located on a 22-acre spread in Serdang.

The School offered two courses then a three-year diploma course and a one-year certificate course. By 1941, the school had successfully trained 321 officers - 155 diploma and 166 certificate holders.

The School was declared the Agricultural College of Malaya on 23 Jun 1942 by Sir Edward Gent, the Governor of the Malayan Union. In 1948, it was proposed that the College be upgraded to a university. However, the proposal was shelved due to the declaration of Emergency in the middle of the year.

In 1960, the Faculty of Agriculture, University Malaya was established and on 1 January 1962, a statute was approved appointing the Agricultural College of Malaya one of the governing bodies of University Malaya.

The establishment of an agricultural university offering bachelor level programmes was put forth

by the Deputy Prime Minister then, Tun Haji Abdul Razak Hussein on 31 March 1969 at the opening ceremony of the additional wing to the Agricultural College in Serdang, Selangor.

The establishment of University Pertanian Malaysia finally became a reality and was enacted as an Incorporation Order of the Duli Yang Maha Mulia Seri Paduka Yang Di Pertuan Agong under the Universities and University College Act 1971. It was published in the Government Gazette P.U. (A) 387 dated 29 October 1971. The merger of the Agricultural College of Malaya with the Faculty of Agriculture, University Malaya led to the establishment of University Pertanian Malaysia.

University Pertanian Malaysia started its academic programme in July 1973 with three main faculties - Faculty of Agriculture, Faculty of Forestry, and Faculty of Veterinary Medicine and Animal Science. Besides the three faculties, there was also a Basic Sciences Department. The total number of students then was 1,559.

Now, University Pertanian Malaysia consists of eleven faculties and six centers. These are Faculty of Modern Language, Faculty of Human Ecology, Faculty of Economics and Management, Faculty of Veterinary Medicine and Animal Science, Faculty of Engineering, Faculty of Educational Studies, Faculty of Forestry, Faculty of Biomedicine and Health Science, Faculty of Agriculture, Faculty of Science and Environmental Studies, Faculty of Food Science and Biotechnology while the Center are Matriculation Center, Center for Social Science Studies and Management, Center for Science and Applied Studies, Center for Extension and Continuing Education, Computer Center and Islamic Center.

## MISSOM

The University's mission is to be a leading Center of learning and research, contributing not only towards human advancement and discovery of knowledge but also to the creation of wealth and nation building.

## UPM MAIN CAMPUS

Located in the heart of the Multi-Media Super Corridor CMSC, it is strategically positioned between Kuala Lumpur, the booming capital City of Malaysia and Putra Jaya, the new and ultra modern administrative seat of the Malaysian Government.

## FACULTIES : 13

- Agriculture
- Computer Science and Info Technology
- Design and Architecture
- Economics and Management
- Educational Studies
- Engineering
- Food Science and Biotechnology
- Forestry
- Human Ecology
- Medicine and Health Sciences
- Modern Languages and Communication
- Science and Environmental Studies
- Veterinary Medicine

## CENTRES : 6

- External Program
- Graduate School
- Malaysian Graduate School of Management (MGSM)
- University Business
- Software Development
- Sultan Salahuddin Abdul Aziz Shah Cultural & Arts

## INSTISUTES : 4

- Advanced Technology
- Bioscience
- Distance Education and Learning(IDEAL)
- Multimedia

## BPROGRAMS:

- Post Graduate: 11
- Bachelor : 40
- Diploma : 4

## STUDENT POPULATION

- Post Graduate : 5,288

- Undergraduate : 24,237
- Diploma : 2,224
- Matriculation : 1,770
- Total : 33,519**

## ACADEMIC & SUPPORT STAFF :

- Academic : 1,126
- Non-academic : 2,386
- Total : 3,512**

## FEE STRUCTURES OF ACADEMIC PROGRAM (RM)

ITEM	DIPLOMA	DEGREE
<b>1.Non-recurrent (on Admission)</b>		
Malaysian Students	310	315
Malaysian Students	310	315
<b>2.Recurrent Tuition Fees (every semester)</b>		
Malaysian Students	216	(550-850)*
International Students	1,284.50	(2317-7700)*
<b>3.Other Fees (every semester)</b>		
Malaysian Students	611	623.50
Malaysian Students	611	623.50

\*Arts(550@ Basic Sci .(620), Technology (700), Medicine(850), Malaysians

\*Arts(2,317), Basic Sci.(3,682), Technology (5,112.50), Medicine(7,700) Foreigners

## FEE STRUCTURES OFGRADUATE PROGRAM (RM)

Semester	Masters	Ph.D
<b>First</b>	<b>RM</b>	<b>RM</b>
Malaysian Students	960	1,460
Malaysian Students	1,460	1,960
<b>Second</b>		
Malaysian Students	750	1,250
International Students	1,250	1,750
<b>Final</b>		
Malaysian Students	*1,150/**750	2,000
Malaysian Students	1,650/**1,250	2,500

\*Structure A & B / \*\*Structure C

## PROGRAMS OF STUDY

### UNDERGRADUTE

Faculty of Agriculture



- Bachelor of Bioindustry Science
- Bachelor of Science (Agribusiness)
- Bachelor of Agriculture
- Diploma in Agriculture
- Diploma in Animal Health and Production

#### **Faculty of Computer Science and Information Technology**

- Bachelor of Computer Science
- Diploma in Computer Science

#### **Faculty of Design and Architecture**

- Bachelor of Landscape Architecture
- Bachelor of Architecture
- Bachelor of Accountancy with Education
- Bachelor of Economics

#### **Faculty of Engineering**

- Bachelor of Engineering (Mechanical)
- Bachelor of Engineering (Civil)
- Bachelor of Engineering (Aero Space)
- Bachelor of Engineering (Electrical and Electronics)
- Bachelor of Engineering (Computer Systems and Communications)
- Bachelor of Engineering (Process Food)
- Bachelor of Engineering (Chemistry)
- Bachelor of Engineering (Biology and Agriculture)

#### **Faculty of Educational Studies**

- Bachelor Education (Agricultural)
- Bachelor Education (Home Science)
- Bachelor Education (Physical Education)
- Bachelor Education (Guidance and Counseling)
- Bachelor Education (The Teaching of Bahasa Malaysia as a First Language)
- Bachelor Education (TESL)
- Bachelor Education (Human Resource Development)

#### **Faculty of Forestry**

- Bachelor of Forestry Science
- Diploma in Forestry

#### **Faculty of Food Science and Biotechnology**

- Bachelor of Science and Food Technology
- Bachelor of Science (Biotechnology)
- Bachelor of Science (Food Studies)

#### **Faculty of Human Ecology**

- Bachelor of Science (Human Development)
- Bachelor of Music
- Diploma in Human Development

#### **Faculty of Modern Languages And Communication**

- Bachelor of Arts
- Bachelor of Communications

#### **Faculty of Medicine And Health Sciences**

- Doctor of Medicine
- Bachelor of Science (Community Health and Nutrition)
- Bachelor of Science (Environmental and Occupational)
- Bachelor of Science (Biomedical Science)

#### **Faculty of Science and Environmental Studies**

- Bachelor of Science (Environment)
- Bachelor of Science (Honors)
- Bachelor of Science with Education (Honors)

#### **Faculty of Veterinary Medicine**

- Doctor of Veterinary Medicine
- POSTGRADUATE
- Master of Science (MS)
- Master of Agriculture Science(MAgricSc)
- Master of Agriculture (MArch)
- Master of Art (MA)
- Master of Busing Administration( MBA)
- Master of Economic(Mecons)
- Master of Environment (MEnv)
- Master of Landcsape Architechrure (MLA)
- Master of Management (MM)
- Master of Veterinary Medicine (MVM)
- Doctor of Philosophy (PhD)

## **ACADEMIC AFFAIRS**

### **GRADUATES**

In 1999, a total of 7,739 students graduated and were conferred degrees or diplomas. Generally, the number of students who graduated in 1999 increased by 121.9

% compared to 1998, which is the highest achieved by UPM.

Compared to 1998, the number of degree graduated increased to 131 %, while for the postgraduate, the increase was 119.7% and for Diplomas, it was 56.1%.

### **Student Intake**

For the 1999 session, a total of 15,907 students registered for various study programmes in UPM.

Overall, the student intake for UPM increased by some 18.79% compared to the previous year. According to the figures, the increase is particularly obvious for the postgraduate programmes which saw a 49.57% increase while the Degree programmes registered a 17.6% increase. However, the Diploma level programmes fell by 17.6% while the matriculation programmes saw 29.6% increase in student intake.

### **Student Enrolment**

For the year 1999, the student population stood at 35,263 which represents a 14.1 % increase over the previous year. (compared to 1998 figures, Ph.D students increased by 2636%, while those pursuing their Masters increased by 27.6%, Bachelors by 13.4%, Diploma, by 2.3% and the Matriculation programmes by 10.7%.

### **GRADUATE STUDIES CENTRE**

UPM has been successful in drawing graduate students from 44 countries for its graduate studies programme. Up to December 1999, the graduate enrolment totaled 4,677. Of this total, 595 are foreign students. In an effort to promote the graduate studies programme overseas, the Center for Graduate Studies has participated in various educational fairs organized by the Ministry of Education and other foreign organizations.

The Graduate Studies Center in its 24 years of experience has successfully produced Masters and Ph.D students in various disciplines including Science and Technology, and the Social Sciences. In 1999, 947 graduates convicted with Masters and Ph.D degrees

## INSTITUTE FOR DISTANCE EDUCATION AND LEARNING (IDEAL)



In 1999, Distance Education and Learning (Pjj) offered eight new programmers bringing the total programmers to 14.

### Programmers offered in 1998

- Masters of Science in Human Resource Development
- Bachelor of Education (PBMP)
- Bachelor of Education (TESL)
- Bachelor of Education (B&K)
- Bachelor of Computer Science (BSK)
- Bachelor of Communication

### New Programmers offered in 1999

- Masters in Corporate Communication
- Bachelor of Arts (Language and Malay Linguistics)
- Bachelor of Arts (English Language)
- Bachelor of Science (Honors) Mathematics
- Bachelor of Science (Honors) Statistics Major
- Bachelor of Science in Education (Honors) Mathematics
- Bachelor of Science in Education (Honors) Statistics
- Diploma in Youth Development (International)

The year 1999, saw the highest student intake i.e. 2,874 students bringing the total enrolled in distance learning programmers to 7,977. This is an increase of 59.8% over the previous year.

### Teaching and learning in Distance Learning

The teaching and learning methodology for distance learning is based on flexible self-instructional modules. These self-instructional modules are written by UPM lecturers and are bound and distributed to all Pjj students.

In 1999, 196 modules were published for all the programmers. In the same year, IDEAL enlisted 317 tutors throughout the nation and organized

two intensive courses to familiarize them with the modules as well as other aspects related to the programmers.

As of 1999, IDEAL had established 40 centers at strategic locations throughout the nation in collaboration with MARA Educational Foundation (YPM), CELCOM and several other private corporations. These centers are equipped with lecture and conference halls, examination halls, resource rooms, computers with Internet facilities, and communication system and other audiovisual aids for teaching. Pjj promotional Activates

IDEAL has undertaken extensive campaigns both locally and overseas to promote" its distance learning programmers. These campaigns were targeted at teachers, military personnel, government staff, private teacher training colleges, educational centers, schools and military training centers. Pjj programmers have also been aired in Sarah and Sarawak. Overseas promotional campaigns were undertaken in Singapore, Thailand, Indonesia, Brunei and China. IDEAL has also been visited by delegates from Myammar, Mauritius, United Kingdom and South Florida, and the United States.

In addition, IDEAL officers have contributed actively to the development and promotion of PJJ. Among the activities that these officers have been involved in were a Distance Learning Workshop in Pulau Pinang, Sarawak Education Fair and Seminars and Conferences on "Distance" Learning in Brunei, Thailand, Philippines, China and Indonesia. Support Service

In 1999, IDEAL has also promoted its services and facilities, which include a (conference Hall, Catering Service and Accommodation Blocks. Various international courses and seminars were held at these facilities such as:

- ① Seminar on the Direction of Higher Education – Ministry of Education
- ① Workshop on the Direction of Science Programmers -IPTA
- ① Imitational Workshop on "Wireless Internet Access"
- ① Kosovo Fund Launch
- ① Convocation Board Dinner
- ① Wedding Functions

## STUDENT AFFAIRS

### Scholarships and Loans

For the year 1999, the Student Affairs Division has assisted in seeking financial support for students in the form of scholarships and loans through numerous sponsors.

### Sports Activities

#### Inter-college Carries

The Inter-College Games started on 15 July 1999 and is scheduled to end by January 2000. A total of 24 field and track events are expected to be contested.

#### Open Championships

The Sports Unit has always encouraged the students sports clubs to compete in championships in and around Klang Valley. In the 1999 Half Marathon held at Shah Alam on 3 October 99, M. Ami Thevar of UPM won the Men's 21 km race. In the 10 km (ladies) event, SEA Games gold medallist, Noraseela. Mohd. Khalid, was placed seventh whilst M. Ganesan emerged the winner for the 10 km men's event.

In the Seven-a-side Jonah Jones 99 Rugby Competition held on 21 and 21 August 1999, UPM's Serdang Angels successfully defended their title for the second consecutive year. They also won in the University category for the second time. Sixteen teams including teams from Singapore participated in this championship.

#### Inter-Varsity Games (SUKMAS) 1999

For 1999, the Inter-Varsity Games were hosted by UKM from 17 November to 20 November 1999 with seven events being contested. UPM emerged the overall winner with 37 gold medals.

### Career & Counseling

In 1999, a total of 273 students received counseling services. This total is exclusive of those seeking advice on studies and careers. These figures were lower than in 1998 as many counselors were involved in activities for associations conducted by the Student Affairs Department.

In terms of students problems, (based on the Mooney Problem checklist), 81 cases were related to studies, closely followed by 62 with social problems while 50 had personal problems.

#### Group Counseling

In 1999, the Career & Counseling Unit organized four group-counseling programmes. The first such programme involved students who had previously been given warning and the counseling session was conducted by appointed officers. Three sessions were held under this programme. The second and third group sessions were conducted for volunteers who would in turn become facilitators in the 'Sayang Selasih' Programme held at Alor Cajah, Malacca. The fourth group session was conducted for 6<sup>th</sup> College students, who were planning to establish a mentor-mentee system at the college.

#### Peer Guidance Club

Courses for new members were conducted by ex-members and unit counselors. Those who have had PRS training in schools were encouraged to continue offering their services in the University. Seven activities were conducted to achieve the expected objective. These activities were divided into two categories. The first involved students

within the campus while the second involved school

### Health

A total of 62,602 students were given treatment at the Students Health Center (PKP) in 1999. Of this, 56,551 were treated at the Health Clinic and 6,091 were treated at the Dental Clinic. A total of 1,052 received treatment for road accidents.

Five main categories of treatment at the Dental Clinic were:

● Fillings	2,847 (35.77%)
● Scaling	2,138 (26.86%)
● Extraction	616 (7.74%)
● Gum Problem	456 (5.73%)
● Others	426 (5.35%)

The five major reasons as to why students came to the Health Clinic were:

● Respiratory	25,108
● Skin diseases	6,723
● Food-related problems	4,026
● Vein-related problems	3,868
● Injuries	3,807

#### Academic Consultancy and Training Unit

##### Students' Placement

For the 1999/2000 sessions, a total of 12,913 students were accommodated in twelve colleges. Table 14 shows the data for Students' Accommodation:

##### Accommodation:

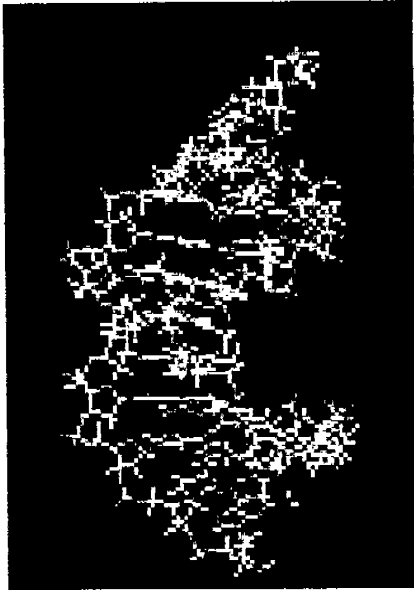
##### Student Training

From January to October 1999, this unit with the cooperation of the Guidance & Counseling Unit conducted a series of workshops and seminars. One such workshop on Academic Excellence was organized for the Faculty of Forestry and the Physics Department of the Faculty of Science and Environment. A Leadership Seminar was held at Began Lalang from 7-11 July 1999 for students.

##### Students' Information System (SMP), Student Affairs Module Division

This unit has held various discussions with the Division of Information Technology to develop the SMP and HEP module. To date, eight to nine modules have been installed whilst plans are underway to install them to computers for officers. However, the installation process has been slow due to incompatibility of computers with the system in place.

## RESEARCH



### IRPA Research

in 1999, a majority of the 444 IRPA approved ongoing research projects are expected to be completed during the 1999-2000 period. These projects entail a total allocation of RM 89,924,261 . For the year 1999, a total of 229 IRPA applications went through the first and second rounds of processing. Only 106 were approved with an allocation totaling RM13,051,700.

### Short-term Research

UPM has also been allocated RM2,132,195.00 to finance 231 short-term research projects. These projects are to be completed within a year.

### Newly Appointed Lecturer's Research Grant

In June 1999, UPM established a research scheme for new lecturers. Under this scheme a new lecturer is given a RM10,000 grant to undertake a project under the supervision of a senior lecturer or professor.

### Exhibition

UPM participated in two national exhibitions. One was the Agriculture, Horticulture and Agro tourism show (MAHA 99) in relation to IRPA R&D in Bioindustry from 26-31 August 1999 at Stadium Putra, Bukitjalil, Kuala Lumpur. This exhibition showcased new techniques in Agro industry. Three important projects were selected for the exhibition: the new corn variety - Putra J-58, a diagnostic kit for white spot disease identification in prawn, and use of black cocoa ants in the control of cocoa pests. The second exhibition was ITEX at MINES International Exhibition Center, Sunday, Besi, Kuala Lumpur from 25-26 September 1999 where new products and design for the new millennium were exhibited. En. Husaini Omar the project leader of Small Pressure meter from the Faculty Engineering was awarded Third Prize in the design category at this Exhibition.

## REGISTRY

### Human Resources Management

In 1999, a total of 75 (foreign and local) academic contract staff was appointed under the Professional Management Group. The University also appointed 37 support staff for the efficient and effective running of its activities.

### Appointments and Promotions

In 1999, a total of 324 personnel were appointed, of which 293 were in the Management and Professional Group whilst 31 others were in the Support Services Group. These appointments included permanent, temporary and contract positions, which had fallen vacant following retirements, resignations, promotions and redeployment to new posts under different service schemes.

### Resignations and management

A total of 27 staff resigned. The majority of the resignations can be attributed to job offers in other organizations and expiry of contractual dates.

Some 64 staff of the University under the pension able scheme retired. Of these 21 were in the Management and Professional group while 43 were from the Support Service group.

### Sabbatical Study Leave

Study leave to pursue Masters and Ph.D. degrees were approved for 95 staff while 28 academic staff was given sabbatical leave for 1999.

### Excellent Service

The Chairman of the Board of Directors of the University honored 179 staff with Excellent Service Awards. This yearly affair acknowledges staff that have provided excellent service to administration, education or development of the university.

### 'Jana Putra' Ceremony

The 'Jana Putra' ceremony, was held on 5 November 1999 to acknowledge staff that are retiring from service. A total of 60 staff were presented with awards and commendation certificates for their service to the university.

### 'Setia Putre' Ceremony

This ceremony was held to honor those staff that have served the university for more than 20 years. The Chancellor presented the awards and commendation certificates to a total of 1,145 staff.

## ACADEMIC REPORT FORM FACULTY/CENTRE

### FACULTY OF HUMAN ECOLOGY

#### Foreign supervisors

In February the Faculty had the honor of receiving Prof Jerelyn B. Schultz who had been invited to assess the Bachelor of Science (Human Development) programming. Meanwhile Professor Michael Bridger visited the Music Department to assess the Bachelor of Music curriculum Publications.

#### Publications

In 1999, the academic staff published several books for the local market particularly in the areas of Family & Child Development, consumerism, community development and Music. The Faculty has also succeeded in publishing four articles in journals, three books and nine proceedings.

#### Activities

In line with its mission of achieving excellence in education, the Faculty with the support of the Departments, successfully organized various activities to enhance spirit de corps amongst faculty members:

- The University (conservatoire (Choir (Concert organized by the Music Department.
- 'Discussion on Consumers from the Islamic Perspective' . The Department of Resource Management and Consumer Studies invited Prof. Dr. Sved Othman Al. Habshi to chair the discussion.
- JASA 1 Workshop organized by the Department of Human Development and Family studies. Held at the Conference Room of the Faculty, it succeeded in attracting parents of UPM staff.
- Solo Concert by Freshies organised by the Music Department and held at the Experimental Theatre.
- Workshop on Pro-school Children's Development. Organised by the Department of Human Development and Family Studies, it was held at Ecology Building 2.
- Faculty 1998 Quality Day.
- Inaugural Concert by the National Symphony Orchestra. Organised by the Music Department, it was held at the National Cultural Complex.
- Seminar on IQ EQ well being amongst students. Organised by the Human Development and Family Studies Department, it was held at the Conference Room.
- Seminar on Special Children. Organised by the Human Development and Family Studies Department, it was held at the

#### Faculty Conference Room.

- Chamber Music Concert. Organised by the Music Department, it was held at Experimental Theatre UPM.
- Workshop on Excellence in Youth'. Organised by the Human Development and Family Studies Department, at SMK Section 9, Shah Alam.
- A one-day seminar on Social Work Education. Organised by the Social Science and Development Department, at VIP Room, IDEAL.
- Seminar on 'The Third Country Training Program in Malaysia 1999'. Organised by the Faculty with JICA & RSC-AP cooperation. 16 participants from Bhutan, Fiji, Micronesia, Mongolia, Papua, New Guinea., Tongo and Malaysia attended.
- SKT/SSB Workshop for Support Services Group. Organised by the Faculty, it was held at NIOS, Bangi.
- A one-day workshop on ISO 9000. Organised by the Faculty, it was held at the Faculty (conference Room.
- Workshop on Guide and Application Procedures: IRPA Research Grant. Organised by the Faculty to familiarize academic staff with application procedures for research grant under IRPA, it was held at the Faculty Conference hall.

#### Performance

In 1999, two Departments in the Faculty had a name change. The Department of Family Studies was renamed Human Development and Family Studies Department (JPMPK) while the Social Studies Department was renamed Department of social science and Development (JSKP).

The Faculty recruited two additional lecturers (one for IPMPK and one for JPSPP) and 7 tutors (two for JPMPK, three for JPSPP, and two for JPMPK). Two contract lecturers were appointed to serve with the Music Department. En. Zaid Ahmad, En. Mohd. Shatar Sabra and Puan Norbaya Ahmad completed their Ph.D, whilst 2 lecturers from JPSPP have gone on sabbatical leave.

For the 23<sup>th</sup> Convocation Ceremony, the Faculty succeeded in graduating 3 at Masters level, 619 with Bachelors in Human Development and 361 with Diploma in Human Development.

Assoc. Prof. Abdulah Al-Hadi took on the deanship from Assoc. Prof. Dr. Halimah Hj. Ahmad on 6 October 1999.

### FACULTY OF ECONOMICS AND MANAGEMENT(FEP)



#### Programmers Offered

The Faculty offers four programmers at Bachelor's level, and two programmers each at Masters and Ph.D level. Of the 172 courses offered by the Faculty, two are new. The number of students enrolled as of 1999 is 4,796. In 1999, two lecturers retired while two contract professors, 4 lecturers, 10 tutors and 3 contract assistant administrators were appointed. One associate professor moved to another university. Another lecturer and 12 tutors took study leave to pursue their Masters and Ph.D.

#### Research and Activities

In 1999, FEP undertook 46 research projects. Of this, three projects were financed by IRPA, and 43 other projects were financed by UPM's short-term project fund. In terms of publications, FEP successfully published 9 books, 28 journal articles and 28 conference/seminar papers. A further 22 working papers were presented at workshops, seminars and colloquiums.

FEP has appointed Prof. Robert W. Scapens from the University of Manchester, England as the external examiner for the Bachelor's of Finance programme. The following seminars were organized by FEP:

- Malaysian Economy and Management into the Next Millennium at (Century Hotel Mahkota, Malacca, 15- 17 October 1999.

- Repositioning the Agricultural Industry in the next Millennium. IDEAE UPM, 1.3-14 July, 1999.
- Workshop on Research Methodology, Mint Hotel, Seri Kemba.ngan, 27-29 November, 1999.
- international Real Estate Society Conference '99, Kuala Lumpur, 26-31 January 1999.

FEP provided the following consultancy services:

- Development Plan for Tourism Sector in Cameron Highlands, Pahang Darul Makmur. Consultancy report for the District. Council, Cameron Highlands, Pahang, June 1999
- Strategic Plan for the State of Kelantan Tourism Sector, Kelantan State Unit, September 1999.

Tourism Development of the Head Hunters Trail, Mulu National Park, Ministry of Tourism, Sarawak, December 1999.

## FACULTY OF ENGINEERING

New Complex

Phase I of the new RM26.1M Engineering and Technology Complex, has been completed. A number of new laboratories, academic and



administration buildings are expected to be completed by the end of 2000. Phase I consisting of 8 new laboratories have been in use since December, 1999. Meanwhile Phase II of the complex costing RM160 million to meet the academic and administrative needs is expected to be "ready for use by the end of 2002.

#### Programmers Offered

Due to the high demand for engineering courses, the annual intake of students in the Faculty has seen a steady rise. For 1999, the intake of students is shown in Table 24.

The Senate approved the Diploma in Engineering (Emergency & Safety) in October 1999. This course is being offered by the Biology & Agriculture Department for the May 2000 semester. It is also been offered as a franchised course by private institutions for higher learning.

To facilitate curriculum evaluation, a Faculty Advisory Committee has been established. This committee consists of engineers drawn from the corporate and private sectors. Eight professors from various universities have been appointed as external examiners. This is to ascertain that the academic programmers offered at UPM are on par with engineering courses offered throughout the world.

#### Research and Actives

In 1999, 83 research projects with a total allocation of RM19.4 million have been conducted by the Faculty staff. Faculty members have published 7 textbooks, 85 journal articles and have been involved in the publication of 3 encyclopedias. A further 175 working papers have been presented at workshops, seminars and conferences.

Among the activities organised by the Faculty are:

- World Engineering Congress and Exhibition 1999, 19-22 July 1999, Hotel

#### Sheraton, Subangjaya, Selangor

- A short Course on Pavement Materials Testing for Petronas.
- Seminar on Engineering Smart Farming for the Next Millennium
- Visit by the Board of Engineers of Malaysia/BEM
- Seminar Malaysian international Conference on Communication 99/International Symposium on Courser Electronics

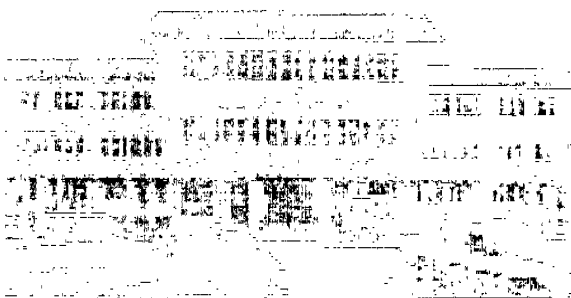
By late 1999, the Faculty had established four Centres of Excellence:

- Housing Research Centre (HRC)
- Waste Technology Centre (WTC)
- Safety Research Centre (RSRC)
- Mountainous Terrain Development Research Centre (MTDRC)

Mountainous Terrain Development Research Centre (MTD-RC) lecturers were involved in a research project that won an award. This group of researchers were successful in designing the Small-Pressure meter (S-P). Its function is to measure pressure and strength of rocks. The S-P is user friendly and has vast potential for commercial use.

Five lecturers from the Faculty have been promoted to Associate Professors.

## FACULTY OF EDUCATIONAL STUDIES(FPP)



### Programmers Offered

For the year 1999, the Faculty of Educational Studies offered a new Diploma Programmer in Youth in Development Works. Students from the Commonwealth countries can apply to join this course.

Thirty-four Short Term Research Projects have been completed while seven applications for IRPA grants have been forwarded. In 1998, the Faculty was awarded a research grant of RM67,000 by the Ministry of Youth.

FPP has appointed two external examiners. Prof. Leirry E. Miller (Professor at the Ohio State University, and a Fellow of the American Association of Agricultural Educators) were responsible for evaluating the Bachelor of Education (Agricultural Education) programmer while Prof. Bruce L. Howe (Professor of Physical Education and Dean of Faculty of Education, University of Victoria, (Canada) evaluated the Bachelor of Education (Physical Education) programmer.

Assoc. Prof. Dr. Othman Dato'Hj, Mohamed, a faculty staff was awarded the International Award for Counseling by the Association of Counselor Education and Supervision (ACES).

### Research and Actives

Some of the activities conducted by FPP include:

- Best Graduate Award for FPP 1998/99
- 23<sup>th</sup> Convocation Festival-22 August 1999
- Best Stall Award

- 'Q' Day FPP 1999
- Faculty 'Keceriaan' Day
- FPP Excellent Service Award 1999
- Launching (Ceremony of Bulletin 'WADAH' Course conducted under the auspices of PUSPA
- Teaching Technique (Course for 45 lecturers from the Engineering Faculty, UPM
- Teaching Technique Course for 50 lecturers from the Maritime Academy Malaysia
- Teaching Technique (Course for 45 lecturers from University Technology Petronas
- Teaching Technique Course for 30 lecturers from the Faculty of Design & Architecture, UPM

Nine academic staff from the Department of Professional and Community Services, rendered their services to various government and private institutions, both locally and overseas.

## FACULTY OF FORESTRY

Faculty has planned a number of new programmes which will be offered in the year 2000 and onwards. The programmes are the Bachelor of Wood Science and Technology, Bachelor of Recreational Management and Ecotourism, Bachelor of Forest Science with various options as well as the Master of Science (Recreation and Ecotourism).

The Faculty has successfully carried out a number of activities throughout 1999:

- Seminar on Management & Ecology of Forest Reserve in Ayer Hitam, Puchong, Selangor
- Seminar on Machining of Rubber Wood
- Seminar on Oriented Strand Board (OSB)
- Honouring the Excellence Service winners of the Faculty (1998)
- National Science & Nature Quiz Competition 1999
- Essay Competition 1999

Faculty members have published 51 articles in various categories of publications. Of this 29 were in journals while 6 were published by the University Press. Academic staff presented papers at 102 conferences locally and internationally. Thirty-four research projects have been carried out by the Faculty.

The Faculty has appointed Prof. Dr. Frederick W. Cubage from the Forestry Department, University North Carolina State, as the external examiner. Five consultancy service reports have been prepared for private and government agencies. Two such consultancy reports are A Management Plan for Kedah and Bakau Forest Pian, Merbok, Kedah.

## FACULTY OF AGRICULTURE

### Restructuring

The restructuring exercise in 1998 resulted in the Faculty having six Departments in 1999:

- Department of Veterinary Science
- Department of Plant Science
- Department of Soil Science
- Department of Agribusiness and IT
- Department of Agribusiness Technology

### Publications and Courses

Publications include books, working papers and articles in journals and proceedings.

Among the activities conducted by the Faculty are:

- Seminar on Repositioning of Agriculture in the Next Millennium
- Quality Study on White Pepper in Sarawak
- Economic Study on Sago Production in Sarawak
- Field Machine Changes in Perils Plantation
- Study on Mechanization of Palm Oil Harvesting
- Consultancy service by Department of Plant Protection for Lembaga Pendidikan Perkebunan (LPP), Indonesia
- AGEX, Kuala Lumpur, 26-31 August 1999
- International workshop on Bioencapsulated Food for Larval Fish

### Courses conducted by the Faculty:

- Short-term course on Project Planning & Evaluation
- Course on Animal Waste Management in the Humid Tropics, Ministry of Science & Environment
- Course on Estimation of Rumen Microbial Yield Using Purine Derivative Techniques,

### Ministry of Science & Environment

- Course on Specialist for in Horticulture
- Hydroponic Project UNDP-MALDIVE
- Visit to Maldives, 4-19 April 1999

Eight. Faculty members received various categories of awards such as the Excellence Service Award, "Pingat Jasa Kebakti" (PJK) and "Kesatria, Mangku Negara" (KMN).

## FACULTY OF MEDICINE AND HEALTH SCIENCE

### Development

In 1999, the Faculty was restructured to consist of seven departments:

- Department of Biomedical Science
- Department of Nutrition and Health Science
- Department of Medicine
- Department of Surgery
- Department of Human Growth and Development
- Department of clinical Science Laboratories
- Department of Community Health

- Assoc. Prof. Dr. Sabariah Abdul Rahman
- Assoc. Prof. Dr. Zarida Hambali
- Dr. Hairuszah Ithnin

Three departments, that is the Department of Medicine, Department of Surgery, and Department of Human Growth and Development are located at Grand Season Avenue, jalan Pahang, Kuala Lumpur.

The pioneer batch of graduates with a Bachelors in Science (Medical) received their scrolls at the 1999 Convocation. Currently they are pursuing the first of the subsequent two-year programmer in order to obtain their MBBS degrees.

**For 1999, the Faculty carried out 86 research projects and succeeded in publishing 140 publications, which include articles in journals and magazines and working papers.**

### Examiners and Awards

To ensure excellence in teaching and learning, the Faculty has appointed several external examiners. Among them are Prof. T. G. Baker from University of Bradford, Prof. Donald K. Laynian from the University of Illinois and Prof. Rahman from the International Medical College, Malaysia (IMC).

Four academics staff have been appointed members of the Medical Academy. They are:

- Prof. Dr. Leslie C.Lai

## FACULTY OF VETERINARY MEDICINE

### Development

In 1999, the Faculty made breakthroughs in the following research areas:

- Pathogenesis and control of pneumonic pasteurellosis in sheep and goats.
- Cross breeding and upgrading of local indigenous horses for size and performance. A food formula was experimented on indigenous horses using local agricultural waste.
- Commercial utilization of palm kernel cake in an intensive production system of ruminants project. A study on the problem of sheep jaundice resulting from the usage of PKC as feed.
- Pathogenicity and immunization of infectious bursal disease In poultry project A penicillin virus IBD was identified as a vaccine strain.

### Publications

In terms of publications, the faculty has published 20 articles in international and local journals, and have presented 35 working papers at local conferences.

Among the activities conducted throughout the year were seminars on Recent Advances in Animal Health and Production, Management of White Spot Syndrome, Nutrition for Pet Animals Series II, Nipah Virus Disease, Avian Tumour Disease, and White Spot Disease; workshops on Anaesthetic Management of Compromised Patients, and Basic

Radiography and Radiology of the Urinary System and a public lecture by Tan Sri Omar Abd. Rahman, the Science Advisor to the Prime Minister, was organized for Faculty members.

Two Faculty members were awarded the Pingat Perkhidmatan Cemedang (PPC) by DYMM Sultan Selangor, while another member received the Pingat Kelakuan Terpuji (PKT) by TYT Yang DiPertua Negeri Pulau Pinang.

In 1999, a library and ICT laboratory was established for the Faculty. Efforts have been on going towards ISO) 9001 certification. On September 6,, 1999, the Faculty was successful in obtaining an 'adequacy audit'. The next step will be to complete certification of ISO 9001 in March 2000.

# FACULTY OF DESIGN AND ARCHITECTURE

## Development

The Faculty was established on 26 June 1996. Initially four Departments were planned but currently two are in operation. These are the Department of Landscape Architecture and Department of Architecture.

The Faculty has 69 academic staff, and plans are underway to recruit new staff in fields such as Industrial Design, Urban Design and Multimedia Design. The graduate and post-graduate student population has been increasing and in 1999 it was 28.

The Faculty has been allocated RM10.3 M by the government to build the Faculty complex housing studio rooms, laboratories, administrative rooms and lecturers' rooms. These buildings are expected to be completed by year 2000.

## Programmers, Research and Publications

A new programmer, the Bachelor of Design (Architecture) has been approved by the Ministry of Education and will be offered in the May 2000 semester. A new programmer, Diploma in Landscape Management has been approved by the Board of Directors of UPM but its implementation has been delayed in order to allow the UPM's management team to develop a mechanism for a more stream-lined Diploma programmer in UPM. Of the four research projects carried out by the Faculty, two are IRPA funded while two others are by UPM short-term allocations. The total amount allocated to these research projects is RM456,620.00.

In terms of publications, Faculty members have published 10 articles. Fourteen Landscape courses

have been conducted by the Professional Training Centre while eight other courses have been conducted by the University Garden Centre of the Faculty.

## Activities

The activities sponsored by the Faculty were:

- Jati Diri ii! Expedition at Youth Camp Perak. 12-16 July 1999
- Faculty Open Day 1999
- Design Week 99

**The Faculty has also rendered Consultancy & Advisory services on landscaping both to departments at UPM and to external agencies. The National Sports Council of Malaysia is one agency, which has received such services.**

## FACULTY OF COMPUTER SCIENCE AND INFORMATION TECHNOLOGY

### Development

A Faculty member was bestowed the 'Fellowship of British Council Commonwealth' for the year 1999/2000.

The Faculty was selected to receive a Mauritius student for the Bachelor of Computer Science programmer for the May 1999-2000 session. This is a government exchange programmer, which gives recognition to the programmers offered by UPM.

The Faculty also accepted five students sponsored by National Sports (council to pursue the Diploma in Computer Science.

### Research , Publications and Activities

An IRPA grant of RM203,000 has been approved for the research project entitled 'Strategic Information System Planning Practices in Malaysia'. Seven other short-term research projects with a total allocation of RM73,972.00 have been approved.

In terms of publications, ten articles have been published-nine in journals and one in a proceedings

Among the activities organised by the Faculty are:

- Workshop on Teaching Methods for Diploma/Bachelor of Computer Science Programmer for academic staff of franchised colleges at College IKRAM, 10-14 May 1999.

- INTEC '99 Seminar. 18 May 1999

- A one-day workshop on ISO 9000. Organised by the Faculty in collaboration with the Corporate Planning Unit of UPM, it was held at Mutiara Budi Room, Administration Building.

- Workshop on Teaching & Research for Academic Staff, Equatorial Hotel, Bangi, 6 October 1999.

- Staff visit to MTDC Incubation Centre, 15 October 1999.



## FACULTY OF FOOD SCIENCE AND BIOTECHNOLOGY

### Development

This Faculty consists of three Departments - Department of Food Science, Department of Food Technology and Department of Biotechnology. These departments offer Bachelor of Science and Food Technology, Bachelor of Science (Food Science), and Bachelor of Science (Biotechnology). The Faculty offers 3 graduate programmes, namely Food Science, Food Technology and Biotechnology. In 1999, the faculty staff consisted of 39 lecturers and two tutors of which 83% were Ph.D holders. Of these, seven are professors and ten are Associate Professors. In 1999, two lecturers retired and three new lecturers have been appointed. The Faculty has 45 Support Service staff.

### Research and Publications

Apart from teaching, lecturers are also involved in research activities. The Faculty obtained 42 IRPA research grants amounting to RM678,460.00. For 1999, Faculty staff were involved in 72 research projects. From the research activities carried out, 276 publications have been published.

The MOU with UPM-JICA on Aftercare Technical Cooperation Programme for the Development of the

Department of Biotechnology, was signed on 18 March 1999 for a 2-year period. This Japanese aid programme is a continuation of the first 5-year period of cooperation from 1991-1995. The objective of the programme is to provide technical assistance in research activities in biotechnology. An estimated RM900,000.00 has been allocated to purchase research equipment and eight academic staff will be sent to Japan for training in the fields of Enzyme Fermentation and Bio-process/Biochemical Engineering. Eight Japanese experts will also be stationed at the Department of Biotechnology to carry out research in several biotechnology fields.

### Activities

Among the activities the faculty was involved in are:

- Visit by 23 schools from all over Malaysia.
- Visit by Dr. Francois Group and Dr. Didier Monett from Ensia-Siarc, Montpellier, France
- Signing of Memorandum of Understanding with
  - University of Mauritius, Reduit, Mauritius on 'Staff & Student exchange' programme
  - KFC Holding Ltd. which will assist in designing the curriculum in the Diploma in Food Service/Restaurant Management Programme.
  - Integrated HOS (M) Ltd. Co. in providing Hotel Software Programme BS (PMK)
- Faculty Prize Giving Ceremony
- New Product Introduction Day
- One day Seminar on Food & Beverage industry Towards the New Millennium: Quality, Global Trade & Funding sponsored jointly by FSMB & the Malaysian Institute of Quality Assurance Ltd.
- Molecular tools for Biotechnology - A training course on isolation and screening of microbe's for useful materials.
- One-day course on processing yellow mee & hard soya cake.
- Foundation Bakery Course (participants were from MEDEC, ITM)
- Course in processing chilly sauce & yellow mee (participants were from PEKIMA)

Dr. Hil'zun Mohd. Yusof was awarded the Malaysian 1999 Toray Science Foundation Research Grant.

## FACULTY OF SCIENCE AND ENVIRONMENTAL STUDIES

### Development

in 1999, three academic staff were promoted to Professors and five others to Associate Professors. The Faculty has prepared working papers to offer a new Structure C postgraduate programme. The restructuring of programmes from 120 to 200 credits is being carried out by the Faculty.

Prof. Date) Dr. Sham bin Mohd. San I from UKM has been appointed as the external examiner for the Bachelor of Science (Environment) programme. Prof. Dr. Nor Muhammad Mahadi from UKM has been appointed the external examiner for the Bachelor of Science (Honors) (Microbiology Major) programme.

### Appointments

- Prof. Dr. Wan Md. Zin Wan Yunus was appointed the Dean to replace Prof. Dr. Muhamad Awang who was promoted to Deputy Vice (chancellor (Development).
- Assoc. Prof. Dr. Abdul Halim Shaari replaced Assoc. Prof. Dr. Kaida. Khalid as the Deputy Dean (Research).
- Assoc. Prof. Dr. Johari Rarnii replaced Assoc. Prof. Dr. Nor Aripin Shamaan the Head of the Department of Biochemical & Microbiology. Assoc. Prof. Dr. Hj. W. Mahmood Mat. Yunus, Head of Physics Department was awarded the Japan Society for the Promotion of Science (JSPS) Award.

### Publications and Research

There has been a rapid increase in publications from the 1998 figures of 9.5 journal articles and 5 books to 526 publications of which 139 were journal articles, 187 were papers in proceedings, 145 were working papers, 18 books, 13 reports and 11 were articles in magazines.

Several agencies have established research linkages with the Faculty. These are the Centre for International Forestry-Research (CIFOR), Drainage & Irrigation Department (JPS), DANCED, UNEP, British Council, Institute for Strategic and International Studies (ISIS) National Institute of Materials and Chemical Research, Japan, ICTP, Italy, PORIM, National Cocoa Board, National Antiquity and Museum Department, Petronas, ESSO, University Kagoshima, Chiba Natural

History Museum and Institute, Japan, Fishery Institute Malaysia, FRIM, MIT (USA), JSPS, ICME and AMREC.

### Activities and Important Events

Various activities were carried out by the Faculty for 1999:

- Family Day, Department of Physics
- Quarter Century Reunion - Department of Biochemical and Microbiology (REUNION 2)
- Science Awareness Programme for Teachers
- International (conference on the Straits of Malacca
- Science Intellect Day
- Science Encouragement Programme & Exhibition for Kelantan State
- Workshop on Direction of Science at IPTA
- IRPA Workshop on the Environmental Sector
- Workshop on Design Trials
- Workshop on Interactive Time Series Modelling and Forecasting

### Visitors

- Ms Linda Pennells, CIDA (Canadian International Development Agency)
- Dr. Yasunari Matsuno, National Institute for Resources and Environment (NIRE) of Japan
- Mr. Kenichi Murata., Konica. Company's Environmental Safety Department
- Mr. Hiroshi Onishi, Matsushita Company
- Mr. Hitoshi Koyama., MITI's International Research and Development Cooperation Division of Japan
- Prof. Brian Collins, Dean of Faculty of Science, Curtin University, Perth, Australia
- Assoc. Prof. Dr. Nozomu Iwasaki, USA Marine Environmental Studies, Ehime University, Nakajima, Japan
- Dr. Kenji Soda, Kansai University Japan
- Prof. Waheed Akhtar, Institute of Biochemistry and Biotechnology, University of Punjab
- Dr. Andrian Elliot, CSIRO Canberra, Australia
- Ali El-Tahir Sharut el-Din, Sudan Institute of Natural Science, Khartoum
- Jamshid Amighian, Physics Department, Isfahan University, Isfahan, Iran
- Prof. Silivio Dotrini, Scientific, Embassy of the Republic of Italy

## **MALAYSIAN GRADUATE SCHOOL OF MANAGEMENT(MGSM)**

### **Development**

MGSM was established in May 1997 following an MOU between TRI group of companies Technology Resource Industries Ltd., Malaysian Airlines Ltd., Cellular (communications Network Ltd. (Celcom) and Helicopter Services Ltd. (Naluri Ltd.) and LJPM. MGSM's prime objective is to provide postgraduate courses and other-related training programmers in Business Management.

In collaboration with the Faculty of Economics and Management, MGSM was able to offer various programmers for postgraduate studies as well as executive development programmers such as the Masters in Business Administration (MBA), Masters in Science, Masters in Management and PhDs. Student intake for 1999 was 500.

### **Publications and Consultancy**

MGSM staff have published 1.2 articles in journals, 5 books and have presented 18 seminar papers. MGSM has provided the too! lowing consultancy service:

- A Facility Study of a Medium Density Fiber Board Plant Utilizing Oil Palm Fiber for Josher Corporation
- Strategic Development Plan for Kelantan (Business Sector)
- Marketing of Classified Fruit Juice, IRPA, MPKSN 1999/ 2000
- Marketing of Fish in Malaysia, 1998-1999 for MIER

## **MATRICULATION STUDIES CENTRE(PPM)**

### **Development**

For the May 99/2000 session, PPM offered several programmes to 1,375 students as shown in Table 29. Students selected for the matriculation programmes were housed at the main campus at Serdang and MARA College, Kulim

### **Activities**

To coordinate and monitor the matriculation programmes the following steps were taken:

- A briefing on coordination among the various campuses at the beginning of the session
- Teaching modules for each programme were prepared in the main campus and all branch campuses were required to use the modules
- A Matriculation Examinations Committee was established to conduct centralized examinations
- Supervisors visited the various campuses regularly during the semester

Two workshops were organised by PPM:

- Workshop on (Question Setting for Physics)
- Methodology Workshop on Question Setting

## EXTERNAL PROGRAMMES CENTRE(PPL)

### Development

This center was established in May 1997 and tasked with planning policies, coordinating and supervising franchised programmes between UPM and private institutions of higher learning particularly Private Institutes of Higher Learning (IPTS) and foreign institutes. PPL's aim is to offer as many academic programmes as possible at the premises of the

franchised colleges. This has allowed for an increasing number of students to pursue programmes offered by UPM despite the limiting capacity of the UPM campus.

### Programmers

For the May 1999 semester, the following Bachelor and Diploma programmes were offered in collaboration with the of IPTS:

- Bachelor of Education (PBMP)
- Bachelor of Education (Teaching of English as Second Language - TESL)
- Bachelor of Education (Guidance & Counseling -B&K)
- Bachelor of Education (Physical Education)
- Bachelor of Education (Agricultural Science)
- Bachelor of Education (Home Science)
- Bachelor of Business Administration
- Bachelor of Engineering ( Civic 1 )
- Bachelor of Engineering (Electric & Electronics)
- Bachelor of Engineering (Chemical)
- Bachelor of Engineering (Mechanical)
- Bachelor of Engineering (Computer System & Communication)
- Bachelor of Arts
- Bachelor of Computer Science
- Diploma in (computer Science)
- Diploma in Human Development
- Diploma in Agribusiness
- Diploma in Forestry

- Diploma in Agriculture
- Diploma in Civil Engineering
- Diploma in Electronic Engineering
- Diploma in Mechanical Engineering
- Diploma in Multimedia "fee line logy Engineering

To date 30 IPTS are involved in conducting one or more of the programmes and have a total enrolment of 7,606 students. Beginning November 1999, IPTS began offering a new programme, the Diploma, in Business Management. An initial batch of 732 students have convicted from these external programmes.

### Quality Control

Among the quality control measures taken by PPL to ascertain that standards are met and that the quality of the programme is akin to those on campus are:

- IPTS adhere to the minimum standards set by the National Accreditation Board (LAN)
- Use of the on-campus curriculum and evaluation system
- Centralized examination questions setting at the main campus for use by the franchised colleges
- Supervision of the testing standards and course work on a regular basis
- Appointment of a coordinator for to supervise implementation of programmes at each IPTS
- The establishment of an External Programme Unit by each faculty to supervise the courses offered
- Annual Quality Audit conducted by the Committee for Academic (Quality Control UPM (JUMPA), an independent body set up by the Senate
- Regular training for teaching staff and administrators of IPTS

## SUPPORT SERVICES THE BIOSCINECE INSTITUTE

### Development

Since its inception in mid-1996, the Bioscience Institute has seen rapid growth. The primary role of the Institute is to further develop postgraduate research and training in biology and high-tech fields. Thus R&D has seen a focus on food production and enhancing the health status of Malaysians. The research conducted at the Institute is multidiscipline-

nary, strategic and top-down. Thirteen centers and laboratories have been built in the Bioscience Institute to facilitate research on improving the economy and living standards.

- Plants Genetic Resources Centre
- Analytical & Basic Products Centre
- Precision Agriculture and Remote Sensing Bioresearch Centre
- Cancer Research Centre
- Drug Discovery Centre
- Aquatic Resource Technology Centre
- Digestive Microbiology Laboratory
- Molecular Biology Laboratory
- Canoe Centre
- Fermentation Technology Centre
- Biocompatible Technology Centre
- Microscopic Electron and Image System Centre

### Research Facilities

The newly established Fermentation Technology Centre is located temporarily at Putra Info port awaiting completion of the R&D Complex. This Centre is given priority as 20 research breakthroughs are ready for scale-up and commercialization. An allocation of RM'7.7 M has been obtained to purchase bioreactors for research. This Centre is expected to expedite the process of commercial- insertion of innovative research products and assist in the development of the biotechnology industry in the country.

Two other research facilities (it the Bioscience Institutes die the Genome Centre and Microscopic Electron and Image System Centre. DNA identification is another facility that is already available at the Institute. The taking over of the Sequencer equipment is already generating income

and has allowed for the appointment of a Contract Researcher at the Genome Centre. The addition of another sequencer and a DNA micro array equipment is expected to result in cutting-edge research at UPM.

The Centre has been able to provide Electron Microscopic services both to researchers and postgraduate students from UPM and research institutions in the vicinity. The Centre is also involved in various research projects including those on material science. The various courses and workshops on Electron Microscope & Co focal organised by the Centre has contributed towards training scientists and students in this field.

### DEVELOPMENT DIVISION

This Division is responsible for physical infrastructure development and maintenance of the University campus. Under the Seventh Malaysia Plan (1996-2000), the Division has so far received RM141 million.

Utilizing funds from various sources such as RMK7,

Investment Fund, 'One-off' allocations and other, the Division has undertaken several projects:

#### Completed Projects

- The 10<sup>th</sup> & 11<sup>th</sup> Residential Colleges
- Upgrading of the water supply system in the campus
- Upgrading of Alpha Road (Residential colleges)
- Cafeteria Building at Terengganu Campus
- Additional building for UPMT Library
- Clinical Centre for the Faculty of Medicine and Health Science at Kajang F-lospital
- Car park for the Putra Lecture Hall Complex
- Upgrading of Residential Colleges
- Installation of air-conditioners at Faculties, Centres and Student Athletes' Flostel, MSN

#### Projects Underway

- The UPMT Faculty of Applied Science and Technology Building
- UPM's Mini Stadium (Multipurpose Hall, Synthetic Track and Football Field)
- Engineering and Technology Complex

- Central Academic Complex
- Faculty of Computer Science and IT Building
- Science and Computer Laboratories at UPMT
- Upgrading to lalan Asam Jawa and Jalan Masjid at Sri Serdang
- Renovations to the Faculty of Science and Environmental Studies
- Annex to the Faculty of Economics and Management
- Lecture Flail for the Faculty of Educational Studies
- A building for the University Press
- Toilets and Changing Rooms in the University Mosque
- Installation of street lights in the campus

**Projects Tendered/Documented**

- Social Science Complex
- Additional building for Faculty of Medicine & Health Science
- Student Affairs Complex
- Research & Development Centre Building
- Premises for the Faculty of Design & Architecture
- Waterproofing the roof of UPM's Mosque

**Projects at Planning Stage**

- Upgrading and installation of cable & electricity supply equipment for the campus
- Upgrading of the zoning system of the hostels
- Upgrading the main drainage system
- Upgrading the Pongamia & Tulang Dewing Roads
- Upgrading the Silicon Valley and Information Roads
- Construction of a new road connecting South Zone

## LIBRARY

The Library is progressing towards being an Electronic Library. On line subscription to databases and journals through Internet has increased recently and now includes Dissertation Abstract Ehscohost on the World Wide Web, Institute of Physics Electronic journals, journal of the American Physiological Society. LINK Information Service (Springer Online Journals) , Oxford journals, Proquest Medical Library, Science of Soils , and Wiley Journals Online. All these database and electronics journals are accessible directly through the Library Website. Users can also have tree access, through the internet, to various databases and electronic journals directly through the Library website such as the Free Online Journals/Magazines/ Newsletters and Indexes and Abstracts. The Library Website is linked to various other foreign and local websites as a means of enhancing information retrieval electronically. The Library has also embarked on digitalising information with the thesis as the pilot project.

Another faculty library was established in November 1999 when the Faculty of Veterinary Medicine established its own library. A senior Librarian manages the collections and service.

### **Growth in Collection**

The journal and book collections total 375,487, while the AVA totals 61,970 units. The library subscribes to about 158 new journals and 17,163 journals currently while 348 journals have been discontinued. This is because these journals are now available on-line.

The Library at the Faculty of Medical Science has a collection of 8,091 books while the Library at the Faculty of Veterinary Medicine has 1,640 books.

### **Loan Service**

A total of 470,701 books and journals were on loan while for AVA, the figures were 106,656 units and 12,408 for equipment. Library memberships has increased by 12%, from 40,786 to 45,768 in 1999. Number of library visits was 989,666.

### **Electronic Database**

The Electronic Database has been established using the MINISIS software. This database has expanded to include 8,700 records. As of November 1999, the total number of records for each database is as follows: AGRIMAL (20,752), MAKMAL (48,879), MUWIC (5,104), FAMILY (3,229), HOUSING (3,503), SMI (1,386). All these database can be

accessed by Upgraded Internet MINISIS to a client/user system resulting in a universal website programme for MINISIS.

Apart from the internal electronic database, other databases such as the CD-ROM (20,694) and local area network such as NSTP online, PALMOILIS and SIRIM LINK saw increased frequency in usage.

### **User Education Programme**

The Library's orientation programme is organised each year for the Diploma, Bachelor and Matriculation students for the May/November sessions; 106 such sessions were organised. A similar programme for IDEAL students (12 sessions.) and postgraduate students (6 such sessions) was organised.

The yearly orientation programme was also organised for the regular students. This sessions totaled 119 for 2000 students. The aim to this programme is to equip users with search skills for both the print and electronic media.

A similar course for students from the franchised college of Perdana Education College was organised on 23 March 2000 and for students of the 2 + 1 twinning programme of nine colleges, it was held from 5-6 April 2000. The institutes involved in this programme were Cybernetics Technology Institute", International City Institute of Technology, IKRAM College, Perdana Education College, Prime College, College SAL, UNITEK College, Malacca Inundation College, Technology and Continual Management Centre.



## **UNIVERSITY BUSINESS DEVELOPMENT CENTRE (UBC)**

### **Business Development Unit**

The function of this Unit is to identify business opportunities for the University, prepare business plans to commercialize projects and promote business opportunities. The activities carried out by this unit were:

### **Construction of a Students Hostel in UPM campus**

In 1999, UBC assisted the Development Division of UPM in supervising the construction of Phase I of the hostel by Strategic Crest Co. Ltd. The construction of Phase II of the hostel blocks has been suspended following a review of the actual need for accommodation in view of the ASEAN Games in 2006.

### **Food Catering Services**

Desasiswa Catering Services Ltd. began its catering service in 1999. This is a joint-venture company between UPM and Dewina Food Services Co. Ltd. (DES). UBC has been involved in this business venture.

### **Souvenirs Portraying UPM Logo**

UBC has been negotiating with interested companies to franchise the use of our logo in marketable products for which the University would be paid a royalty. There have been no takers for this project.

### **Hydroponics Project at Gentling Highlands**

UBC is also UPM's representative in all negotiations regarding the Gentling Highlands Hydroponics project. UPM has agreed to renew its collaborations with Monoluxury Sdn. Bhd for 5 years, beginning 1 April, 1999, based on the following conditions:

- The University is given a 7.5% royalty on all estimated annual sales per annum.
- Monoluxury would undertake the upgrading and repair of the entire area including areas affected by landslides.
- To defray the cost of the RM200,000 renovation, the initial royalty would be 3%. This would be increased to 7.5% subsequently.

Monoluxury Co. Ltd. has principally agreed to the above conditions. However, Monoluxury has requested that the period be extended from 5 to 7 years in view of the high cost of upgrading and

repair, which amounts to about RM200,000 including maintenance throughout the period of agreement.

### **Other activities**

- Renting of business premises to individuals, companies or organizations which are interested in undertaking businesses. Rentals are based on the number of hours a particular premise is occupied.
- UBC is also involved in negotiating rates for advertisement placing in the Campus. The rates would be calculated on an hourly basis.

## **Commercialization of Technology Unit**

In 1999, this Unit carried out two important activities:

### **Commercialization Research Products of UPM**

The Unit assisted in identifying individuals or companies interested in commercializing research products of UPM.

### **Exhibition**

With the cooperation of the Research Unit of UPM, the Unit jointly organised the ITEX 99 Exhibition from 23-26 September at The MINES, Seri Kembangan.

### **Consultation Unit**

This unit coordinates all consultancy activities to UPM. In identifying consultancy opportunities, it provides (in opportunity for academic staff to promote their

To act as an intermediary body for consultancy activities between UPM and external bodies and to serve' as a one-stop center for all questions relating to consultancy.

- To identify and seek new consultancy projects either personal contacts.
- To arrange meetings with other agencies and to identify specialists for each consultancy project.
- To take part in negotiations so as to ensure the interests of UPM are protected.
- To monitor progress of projects and to take remedial action to safeguard the image of UPM.
- Provide assistance in costing a project to ensure commensurate services for consultancy services.
- To supervise and prepare project agreements to protect the interests of both parties.

To monitor accounts and financial aspects of projects including claims and payments.

### **Training Unit**

All activities under this Unit have been suspended while a new statute on training is introduced.

## UNIVERSITY RESEARCH PARK (URP)

### **Vision, Mission and Objectives**

The Vision of URP is to assist UPM become a leading center for the development and commercialization to Technology in bioscience and information technology in Southeast Asia. URP is determined that it develops into such a renowned center inline with the aspirations of UPM and of the nation.

In order to realize its mission, URP has drawn up the following guidelines:

- To assist UPM to be the leading center for the development and commercialization of technology in Bioscience and Information Technology
- To encourage technology transfer processes
- To assist in R&D activities
- To provide a conducive environment forth development of a knowledgeable and innovative society

### **Technology Development Division**

This Division is responsible for (i) assisting and encouraging the development of technology, especially in the fields of Bioscience and IT; (ii) establishing a network for collaborative work between Faculties and external agencies so as to develop cutting-edge technologies in Bioscience and IT; (iii) encouraging technology transfer process; and (iv) coordinating technology development for the occupants and tenants of URP. This Division is mainly responsible for the coordination and consolidation of the activities of the Technology Incubation Centre whose role is to prepare guidelines for private companies to develop by improving their products. Two incubation centers which have established linkages with UPM are:

#### **UPM-MTDC Technology Incubation Centre I**

At this incubation center, space and facilities for development of technology in IT are available for rental/use by private companies and university researchers. To date there are 32 private companies renting space.

#### **Putra Infoport**

A collaborative effort between UPM and Canary Infoport Co. Ltd., this Infoport was developed to

provide facilities for rental to companies involved in IT. To date, there are 8 companies renting space. There are eight companies at the UPM-MTDC Incubafor Centre and three companies at Infoport Centre using UPM's specialist services. The companies renting space in both these Incubation Centres are as shown in Talkie 32. This division coordinates and monitors the activities of a company, Malaysian Agri Hitech, which produces organic fertilizers using micorrhiza technology (a UPM scientist initiative). This company has been allocated 6 acres of land at Puchong Estate.

A dialogue session between a group of lecturers from the Faculty of Computer Science and IT with MTDC and other companies at the complex was organised with the aim of initiating future collaborative work between the Faculty and companies at the incubation centres.

### **Research and Operations Support Division**

This Division is responsible for the coordination of research activities for field training conducted by lecturers and students of UPM and external agencies. This Division is also responsible for coordinating activities related to horticulture and animal husbandry so as to generate income for URP. The main activities of the Division are as follows:

To prepare and equip the area for 15 research projects for lecturers and students

- To prepare and equip the area for 6 practical work sessions for students in various fields of specialization
- To maintain fields so as to ensure produce from the oil palm, rubber and coconut estates, budgrafting unit, nursery and herbarium
- To maintain and ensure produce from Puchong Estate, fruit orchards and fish ponds
- To maintain and supervise dairy farming (500 heads) and deer farming (150 heads)
- To initiate the cultivation of short-term crops such as maize (1 hectare), tapioca (2 hectares), sugarcane (2 hectares), water lily flower (0.5 hectare) and serai (1.5 hectares).
- To initiate a project for the sale of cattish try on an experimental basis

### **Commercial Development Division**

This Division is responsible for (i) identifying and

evaluating income generating projects for URP through rental of movable and immovable assets; (ii) identifying projects in bioscience and technology areas; (iii) preparation of feasibility papers on commercial ventures; (iv) preparing documents on specifications and agreements; (v) and evaluating progress of the various commercial projects arrived out by URP.

The following were some of the main activities carried out by the Division:

- Evaluation of proposal submitted by 7 agro technology companies which were interested in renting space in UPM for animal husbandry, integrated agriculture, turf grass growing and nursery for landscaping.
- Preparation and evaluation of the following agreements between external agencies with the assistance of the Legal Division of UPM:
  - Rental Agreement between Malaysia Agriculture Hi- Tech Sdn. Bhd. and Putra Infoport
  - MOU between UPM and UPM-MTDC
  - Agreement between UPM and Tan & KumpulanSdn . Bhd. for rental of fish-pond and between UPM and Schuttler Far East Sdn. Bhd. for turf growing
- Preparation of tender specifications for rental or leasing of space-Tender specifications for rental of space for oil palm and poultry farming
  - Tender specifications for rental of dairy and durian orchard leases
- Promotion of the functions and activities of UPM to the campus community and external agencies through:
  - Road shows to all faculties & cost centres in stages
  - Taking on a exhibition stall at the 1999 Convocation Fest 1999

#### **Service Division**

This Division is responsible for promoting various facilities and services of URP to the campus community, particularly in research and co-curriculum.

Among the activities conducted by the Division were:

#### **General Service**

Renting of machinery and vehicles to students or staff carrying out research and co-curricular and

educational activities. General maintenance of the farm area is also the responsibility of this Division.

#### **Expo Hill Facilities**

These facilities are used by various parties both within and without, as well as the students of UPM.

#### **Fish Pond Facilities**

In 1999, URP's fish-ponds were used for practiced training, recreation, research and fishing competitions. Eight fishing competitions have been held lately.

#### **Advertisement Facilities**

URP supervised 11 filming activities carried out by an external agency that; wanted to capture the scenic surroundings of UPM.

#### **Training & Advisory Services Division**

This Division is responsible for organizing training programmers, courses and advisory services for external agencies to generate income for URP as well as staff development. The Division organised (i) four courses/practical training sessions for the public and UPM students and (ii) three staff development courses/lectures.

#### **Performance Appraisal**

- As URP is expected to generate its own income to carry out activities, only 40% of its activities were directed at research and technology development while the major part of its efforts were towards animal husbandry, horticulture and other service activities.
- In 1999, there was increased technology development through the Incubafor Centre.
- URP was successful in transferring technology as indicated by increased participation of lecturers in the activities of the Incubafor Centre.
- URP has been successful in drawing researchers to UPM
- Commercial development of products has not taken off as yet as negotiations are still underway with the parties concerned. Meanwhile as the master plan has not been approved, the delay in processing applications has led to the withdrawal of several companies. Several companies have also complained of URP's rental/lease rates.
- URP has also succeeded in monitoring project development and performance and has reported it to the UPM management.

## MULTIMEDIA INSTITUTE

The Multimedia Institute (IMM) was established through the amalgamation of Cyber creative Laboratory and the Centre for Architectural Learning/Teaching in January 1999. The Institute has 20 staff who possess skills and specialization in computer science, electronic engineering, physics, agriculture, biotechnology, human development and economics. This Institute operates as a self-financing cost center. The Multimedia Institute was given an initial outlay of RM one million for its operation.

### **Aim, Mission and Objective**

The Institute was established to coordinate, implement, train and network resources in UPM for multimedia development for teaching/learning, content development, research and professional consultancy services.

IMM is determined to make UPM a center of excellence in multimedia through content development, relevant product application in teaching/learning, research and professional service.

### **Role of IMM**

- To conduct research in multimedia content development at Masters and Ph.D levels
- To develop and specify multimedia applications through manpower support
- To develop software to complement Distance Learning and the Franchised Programmers to UPM
- To develop 3D animation for television, film production, multimedia and virtual reality
- To prepare laws governing multimedia and professional service in e-commerce, digital storage, banking concept, multimedia estimation, corporate internet, and office automation
- To prepare and offer practical training for multimedia product development industrial manpower training service
- To conduct short and medium term courses and franchised programmers to inculcate efficiency and skills in manpower for private and corporate sectors

- To extend infrastructure and info structure assistance AS well advisory services for the development of entrepreneurs

## **Projects Conducted and Performance**

**Intranet Multimedia Institute**

Operating virtual offices with the use of intranet and website services.

**Internship Programme**

58 staff were involved in the development of a multimedia presentation at the International AGEX in PWTC. They also developed 45 wire frame 3D model for animation projects, intranet IMM, Alumni UPM homepage and the AGEX Internet Conference.

**Visits**

Most of the visits were fact-finding missions related to multimedia content development.

**3D Animation Training (UPM-CANADA)**

IMM has established technical cooperation with Capilano College Vancouver, British Columbia through the Canadian High Commission.

**Multimedia Content Development**

With the cooperation of the Commonwealth Agricultural Bureau (CABI) efforts are being directed towards developing interactive multimedia content for a 'Compendium on Animal Health & Production beginning 2000.

**Course on Design & Publication of Multimedia.**

207 individuals have been trained so far.

**Printing of posters, invitation cards, CD and AGEX99 brochures.**

This was undertaken to promote and disseminate information during the 1999 July-August Agriculture Exhibition & Convention 99.

## THE SSAAS ARTS AND CULTURAL CENTRE

This Centre provides space and equipment for academic and cultural events and exhibitions and functions. It also serve as a venue for semester and final examinations throughout the year.

The Centre has two active cultural groups that is the Caklmpung and Putra Band. These groups are invited to perform at various official functions of UPM such as the Convocation, Jasa and Setia Putra Awards as well as at functions organised by external agencies.

Among the activities held at this Centre are:

- Thanksgiving Prayers
- Ang Pau Festival
- Choir Concert
- Website Competition
- Symphony Orchestra Concert
- National Accounting Seminar
- National Youth Colloquium
- AIESEC Nite
- Tunas Budavd Nite
- Islamic Graduate Association Carnival
- Prime Forum (Love the Intellect)
- Meta Ojalhering
- Fraternity Nite
- Demonstration of National Wajadii'l'Competition
- Nasyid Fest
- Concert Kamar Cx)nservatoire
- Drama TESL – Presentation
- Excellent Service Award Ceremony
- Variety Show
- Genia Sendndung III
- Muktamcir Senawi
- Acoustic Concert

## ISLAMIC CENTRE

In 1999, the Centre conducted numerous courses in line with its objective and mission to develop into 'A Centre of Excellence for the dissemination and development of Islam towards building a caring and spiritual society'. The activities carried out by the Centre were directed at children, youth, students, officers and the elderly. The activities were education, academic and social service based.

Despite the economic constraints in 1999, both its on-going and ad-hoc activities were successfully conducted. These were the International Islamic Kindergarten, religious classes (after Maghrib), faedhu ain classes for children, teenagers and youth, Arab language classes, pre-marital courses, Haj courses, Al-Quran reading classes, women's courses, Marhaban and Yassin Groups. The general activities conducted were the commemoration of Maulidur Rasul, Seminar on the Tradition of Knowledge in Isicim, Forum Perdana, public lectures and activities related to Ramadhan.

Apart from the above activities, the Islamic Centre is often called upon to be involved in spiritual counselling to the community in the vicinity, Doa reading at official university functions, special prayers, burials, sermons at colleges, suraus, student associations and faculties of UPM, NGOs. Local residents too very often draw on the expertise of the Centre.



## **CORPORATE PLANNING UNIT (UPK)**

The UPK serves to:

- Monitor the effectiveness of the management of UPM in providing services to customers and the quality of its services. Among its services are:
  - Analysis related to the effectiveness and usefulness of the teaching system in UPM
  - Analysis of the quality of services
  - Analysis of the quality of graduates/produced
  - Analysis of the market demand for UPM graduates
  - Analysis of client needs in terms of UPM's contribution
  - Analysis of the competitive strength of UPM in drawing new students
- To plan, organize and coordinate Quality Assurance projects through ISO 9000
  - To plan, organize and coordinate the strategic development of staff through training and strategic workshops
- To plan, organize and coordinate Quality Assurance projects through ISO 9000
  - To organize Quality Assurance Programmers for the administrative system, research, teaching and services in UPM
  - To monitor the quality control system of ISO 9001 which has been certified by SIRIM and to ascertain that the system is successfully audited by SIRIM
  - To develop and strengthen the ISO 9001 System by using digital compliance to Lotus Notes

## UNIVERSITI PUTRA MALAYSIA PRESS

### **Publications**

For the year 1999, Penerbit succeeded in publishing the following:

- 11 books
- 2 issues of *Pertanika* journal of Tropical Agricultural Science consisting of 29 articles
- 2 issues of *Pertanika* Journal of Science and Technology consisting of 16 articles
- 2 issues of *Pertanika* Journal of Social Science and Humanities consisting of 14 articles
- 6 issues of *The Company Secretary for The Malaysian Association of the Institute of (Chartered Secretaries and Administrators)*
- 4 issues of *Buletin Era Hijau* for the Department of Environment, Ministry of Science, Technology and Environment
- 12 issues of *Trihun Putra* Universiti Putra Malaysia

### **Services**

Besides these publications, several departments and faculties of the Universiti have availed themselves of the services offered by the Press such as Bahasa and English translation, design and layout, digital printing etc to publish their publicity and programme brochures, guide books, research reports, and conference announcements.

The gross income of the Press for 1999 was almost RM one million. The construction of the Press Building was initiated towards the end of 1999 and is scheduled to be completed in May 2000.

## UNIVERSITI PUTRA MALAYSIA TERENGGANU

### Development

On 4 September 1999, UPMT held its convocation ceremony at the Dewan Besar, Wisma Darul Iman, Kuala Terengganu. 418 graduates received their Bachelors and Diplomas from TYT Tun Dato' Seri Hamdan Sheikh Tahir, Chancellor of UPM.

On 23 November, 1999 UPMT received YB Dato'Sen Najib Tun Razak, the Minister of Education, Malaysia. On the occasion of his visit, the Honorable Minister declared the establishment of College University Terengganu.

In the year 1999, four new programmes were offered for the May 1999/2000 semester. They were the Bachelors in Economics, Bachelors in Science (Food Studies) Bachelor of Science with Education (Honors) and an off-campus programme -- the Masters in Management. Due to the rapid development in the educational sector UPMT has begun offering courses in management, economics, arts and science. Currently UPMT offers nine degree programmes, one diploma and 3 matriculation programmes. For 1999, the student intake increased by 41.9% compared to the 1998 intake.

### Posts, Promotions and Retirement

In 1999, 324 posts were filled. Of the total, 11 were contract, staff, 19 temporary staff, 9 part-time staff with the rest being permanent staff.

In the promotion exercise, an Assistant Administrative officer (Grade N6) was promoted to Administrative Officer (Grade N3) another Grade N2 Administrative Officer was promoted to Grade N1, a Grade W3 Financial Officer was promoted to Finance KUP Grade W2, a Science Teacher (Grade DG3) was appointed as a Lecturer (Grade DS2@ a tutor (Grade DA2) was appointed a lecturer (Grade DS2), two Associate Professors (Grade DS1) were promoted to Professors (Grade VK7) and 3 lecturers (Grade DS2) were promoted to Associate Professors (Grade DS1).

Four staff of UPMT from the Support Group have resigned. Two staff retired, one from the Professional Group and another from the support group. Nine tutors have been given study leave to pursue their Masters and two lecturers to pursue their Ph.Ds.

### Excellent Service

The Excellent Service Award Ceremony of UPMT was held on 21 October 1999. Thirteen staff were awarded Excellent Service Awards and 26 others received Commendation Certificates from YB Dato' Dr. Mohd. Mahyuddin b. Mohd. Dahan.

### Graduate Affairs Centre (HEK)

The Graduate Affairs Centre of UPMT is responsible for all affairs pertaining to accommodation, welfare, social and student activities, scholarships/loans, health and discipline of students

### Students' Accommodation

There are two categories of residential colleges: Campus Residential Colleges and Non-campus Residential Colleges such as the ones in Taman Permint Makmur. All of these can accommodate a total of 516 students. With the increase in student intake, a further two buildings were rented at the College Agama Sultan Zainal Abidin (KUZA) to accommodate 1,072 students. Also, a number of individual houses have been rented to accommodate a further 350 students.

### Student Activities

All student activities are conducted and supervised by the Students Representative Council (MPP) headed by the Higher Executive Council. The MPP endeavors to instill the spirit and principle of 'ENDEAVOUR TO REALISE THE UNDERGRADUATE ASPIRATION'. The establishment of the Secretariat and Clubs under the MPP assured the smooth, orderly and effective running of the various student

activities. The following are some of the activities conducted in 1999.

- A get together of MPP and Matriculation students at Tok Jembal
- Excellent Graduate Leadership Camp
- Visit to Prince of Songkla University
- Cultural & Theatre Nile
- MPP Elections
- Induction Camp
- Visits
- National Nation-Building Kuiz

### **Scholarships**

The MPP with the assistance of HEP, Serdang arranged for scholarships and loans for new and current students seeking financial assistance. UPM Serdang Campus and UPMT tap the same sources for financial assistance. A total of 2,190 scholars or 80.43% of the students have been awarded scholarships/loans.

### **Career & Counselling Unit**

Currently this unit is operated by an academic who teaches various courses on guidance & counselling. In the future, UPMT hopes to have a full-time counselor who will be able to plan a carefully organised counselling programme for the students.

### **Sports Unit**

The Sports Unit is under the Student Affairs Department. Numerous sports activities have been organised with the cooperation of MPP to further improve the relationship between students and staff. Some of the activities organized were Street Soccer, Badminton, Netball and others involving External bodies.

### **Students' Health Centre(PKP)**

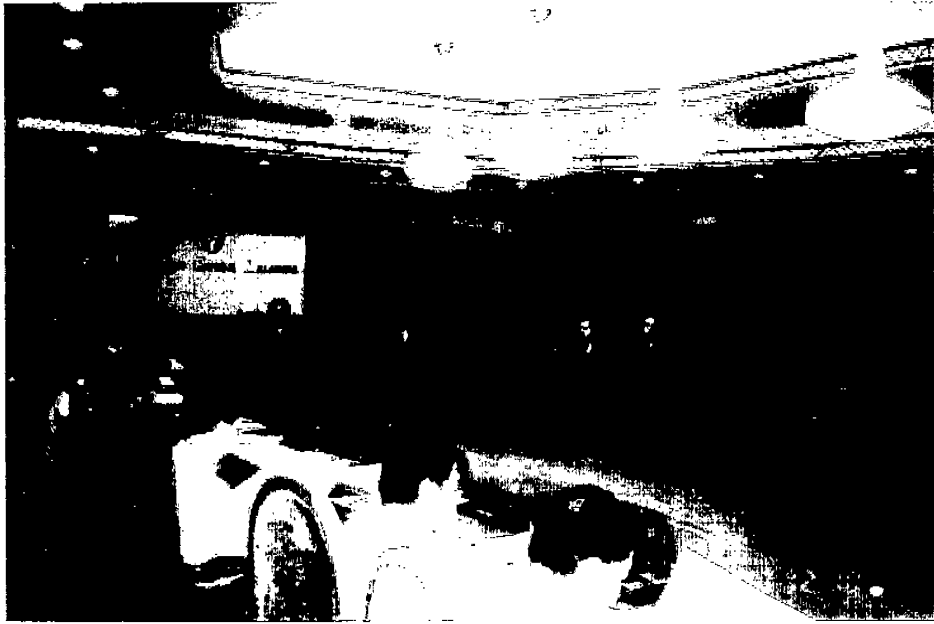
This center has been in operation in UPMT since June 1995. In terms of service and capacity, the clinic is only able to provide outpatient treatment, guidance and health education to the students and staff. A total of 6843 patients received treatment at

the clinic in 1999.

### **Publications**

UPMT academic staff published 113 journal articles and 14 books. A further 128 working papers have been presented at conferences, seminars and forum. Besides, UPMT staff have conducted more than 100 activities involving staff and government and external agencies.

## 訪問行程紀實



與 UPM 大學副校長與一級主管商討合作項目



UPM 校長(右者)為訪問團介紹校園發展與鳥瞰圖



參觀 UPM 校區內科技園區及其與國內外產業界合作



參觀 UPM 校區內科技園區及其與國內外產業界合作



拜會 UPM 農學院系所，討論主要合作項目



拜會 UPM 農學院系所，討論主要合作項目

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