



TOWARDS A WORLD CLASS UNIVERSITY

&

KEARAH UNIVERSITI BERTARAF DUNIA

Pembentukan Kekayaan
Wealth Creation

Pembangunan Negara
Nation Building



Kandungan • Contents

2	Misi dan Matlamat • Mission and Objectives
3	Struktur Organisasi • Organisational Structure
4	Lembaga Pengarah • Board of Directors
5	Pengurusan • Management
6	Laporan Naib Canselor • Vice Chancellor's Report
19	Pengajaran dan Pembelajaran • Teaching and Learning
26	Penyelidikan dan Pembangunan • Research and Development
34	Infrastruktur Penyelidikan • Research Infrastructure
37	Kegemilangan Penyelidikan Bertaraf Dunia • World-Class Research Excellence
39	Khidmat Runding Cara • Consultancy Services
43	Pengurusan Berkualiti • Quality Management
46	Pengurusan Infrastruktur • Infrastructure Management
48	Sumber Informasi • Source of Information
50	Jejak Kegemilangan • Path to Excellence
59	Diari Peristiwa – • Diary of Events –
60	– Memorandum Persefahaman • Memorandum of Understanding
61	– Lawatan Rasmi Luar Negara • Official Visits – Visitors from Abroad
64	– Lawatan Rasmi Dalam Negeri • Official Visits – Visitors from within Malaysia
68	– Pameran dan Promosi Pendidikan • Educational Exhibitions and Promotions
71	– Seminar, Persidangan, Bengkel, Kursus • Seminars, Conferences, Workshops, Courses
83	Prestasi Kewangan • Financial Performance
89	Laporan Kewangan • Financial Report



Misi dan Matlamat • Mission and Objectives

Wawasan Universiti ialah untuk menjadi Universiti bertaraf dunia

The University's vision is to be a world class university

“Misi Universiti adalah menjadi Pusat Pembelajaran dan Penyelidikan yang unggul, yang memberikan sumbangan bukan sahaja kepada kemajuan manusia dan penerokaan ilmu, tetapi juga kepada pembentukan kekayaan dan pembangunan negara.”

“The University's mission is to be a leading Centre 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 telah menetapkan lapan matlamat untuk merealisasikan wawasannya. Setiap matlamat tersebut mempunyai objektif khusus, iaitu dalam bentuk yang boleh diukur pencapaiannya. Pencapaian setiap objektif bergantung kepada pelaksanaan strategi dan pelan tindakan masing-masing. Kelapan-lapan matlamat tersebut adalah seperti berikut :

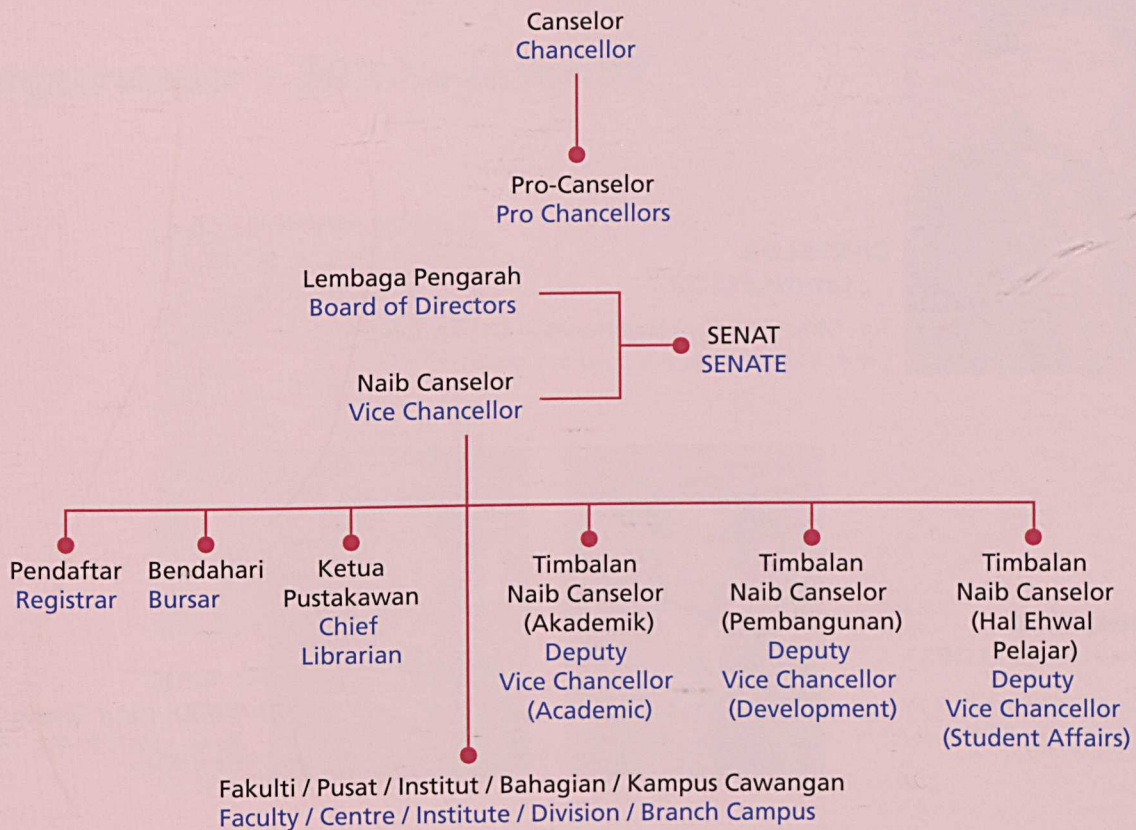
- Melahirkan graduan yang berkualiti, berdaya saing dan berupaya untuk terus maju melalui pembelajaran yang berterusan;
- Menjadikan UPM, Universiti yang terkemuka dalam bidang penyelidikan;
- Meningkatkan keupayaan UPM sebagai pusat pengajian dan perkhidmatan pertanian dan biosumber terkemuka di peringkat antarabangsa;
- Memantapkan sistem pengurusan berkualiti yang cekap dan berkesan, telus dan mesra pelanggan;
- Membangunkan sumber manusia serta persekitaran profesional yang cemerlang;
- Membudayakan teknologi maklumat dan komunikasi (ICT) melalui e-Universiti;
- Menjana dan mengurus sumber kewangan Universiti secara cekap dan berkesan; dan
- Meningkatkan kedudukan UPM sebagai Pusat Perkhidmatan Pembangunan Profesional dan Pendidikan Lanjutan.



UPM has established eight (8) goals to realize its vision. Each goal has its own specific objectives. The achievement of each objective depends on the execution of the respective action plans. The eight goals are as follows :

- To produce quality graduates who are competitive and resilient through lifelong learning.
- To transform UPM into a renowned research university.
- To upgrade UPM as a renowned centre of learning, agricultural and bio-resources services internationally.
- To enhance a quality management system that is effective, efficient, transparent and client-friendly.
- To develop and create excellent human resources and professional environment.
- To promote an Information and Communication Technology (ICT) culture through e-University.
- To effectively generate and manage University Financial Resources.
- To establish UPM as the Centre of Professional Development Services and Continuing Education.

Struktur Organisasi • Organisational Structure



Fakulti Bahasa Moden dan Komunikasi / Faculty of Modern Languages and Communication

Fakulti Ekologi Manusia / Faculty of Human Ecology

Fakulti Ekonomi dan Pengurusan / Faculty of Economics and Management

Fakulti Kejuruteraan / Faculty of Engineering

Fakulti Pengajian Pendidikan / Faculty of Educational Studies

Fakulti Perhutanan / Faculty of Forestry

Fakulti Pertanian / Faculty of Agriculture

Fakulti Perubatan dan Sains Kesihatan / Faculty of Medicine and Health Sciences

Fakulti Perubatan Veterinar / Faculty of Veterinary Medicine

Fakulti Rekabentuk dan Senibina / Faculty of Design and Architecture

Fakulti Sains dan Pengajian Alam Sekitar / Faculty of Science and Environmental Studies

Fakulti Sains Komputer dan Teknologi Maklumat / Faculty of Computer Science and Information Technology

Fakulti Sains Makanan dan Bioteknologi / Faculty of Food Science and Biotechnology

Pusat Pengajian Siswazah / School of Graduate Studies

Pusat Pengajian Siswazah Pengurusan / Graduate School of Management

Pusat Program Luar / External Programme Centre

Pusat Islam / Islamic Centre

Pusat Kebudayaan dan Kesenian SSAAS / SSAAS Arts and Cultural Centre

Pusat Pengurusan Penyelidikan / Research Management Centre

Pusat Pembangunan Perniagaan / University Business Centre

Institut Biosains / Institute of Bioscience

Institut Multimedia dan Perisian / Institute of Multimedia and Software

Institut Pendidikan dan Pembelajaran Jarak Jauh / Institute for Distance Education and Learning

Institut Pengajian Komuniti dan Keamanan / Institute for Community and Peace Studies

Institut Teknologi Maju / Institute for Advanced Technology

Taman Pertanian Universiti / University Agriculture Park

Kampus Cawangan Bintulu / Bintulu Branch Campus



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CHANCELLOR**

Tun Dato' Seri (Dr.) Haji Hamdan Sheikh Tahir
S.M.N., P.S.M., D.U.P.N., D.P., D.P.M.N., K.M.N.,

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PRO-CHANCELLORS**

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*P.M.N., P.S.M., S.S.S.A., D.P.M.K., D.S.N.S.,
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Tan Sri Dato' Thong Yaw Hong
*P.S.M., S.I.M.P., D.I.M.P., J.M.N., S.M.P.,
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- Naib Canselor

Y.Bhg. Dato' Ambrin Buang

Dr. Wan Abdul Aziz Wan Abdullah

Y.Bhg. Datuk Dr. Abdul Aziz Sheikh Abdul Kadir

Y.Bhg. Datuk Haji Isahak Mohd. Yusuf

Y.Bhg. Dato' Dr. Noor Laily Dato' Abu Bakar

Y.Bhg. Datuk Patrick Lim Soo Kit

Pengurusan • Management



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Laporan Naib Canselor • Vice Chancellor's Report



Pada 21 Mei 2001 genaplah 70 tahun kewujudan sebuah Institusi Pendidikan yang sentiasa mengorak langkah ke hadapan untuk mempertingkatkan tahap pencapaian akademik dan penyelidikan. Perkembangan pesat kebelakangan ini dari sudut enrolmen pelajar, pembangunan akademik dan program-program lain telah menjadikan UPM sebagai sebuah Universiti pelbagai bidang dan disiplin. Ini sudah tentu memberikan sumbangan yang penting kepada penyediaan tenaga profesional yang lebih menyeluruh yang diperlukan oleh negara.

21st May 2001 marks the 70th Anniversary of an Institution of Higher Learning which has consistently strived towards a higher level of academic achievement and research. As a result of the intensive development in terms of student enrolment, academic development as well as other programmes, UPM has been able to dominantly position and establish itself as a multi-disciplinary University. This has inevitably paved the way for Universiti Putra Malaysia to emerge as one of the foremost institutes of learning, enabling it to positively contribute towards providing a well-rounded professional workforce needed by the nation.



Matlamat UPM

UPM beriltizam menjadi sebuah Universiti terunggul dalam bidang pembelajaran dan penyelidikan yang menyumbang bukan sahaja untuk kemajuan manusia dan penerokaan ilmu tetapi juga kepada pembentukan kekayaan dan pembangunan negara. Berlandaskan misi ini, Universiti telah menetapkan hala tuju yang jitu di dalam perancangan strategik tahun 2001-2010. Lapan (8) matlamat yang telah ditetapkan termasuk objektif dan strategi yang telah dikenal pasti iaitu :

- Melahirkan graduan yang berkualiti, berdaya saing dan berupaya untuk terus maju melalui pembelajaran yang berterusan;
- Menjadikan UPM, Universiti yang terkemuka dalam bidang penyelidikan;
- Meningkatkan keupayaan UPM sebagai pusat pengajian dan perkhidmatan pertanian dan biosumber terkemuka di peringkat antarabangsa;
- Memantapkan sistem pengurusan berkualiti yang cekap dan berkesan, telus dan mesra pelanggan;
- Membangunkan sumber manusia serta persekitaran profesional yang cemerlang;
- Membudayakan teknologi maklumat dan komunikasi (ICT) melalui e-Universiti;
- Menjana dan mengurus sumber kewangan Universiti secara cekap dan berkesan; dan
- Meningkatkan kedudukan UPM sebagai Pusat Perkhidmatan Pembangunan Profesional dan Pendidikan Lanjutan.

Dua perubahan ketara dalam matlamat yang ditetapkan ini. Pertama, tumpuan UPM terhadap bidang yang mempunyai kelebihan saingan dan mempunyai '*critical mass*' untuk menjadikan UPM sebagai pusat pembelajaran dan penjaan ilmu dan teknologi pertanian selaras dengan matlamat Kerajaan untuk memajukan sektor pertanian dalam Rancangan Jangka Panjang

Objectives

UPM endeavors 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. Towards this end, the University has earmarked a clearly defined direction and concerted effort in coming up with strategic planning for the 2001-2010 term. An eight-prong direction has been established and strategically laid out, namely:

- To produce quality graduates who are competitive and are able to progress further through the continuous process of learning
- To establish UPM as the foremost center of research
- To further enhance the position of UPM as a dominant center of learning and a world-renowned center for agricultural and bioresource services.
- To further consolidate the efficient, transparent and client-friendly management system
- To develop human resources and create a truly professional environment
- To culturalize traits of information technology and communications via e-University
- To generate and manage the University's financial sources in the most efficient and effective manner, and
- To further enhance UPM's position as a Centre of Professional Development Services and Continuing Education.

There are two prominent changes that have been instrumental in the establishment of these objectives. Firstly, the emphasis UPM is placing on fields that provide a competitive edge and with a critical mass to make UPM a profound center of learning, generating



Ketiga. Kedua ialah menjadikan UPM sebagai pusat perkhidmatan pembangunan profesional dan pendidikan lanjutan selaras dengan keperluan pembentukan k-pekerja kesan dari perkembangan k-ekonomi.

Hala tuju UPM juga menetapkan sasaran penurunan enrolmen pelajar ijazah pertama kepada 20,000 dan peningkatan ijazah lanjutan kepada 10,000 sehingga tahun 2010, namun UPM sentiasa berhati-hati dalam menjayakannya secara berperingkat-peringkat. Tahun 2001 menyaksikan pengambilan pelajar di pelbagai pengajian seramai 8,928 (meliputi 1,916 orang di peringkat ijazah sarjana dan doktor falsafah, 5,504 orang di peringkat ijazah pertama dan 1,508 orang di peringkat diploma) berbanding 11,684 orang pada tahun 2000. Jumlah penurunan seramai 2,756 (23.5%) ini adalah seperti yang dirancang bagi menjamin kualiti dan kemudahan pengajaran yang bersesuaian dan berkesan.

Enrolmen Pelajar

Dari segi enrolmen pelajar, UPM mempunyai bilangan pelajar seramai 32,321 orang (tidak termasuk pelajar Pendidikan Jarak Jauh dan Program Kerjasama) berbanding 33,217 orang pada tahun sebelumnya. Jumlah ini menunjukkan penurunan enrolmen sebanyak 5.64% bagi ijazah pertama dan diploma berbanding enrolmen pada tahun sebelumnya.

Walau bagaimanapun, program Pengajian Siswazah menunjukkan peningkatan sebanyak 11.9% daripada 5,567 orang kepada 6,230 orang. Ini menunjukkan UPM memberi penumpuan kepada program ijazah tinggi bagi melahirkan lebih banyak penyelidik dan ramai pakar dalam pelbagai bidang.

Konvokesyen

UPM telah mengadakan konvokesyen kali ke-25 dalam tiga sidang iaitu Sidang Pertama pada

knowledge and agricultural technology in line with the Government's objective to develop the agricultural sector in the Third Long Term Plan. Secondly, to make UPM a center for professional development services and continuing education in accordance with the requirement for k-Workers to facilitate k-economy development.

The UPM direction has also determined a targeted reduction in student enrolment to 20,000 first-degree students and an increment to 10,000 for graduate students, to be implemented in stages up to the year 2010. The year 2001 saw an intake of 8,928 students in various fields of study (covering 1,916 at masters and doctorate levels, 5,504 first-degree students and 1,508 diploma students) as compared to a total of 11,684 students in the year 2000. This total reduction of 2,756 (23.5%) was implemented as planned so as to ensure course quality and the provision of appropriate as well as effective teaching facilities.

Student Enrolment

UPM currently has a total student population of 32,321 (excluding Distance Learning and Collaboration Programmes) as compared to 33,217 students in the previous year. This indicates a decreased student enrolment of 5.64% for first degree and diploma students as compared to that of the previous year.

The Graduate Studies programme, however, shows a rise of 11.9% from 5,567 to 6,230 students. This denotes UPM's emphasis on higher degree programmes in order to produce more researchers and experts in diverse fields.

Convocation

UPM convened its 25th Convocation ceremony in three sessions i.e. in February 2001, on 28-29th July 2001 and on 18-19th August



Februari 2001, kedua pada 28-29 Julai 2001 dan Sidang Ketiga pada 18-19 Ogos 2001. Pada konvokesyen tersebut UPM telah melahirkan seramai 11,291 graduan. Dari jumlah tersebut seramai 77 pelajar berjaya mendapat kepujian kelas pertama, 2,529 orang kepujian kelas kedua tinggi, 2,868 kepujian kelas kedua rendah dan 5,817 pelajar ijazah kelas ketiga. UPM juga telah menganugerahkan ijazah kehormat kepada seorang tokoh akademik.

Konvokesyen ke-25 UPM juga menyaksikan UPM melahirkan graduan sulungnya dalam program Bachelor Komunikasi dan program Bachelor Perubatan. Bachelor Komunikasi menampilkan seramai 129 pelajar yang telah berjaya menjalani pengkhususan (major) dalam disiplin perhubungan korporat, kewartawanan dan komunikasi kemanusiaan. Bachelor Perubatan pula telah menampilkan seramai 40 graduan yang telah memulakan pengajian pada 1996 lalu. Paling membanggakan ialah kurikulum program pengajian perubatan yang berasaskan kurikulum Fakulti Perubatan, *University of Nottingham* yang diubah suai untuk keperluan tempatan. Kurikulum ini telah mendapat pengiktirafan dari universiti-universiti luar negara apabila ada yang menyatakan kesudian untuk mengambil kesemua lulusan tersebut untuk bertugas di negara mereka. Menjelang 2004, Fakulti Perubatan dan Sains Kesihatan dijangka akan mengeluarkan lebih ramai graduannya apabila bangunan baru Fakulti bernilai RM250 juta siap kelak.

Pelajar Siswazah

UPM meletakkan tanggungjawab yang besar kepada Sekolah Pengajian Siswazahnya bagi melahirkan graduan ijazah tinggi di UPM. Seramai 1,916 pelajar telah mendaftar dalam pelbagai bidang pengajian yang menjadikan

2001. This convocation saw 11,291 students graduating from UPM, 77 of whom attained first-class honours, 2,529 at second-class upper, 2,868 at second-class lower and 5,817 at third class. UPM also conferred an honourable degree to a prominent academician.

The 25th Convocation also honoured UPM's maiden graduates in Bachelor of Communications and Bachelor of Medicine. The Bachelor of Communications programme produced 129 graduates who successfully majored in various disciplines including corporate relations, journalism and humanity communications. The Bachelor of Medicine programme produced 40 graduates who pioneered the curriculum from 1996. An even more encouraging note is that the curriculum for the programme in medicine which was based on the curriculum of the Faculty of Medicine, University of Nottingham and modified to suit local requirements, was well accepted and recognized by foreign universities. A clear testimony to this was when the graduates were offered job opportunities in those countries. By the year 2004, the Faculty of Medicine and Health Sciences is expected to 'churn' out more graduates upon completion of its RM250 million new faculty building.

Graduate Students

UPM places a great responsibility on its School of Graduate Studies to produce higher degree graduates in UPM. In 2001, a total of 1,916 students were enrolled in various fields of study, bringing the total enrolment to 6230 students as compared to a student enrolment of 5567 in the previous year, representing an increase of 11.91%. From that total, 695 students are foreign nationals from 52 different countries, i.e. 318 at the Doctorate



enrolmen pelajarnya kepada 6,230 orang dalam tahun 2001 berbanding 5,567 orang pada tahun sebelumnya iaitu peningkatan sebanyak 11.91%. Dari jumlah ini seramai 695 orang iaitu 318 orang di peringkat Doktor Falsafah dan 377 orang di peringkat Master adalah pelajar-pelajar dari 52 negara di seluruh dunia. Ini menunjukkan bahawa UPM merupakan sebuah Universiti yang mampu menawarkan program-program untuk pasaran antarabangsa dan penyelidikannya setanding dengan universiti-universiti di luar negara. Kejayaan menarik ramai pelajar antarabangsa untuk mengikuti program pengajian menunjukkan keberkesanan program promosi di pameran-pameran antarabangsa yang telah dirancang dan dilaksanakan secara teratur sepanjang tahun.

Program Jarak Jauh

UPM sentiasa menyediakan saluran pembelajaran yang pelbagai kepada masyarakat. Bagi membantu melahirkan tenaga profesional dari kalangan masyarakat yang bekerja, yang ingin mempertingkatkan tahap pendidikan mereka, Program Jarak Jauh (PJJ) yang dikendalikan oleh Institut Pendidikan dan Pembelajaran Jarak Jauh (IDEAL) merupakan salah satu saluran yang sangat popular. Walau pun permintaan untuk mengikuti 21 program (enam daripadanya program sarjana) adalah sangat tinggi, tahun 2001 hanya dapat menampung pengambilan seramai 2,988 orang menjadikan enrolmen pelajar ke program PJJ ini meningkat seramai 13,109 orang. Jumlah ini menunjukkan peningkatan pengambilan pelajar sebanyak 54.78% dan enrolmen pelajar sebanyak 30.05%. Program PJJ juga telah berjaya mengeluarkan graduan seramai 1,445 orang pada tahun 2001.

level and 377 at the Master's level of study. This augurs well for UPM as a reputable center of learning that is well positioned to offer various competitive programmes for the international market. Its success in attracting a large number of international students proves the effectiveness of the promotional programmes carried out at international educational fairs which have been planned and implemented systematically all year round.

Distance Learning Programmes (DLP)

UPM provides various channels of education for the community. The distance learning programme is another channel employed by UPM to train professional manpower, targeted at working people who wish to further their education. The Distance Learning Programme (DLP) conducted by the Institute for Distance Education and Learning (IDEAL) is indeed a popular choice. Though demand for the 21 programmes (six of which are master's programmes) offered was outstanding, in the year 2001, an intake of only 2,988 students could be accommodated, bringing the total DLP enrolment to rise to 13,109 students. This represents an increase in intake by 54.78% and a student enrolment rise of 30.05%. The DLP Programme produced 1,445 graduates in 2001.

Collaborative Programmes with Private Tertiary Colleges (IPTs)

The External Programme Centre serves as yet another channel provided by UPM to produce an educated community. This is implemented through collaboration with private tertiary colleges (IPTs). These colleges are identified at strategic locations in the vicinity of students' place of living so as to enable them



Program Kerjasama dengan IPTS

Pusat Program Luar merupakan satu lagi saluran yang disediakan oleh UPM untuk melahirkan masyarakat yang berpendidikan tinggi. Ini dilaksanakan melalui kerjasama dengan kolej-kolej swasta (IPTS). Kolej-kolej ini diwujudkan di lokasi yang strategik dan berhampiran dengan tempat kediaman pelajar bagi membolehkan pelajar memperluas pendidikan tinggi mereka di samping pendidikan yang berkualiti. Pada masa ini UPM telah bekerjasama dengan 29 kolej IPTS dengan jumlah enrolmen pelajar seramai 7,877 orang. Sebanyak 10 program Bachelor dan 10 program Diploma ditawarkan di bawah Pusat Program Luar ini. Bagaimanapun, program Diploma Sains Komputer merupakan program yang paling diminati dan menjadi pilihan utama pelajar. Ini menunjukkan keyakinan masyarakat terhadap kebolehan UPM mengendalikan program berasaskan ICT. Di samping itu UPM juga sentiasa memantau tahap pencapaian serta kualiti akademik IPTS bagi menjamin kualiti pelajar yang dihasilkan supaya sentiasa setaraf dengan pelajar-pelajar sepenuh masa di UPM. Tahun 2001 menyaksikan seramai 1,672 graduan telah dikeluarkan melalui program ini.

Program Pengurusan

Pusat Pengajian Siswazah Pengurusan (GSM) menawarkan pelbagai program pengajian siswazah dan program pembangunan eksekutif. GSM menawarkan kursus sepenuh dan separuh masa di peringkat Doktor Falsafah (Ph.D.) dan Master Sains. Pada masa ini terdapat 500 pelajar yang berdaftar di Pusat ini. Program Sarjana Pentadbiran Perniagaan (MBA) merupakan program yang menjadi pilihan utama dengan jumlah pelajar yang paling tinggi iaitu seramai 354 orang.

to pursue their education to a higher quality. To date, UPM has instituted collaboration with 29 IPTS colleges with a total enrolment of 7,877. A total of 10 Bachelor programmes and 10 Diploma programmes are being offered under the External Programme Centre. However, the Diploma in Computer Science programme appears to be the first-choice and most popular programme. This clearly reflects the trust and confidence placed by the community in UPM to conduct ICT-based courses. In addition, UPM ensures that the level of achievement and academic quality at IPTS are always maintained so as to produce students as good as UPM full-time students. A total of 1,672 graduates were produced through this programme in 2001.

Management Programme

The Graduate School of Management (GSM) offers various part-time and full-time graduate study programmes as well as executive development programmes at Doctorate (Ph.D.) and Master of Science (M.Sc.) levels. To date, there are 500 students registered with this Centre, with the Masters in Business Administration (MBA) being the most popular with 354 students.

Research

UPM has always encouraged two forms of research – basic research and applied sciences. UPM, as the largest science and technology university in Malaysia, is committed to enhancing research and development (R&D) while providing the source of manpower to meet industrial requirement. Being a multi-disciplinary institution, research in UPM is not only confined to generating new knowledge but is also geared towards accelerating development and technology transfer. As an R&D agency that receives the largest grant in



Penyelidikan

UPM sentiasa menggalakkan dua bentuk penyelidikan iaitu penyelidikan asas dan sains gunaan. Sebagai sebuah Universiti Sains dan Teknologi yang terbesar di Malaysia, komitmen UPM adalah untuk meningkatkan penyelidikan dan pembangunan (P&P) dan menyediakan sumber tenaga kerja untuk keperluan industri. Dengan mengambil pelbagai disiplin, penyelidikan di UPM bukan sahaja menjana pengetahuan baru tetapi juga mempercepat pembangunan dan pemindahan teknologi. Sebagai sebuah agensi P&P yang menerima peruntukan terbesar di Malaysia, UPM melalui IRPA (*Intensification of Research Priority Area*) memberi tumpuan penyelidikan meliputi sembilan sektor terutama Agroindustri, Pembuatan, Alam Sekitar, Kesihatan, Perkhidmatan Sosial, Ekonomi, Sains Bahan dan Geosains. Untuk itu sejumlah RM10 juta telah disediakan untuk peruntukan jangka pendek bagi membiayai 1,108 projek penyelidikan asas iaitu peringkat pasca-siswazah.

UPM melalui Rancangan Malaysia Ke-7 menerima RM123.19 juta untuk membiayai 646 projek penyelidikan. UPM juga menerima bayaran sebanyak RM9.51 juta kontrak penyelidikan dan RM7.81 juta bagi bayaran perundingan. Selain itu UPM juga menerima geran penyelidikan daripada agensi-agensi tempatan dan luar negara antaranya daripada *International Atomic Energy Agency (IAEA)*, *Japan International Cooperation Agency (JICA)*, *International Plant Genetic Resources Institute (IPGRI)*, *Ministry of Housing and Local Government*, *Ministry of Agriculture*, TNB, *Malaysia Palm Oil Board (MPOB)*, FELDA, *Sapura Holdings Berhad* dan lain-lain. Bagi tahun 2001 sebanyak RM1,112,225 telah diterima untuk 27 projek.

Malaysia, UPM, via IRPA (*Intensification of Research Priority Area*) pays particular attention to research covering nine primary sectors i.e. Agro-industry, manufacturing, environment, health, social services, economics, material science and geoscience. Towards this end, a short-term allocation of RM10 million has been set aside to finance 1,108 basic research projects at post-graduate level.

A total grant of RM123.19 million was channelled to UPM through the 7th Malaysia Plan for funding 646 research projects. UPM also received RM9.51 million worth of research contracts and RM 7.81 million in consultancy payments. In addition, UPM also obtained research grants from local and foreign agencies including the *International Atomic Energy Agency (IAEA)*, *Japan International Cooperation Agency (JICA)*, *International Plant Genetic Resources Institute (IPGRI)*, *Ministry of Housing and Local Government*, *Ministry of Agriculture*, TNB, *Malaysia Palm Oil Board (MPOB)*, FELDA, *Sapura Holdings Berhad* and others. For the year 2001, a total of RM1,112,225 was received for 27 projects.

Awards

The year 2001 saw the emergence of various research materials. A total of 37 book titles and 1,728 scientific articles and conference papers were produced. Meanwhile, research products to be patented soared to 21 items. UPM's research officers continued to shine in 2001 with creditable and excellent performances in the field of research with eight of them attaining International Awards, another eight received the National Exhibition Award, twenty the UPM Invention and Research Award, six were given the Graduate Award and two received other awards.



Anugerah

Pada tahun 2001 juga banyak hasil penyelidikan telah dihasilkan. Sebanyak 37 judul buku dan 1,728 penulisan rencana-rencana saintifik dan kertas kerja persidangan dihasilkan. Sementara hasil penyelidikan telah dipatenkan. Pegawai-pegawai penyelidikan UPM juga terus menunjukkan kecemerlangan dalam penyelidikan apabila lapan orang telah menerima Anugerah Antarabangsa, lapan orang Anugerah Pameran Negara, 20 orang Anugerah Rekacipta dan Penyelidikan UPM, enam Anugerah Siswazah dan dua anugerah lain bagi tahun 2001.

Memartabatkan Pertanian

UPM juga telah menubuhkan Institut-institut penyelidikan sebagai pusat kecemerlangan. Antaranya Institut Biosains, Institut Multimedia dan Perisian, Institut Teknologi Maju, dan Institut Pengajian Komuniti dan Keamanan (PEKKA). Institut ini memfokus kepada penyelidikan pascasiswazah dengan menerima geran UPM, agensi-agensi dalam dan luar negara.

UPM telah menstrukturkan semula Taman Penyelidikan Universiti sebagai Taman Pertanian Universiti (TPU) bagi merealisasikan hasrat Universiti yang bertekad untuk memartabatkan kembali pertanian menerusi matlamat ketiga Universiti iaitu untuk 'meningkatkan keupayaan UPM sebagai pusat pengajaran dan pembelajaran, penjana ilmu dan teknologi perkhidmatan pertanian'. Penubuhan taman Pertanian Universiti ini bukan sahaja akan membantu melaksanakan rancangan pembangunan fizikal dan akademik Universiti bahkan akan memajukan kampus UPM sebagai sebuah taman pertanian ulung yang lengkap dengan taman botani, muzium pertanian (statik dan hidup) ladang/bidang usaha contoh (*showcase*), kawasan rekreasi, agropelancungan, stesen penyelidikan dan program pembangunan

Revitalising Agriculture

UPM has also established various institutes of research as centres of excellence. These include the Bioscience Institute, Institute of Multimedia and Software, Institute for Advanced Technology and Institute for Community and Peace Studies (PEKKA). All these institutes are focused on multi-disciplinary graduate research through grants received from UPM and local and foreign agencies.

UPM has restructured the University Research Park to become the University Agriculture Park (TPU). The objective is centred around efforts to realise UPM's intention to reconsolidate the field of agriculture in tandem with the University's third objective i.e. 'to enhance UPM's capability as a centre for teaching and learning and for generating knowledge and agricultural technology services'. The establishment of the University Agriculture Park (TPU) not only helps in the implementation of UPM's physical and academic development plans but also further develops the campus as the foremost agriculture park complete with a botanical garden, agriculture museum (static and live), model plantations/entrepreneurship (*showcase*), recreational area, *agro tourism*, research stations and the development of agro-technopreneur programmes aimed at realising UPM's objectives in the field of agriculture. TPU serves as the prime mover and platform for the integration of all agricultural components, while utilising an overall approach in the effort to develop and modernise the agricultural sector and food production in the country.

Reopening of Bintulu Campus

The need to focus on Diploma studies in agriculture saw the reopening of UPM Bintulu



agroteknopreneur bagi merealisasikan sebahagian besar matlamat pertanian Universiti. TPU akan bertindak sebagai jentera penggerak dan pelantar bagi integrasi kesemua komponen pertanian dengan menggunakan pendekatan menyeluruh dalam usaha membangun dan memodenkan sektor pertanian dan pengeluaran makanan negara.

Pembukaan Semula Kampus Bintulu

Bagi memfokuskan pengajian Diploma dalam bidang pertanian, UPM Kampus Bintulu telah dibuka semula. UPM Kampus Bintulu akan dijadikan sebagai pusat pendidikan wilayah yang penting bagi pembangunan persekitaran intelektual, sumber tenaga dan sosioekonomi Daerah Bintulu khasnya dan Sarawak amnya. Fokus UPM Kampus Bintulu adalah kepada sektor pertanian menerusi penggabungan bidang-bidang pengeluaran, pemprosesan serta pengurusan perniagaan dengan mengambil kira dimensi lain yang penting seperti alam sekitar dan teknologi maklumat. Program akademiknya telah dimulakan pada Sesi November 2001/2002 dengan pembukaan Fakulti Sains Pertanian dan Makanan. Tiga program yang ditawarkan di bawah Fakulti ini ialah Diploma Pertanian, Diploma Perhutanan, dan Diploma Kejuruteraan (Keselamatan dan Kecemasan) dengan jumlah enrolmen seramai 242 orang.

Pembangunan ICT

Pembangunan pesat dalam Teknologi Maklumat dan Komunikasi (ICT) memberi implikasi yang ketara terhadap pengajaran, pembelajaran, pendidikan dan penyelidikan. Universiti akan ketinggalan sekiranya gagal mengintegrasikan ICT dalam setiap prosesnya. Selaras dengan hasrat ini dan hala tuju yang telah ditetapkan UPM telah mewujudkan program e-Universiti bagi meningkatkan keberkesanan dan kecekapan fungsi utama Universiti. e-Universiti merangkumi

Campus. This campus will be an important regional center of learning, contributing to the development of intellectual environment, manpower and socio-economy of Bintulu District in particular and of Sarawak generally. UPM Bintulu Campus focuses primarily on the agricultural sector with emphasis on fields of production, processing and business administration while taking into account other vital dimensions such as the environment and information technology. Its academic programmes commenced in the November 2001/2002 Session with the opening of Faculty of Agricultural Science and Food. Three programmes offered under this faculty are Diploma in Agriculture, Diploma in Forestry and Diploma in Engineering (Safety and Emergency) with a total enrolment of 242 students.

ICT Development

Vigorous development in the field of Information Technology and Communications (ICT) indeed has a pronounced impact on teaching, learning, education and research. UPM realizes that it will lag behind the others should it fail to integrate the processes involved in its stride. In line with this objective as well as the predetermined direction, UPM has introduced E-University programme for the purpose of improving the effectiveness and efficiency of the university's main functions. E-University encompasses digital teaching, learning, research, professional services and management. Lecturers have also offered on-line lectures to students. In order to manage strategically, ICT will be used to support all main administrative functions, thus enhancing productivity and providing quality services to UPM's clients.



pengajaran, pembelajaran, penyelidikan, perkhidmatan profesional dan pengurusan secara digital. Pensyarah Fakulti juga telah mengadakan kuliah 'on-line' kepada pelajar-pelajar. Untuk mengurus secara strategik, ICT akan digunakan untuk membantu semua fungsi utama supaya pembudayaan ICT dapat meningkatkan produktiviti dan menyediakan perkhidmatan yang berkualiti kepada pelanggan Universiti.

Pengurusan Berkualiti

Dalam menghasilkan sistem pentadbiran yang berkualiti dan terunggul di dunia, sudah pasti UPM memberikan komitmen yang bersungguh-sungguh untuk melaksanakannya. Komitmen ini tercatat pada salah satu matlamat yang ditetapkan oleh Universiti iaitu 'memantapkan sistem pengurusan berkualiti yang cekap dan berkesan, telus dan mesra pelanggan'. Ini dilaksanakan apabila UPM melancarkan Piagam Pelanggan pada Bulan Kualiti 2001 dan Fakulti Kejuruteraan telah dianugerahkan Sijil Pendaftaran Sistem Kualiti ISO 9001. Penganugerahan ini mencatat sejarah apabila menjadi Fakulti Kejuruteraan IPTA yang pertama mendapat pengiktirafan mengenainya. UPM bertekad untuk meneruskan tradisi kualitinya kepada semua Fakulti dan pusat pentadbirannya secara berperingkat-peringkat.

Pengurusan Sumber Manusia

Bagi mempertingkatkan kualiti akademik dan pentadbirannya, pengurusan sumber manusia perlulah cekap dan terancang supaya ianya sentiasa berada di atas landasan yang telah ditetapkan. Sehubungan itu, pada 2001, seramai 259 orang telah dilantik mengisi jawatan kosong yang terdiri daripada 182 jawatan Kumpulan Pengurusan dan Profesional (KPP) dan 77 jawatan kumpulan sokongan. Sementara itu seramai 74 orang telah dilantik ke jawatan secara

Quality Management

UPM is fully committed to providing an administrative system of quality. This commitment is reflected in one of UPM's objectives, i.e. 'to further consolidate the efficient, transparent and client-friendly management system'. This objective has been achieved when UPM launched its Client's Charter during the Quality-Month of 2001 and the prestigious ISO 9001 Quality Systems Certification are awarded to the Faculty of Veterinary Medicine (Jan 2000), and the Faculty of Engineering (August 2001). Indeed this achievement will go down in history as the first ever engineering faculty in a public institution of higher learning to have attained such a prestigious certification. UPM aims to gradually perpetuate its tradition of quality in all faculties and in its administrative center.

Human Resource Management

Academic and administrative quality can only be sustained with a sound and well-orchestrated human resource management system in place. Towards this end, in 2001, 259 personnel have been appointed to fill vacancies covering 182 positions in the Management and Professional Category and 77 in the support group. Meanwhile, 74 personnel are appointed on contract basis to supplement the shortage of permanent positions. These appointments smoothen the carrying out of activities geared towards academic excellence.

UPM has always ensured that vacancies for promotions are filled accordingly. A total of 52 personnel have been promoted, 55 retired and study leave have been approved for 121 personnel, 55 of whom are pursuing Ph.D. programmes and 18 undergoing Master's programmes abroad. Within Malaysia, 10 (Ph.D. programme) and 24 (Masters



kontrak bagi menampung kekurangan jawatan tetap untuk memastikan kelicinan aktiviti yang menyokong kecemerlangan akademik.

UPM juga memastikan kekosongan jawatan kenaikan pangkat dipenuhi sewajarnya. Dengan itu seramai 52 orang telah dinaikkan pangkat, 55 orang telah bersara, dan 121 orang telah diluluskan cuti belajar. Dari jumlah cuti belajar yang diluluskan seramai 55 orang mengikuti program Ph.D. dan 18 orang mengikuti program Master bercuti belajar di luar negara, 10 orang (program Ph.D.) dan 24 orang (program Master) bercuti belajar dalam negeri, tiga orang (program B.Sc.) bercuti belajar separuh gaji dan 13 orang (program B.Sc.) mendapat pelepasan belajar. Sebagai menghargai perkhidmatan cemerlang pegawai-pegawainya UPM juga telah menganugerahkan Perkhidmatan Cemerlang kepada seramai 194 pegawainya yang telah menunjukkan perkhidmatan cemerlang dalam membantu UPM menjayakan misinya sepanjang tahun 2001.

Pembangunan Fizikal

UPM sentiasa mengimbangkan pembangunan fizikalnya dengan pertambahan bilangan pelajar supaya semua kemudahan yang disediakan memberi keselesaan dan mencukupi untuk melahirkan pelajar yang berkualiti dan cemerlang. Sehubungan itu pada Jun 2001, UPM telah berjaya menyiapkan beberapa projek penting dalam rancangan Malaysia Ke-7 (RMK 7). Antaranya ialah Kompleks Kejuruteraan dan Teknologi, dan bangunan tambahan Fakulti Perubatan dan Sains kesihatan. Sementara itu UPM meneruskan pelaksanaan projeknya di bawah Rancangan Malaysia Ke-8 iaitu pembinaan Hospital Pengajian Veterinar (Fasa 1), menaiktaraf persekitaran Masjid dan persimpangan menuju Kolej 10 dan Kolej 11. Pemberian Kerajaan bagi maksud pembangunan yang diterima oleh UPM bagi tahun 2001

(programme) are on study leave, 3 (B. Sc. programme) on half-pay study leave, 13 (B. Sc. programme) are allowed time-off for study. As a gesture of appreciation, UPM has also presented the Excellent Service awards to 194 officers, a clear testimony advocating the fact that excellent service contributed by the workforce has paved the way for UPM to chalk-up an impressive performance throughout the year 2001.

Physical Development

UPM has always struck a healthy balance between physical development and increase in student population so as to ensure that the existing facilities can be optimally utilised to produce quality and versatile graduates. With this in mind, in June 2001, UPM successfully completed numerous vital projects as provided for in the 7th Malaysia Plan (RMK 7). These include the Engineering and Technological Complex, and an annex to the Faculty of Medicine and Health Sciences. Meanwhile, UPM continues to carry out development projects under the 8th Malaysia Plan e.g. the construction of the Veterinary Studies Hospital (Phase 1), and upgrading the areas around the mosque and the junction leading to the 10th and 11th Colleges. A development grant of RM92,000,000 was received by UPM from the government for the year 2001 but its expenditures amounted to RM106,503,018. The above deficit in income totaling to RM13,612,22 was financed by the Development Fund.

External Linkages

UPM actively pursues various activities with particular attention to fostering linkages with various agencies by establishing collaborative programmes in the Industrial, Private and Public sectors as well as foreign universities,



ialah sebanyak RM92,000,000, manakala perbelanjaan ialah sebanyak RM106,503,018. Kekurangan pendapatan di atas perbelanjaan sebanyak RM13,612,22 telah dibiayai dari Kumpulan Wang Pembangunan.

Hubungan Luar

UPM bergerak aktif dalam memperkukuh hubungan dengan pelbagai pihak melalui kerjasama di sektor Industri, Swasta dan Awam juga dengan universiti-universiti luar negara terutama dalam bidang pengajaran, penyelidikan, pembangunan teknologi dan teknologi maklumat. Untuk tujuan itu UPM telah menandatangani sebanyak 13 Memorandum Persefahaman (MoU)/Perjanjian Kerjasama sepanjang 2001. Sementara itu seramai 77 delegasi dari luar negara dan 115 pelawat dari dalam negara telah berkunjung ke UPM bagi mewujudkan kerjasama dalam bidang pengajaran dan pendidikan.

Sambutan 70 Tahun UPM

Pada memburu kecemerlangan, dalam arus globalisasi yang tanpa sempadan, tanpa disadari UPM telah pun melangkah usianya ke 70 tahun pada 21 Mei 2001. Sambutan mengenainya telah berlangsung selama satu (1) tahun bermula pada 21 Mei 2001 hingga Mei 2002. Sambutan pada kali ini yang bertemakan 'Jejak-Jejak Kegemilangan' adalah bertujuan untuk :

- (i) Menonjolkan (*highlight*) kewibawaan UPM sebagai institusi pengajian tinggi yang banyak melahirkan pemimpin masyarakat yang cemerlang dan berdaya saing.
- (ii) Memaparkan jejak-jejak kegemilangan dari aspek pengajaran dan penyelidikan dan khidmat profesional dalam pembangunan UPM dari bermulanya penubuhan Sekolah Pertanian (1931) hingga Universiti Putra Malaysia kini.

particularly in the fields of teaching, research, technological advancement and information technology. Towards this end, 13 Memorandums of Understanding (MoU)/ Collaboration Agreements were entered into by UPM in the year 2001. Meanwhile, 77 foreign delegates and 115 visitors from within Malaysia visited UPM to establish cooperation in teaching and learning.

UPM's 70th Anniversary Celebration

While being engrossed in the quest for excellence and being subjected to the challenges of globalisation, UPM found itself celebrating its 70th anniversary on the 21st of May 2001. The celebrations were held for a period spanning one (1) year commencing on the 21st of May 2001 till May 2002. With the theme 'Path to Excellence', the celebrations were aimed at:

- (i) Highlighting UPM's integrity as an institution of higher learning which is able to produce excellent and competitive leaders of the community.
- (ii) Projecting past excellence in teaching, research and professional services in developing UPM from its humble beginning as a School of Agriculture (1931) to the current Universiti Putra Malaysia, a premier institution of learning of today.
- (iii) Maintaining excellent team spirit, cooperation and a sense of togetherness amongst the campus community and UPM alumni.
- (iv) 'Bringing home' members of the Alumni to the Campus to reminisce past challenges in the academic world while sustaining a strategic alliance for the realisation of UPM's mission.
- (v) Scrutinizing the success and achievements in teaching, research and professional



- (iii) Mengekalkan semangat berpasukan, bekerjasama, dan semangat kekitaan di kalangan warga kampus dan alumni UPM.
- (iv) Membawa kembali alumni ke Kampus bagi mengingati perjuangan dalam mengharungi cabaran dunia akademik, di samping mengekalkan pakatan strategik dalam menjayakan wawasan UPM.
- (v) Meneliti kejayaan dan pencapaian dalam bidang-bidang pengajaran, penyelidikan dan khidmat profesional dan merancang arah tuju UPM selaras dengan perancangan strategi Universiti.

Pelancarannya telah dilaksanakan oleh Yang Amat Berbahagia Tun Dato' Seri (Dr.) Haji Hamdan bin Sheikh Tahir, Canselor UPM pada 9 November 2001. Pelbagai aktiviti telah diatur sepanjang tahun bagi mencapai dan memenuhi matlamat sambutan. Sempena Sambutan 70 Tahun juga UPM telah mewujudkan Galeri UPM yang mempamerkan jejak-jejak kegemilangan UPM sejak penubuhan Sekolah Pertanian lagi. Dengan itu pelajar dan juga staf UPM dapat meneliti secara jelas sejarah dan perkembangan terkini UPM.

Akhir sekali saya mengucapkan terima kasih kepada semua pihak yang telah sama-sama membantu menjayakan kecemerlangan UPM sejajar dengan misi dan hala tuju matlamat yang ditetapkan. Semoga UPM akan terus berkembang dan maju serta berada di persada yang disegani dan dihormati dalam aspek pendidikan, penyelidikan dan pembangunan.

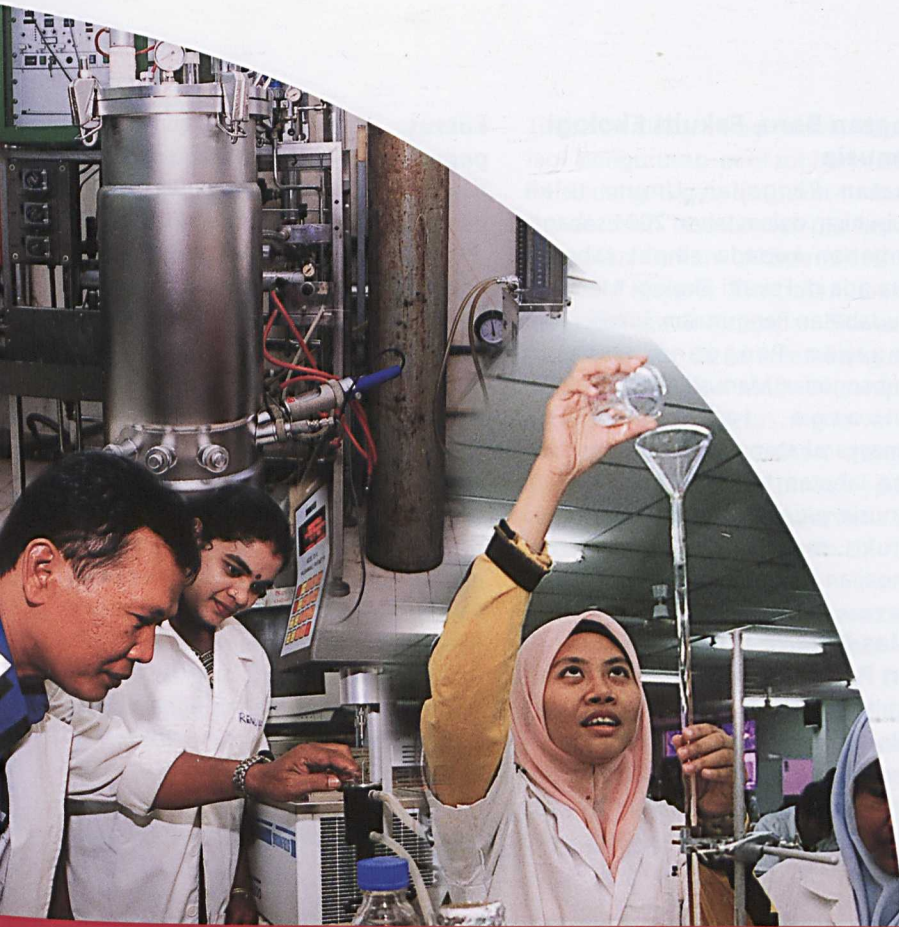
services while charting UPM's future direction in line with its strategic planning.

The celebration was launched by YAB Tun Dato' Seri (Dr.) Haji Hamdan bin Sheikh Tahir, The Chancellor of UPM, on the 9th of November 2001. Various activities were lined up throughout the year in conjunction with the celebrations. In conjunction with the 70th Anniversary celebration, the UPM Gallery was established to exhibit UPM's glorious achievements since its inception as the School of Agriculture. This will enable UPM's students and staff to know the history and development of the University.

Finally, please allow me to place on record my sincere appreciation and gratitude to all who have contributed in one way or another towards the accomplishment of our mission and predetermined direction. It is our wish that UPM will continue to progress and develop as a leading and respected institution in all aspects of education, research and development.

Hoed Joudi

PROFESOR DATO' MOHD. ZOHADIE BARDAIE
[Ph.D., P. Eng.]
Naib Canselor / Vice-Chancellor



UPM percaya peluang mendapatkan pendidikan tinggi yang lebih luas perlu disediakan kepada pelajar yang berkelayakan di negara ini. Objektif ini boleh dicapai tanpa menjejaskan kualiti pengajaran dan pembelajaran. Dalam tempoh 1996-2000 pertumbuhan pengambilan pelajar sangat membanggakan. Kadar pertumbuhan enrolmen pelajar dalam tempoh tersebut ialah 18% setahun, iaitu daripada enrolmen 16,500 kepada 32,500.

Pencapaian ini diperoleh dengan penambahan penawaran program di peringkat ijazah pertama dan pasca siswazah, serta peningkatan produktiviti tenaga pengajar. Di samping itu, peluang juga dipertingkatkan melalui Program Luar Kampus dan Program Jarak Jauh. Rumusannya, pencapaian objektif

Pengajaran dan Pembelajaran Teaching and Learning



Greater opportunities for higher learning need to be provided for qualified students in the nation. This objective may be achieved without sacrificing teaching and learning quality. Between 1996-2000, the growth of student intake has been very encouraging. The student enrolment growth rate in the said period was 18% per year, bringing the total from 16,500 to 32,500 students.

This has been attained through an increased number of programmes offered at the bachelor's degree level and multi-disciplinary graduate studies as well as improved productivity of the teaching staff. In addition, opportunities have also been increased through Off-Campus and Distance Learning Programmes. As a result, efforts to achieve the objective of providing educational opportunities as outlined in the 1996-2000 Strategic Plan have surpassed the predetermined target.

untuk menyediakan peluang pendidikan sebagaimana yang digariskan dalam Pelan Strategi 1996-2000 melewati sasaran yang ditetapkan.

Dalam Pelan Hala tuju UPM 2001-2010, UPM akan mengurangkan enrolmen pelajar ijazah pertama secara berperingkat. Menjelang tahun 2010, enrolmen pelajar ijazah pertama akan dikurung dan dikekalkan pada tahap 20,000. Penurunan ini bertujuan untuk memperkukuh proses pemindahan pembelajaran yang suasana pembelajaran lebih kondusif boleh diadakan. Walau bagaimanapun, UPM akan meningkatkan enrolmen pelajar siswazah. Ini bersesuaian dengan langkah UPM untuk memperkukuh lagi penyelidikannya. Menjelang tahun 2010, enrolmen pelajar siswazah akan meningkat kepada 10,000 orang.

Jabatan Baru, Fakulti Ekologi Manusia

Jabatan Pengajian Umum telah ditubuhkan dalam tahun 2001 sebagai tambahan kepada empat Jabatan sedia ada di Fakulti Ekologi Manusia, iaitu Jabatan Pengurusan Sumber dan Pengajian Pengguna, Jabatan Pembangunan Manusia dan Pengajian Keluarga, Jabatan Sains Kemasyarakatan dan Pembangunan serta Jabatan Muzik. Fakulti Ekologi Manusia juga mempunyai unit khas untuk menguruskan program pengajian luar fakulti.

Kelas Maya Fakulti Ekonomi dan Pengurusan

Fakulti Ekonomi dan Pengurusan telah mula menggunakan kelas maya untuk pengajaran bermula pada 2001. Kelas ini menggunakan Aplikasi Lotus Notes yang mana nota kuliah, kandungan

kursus, soalan tutorial, soalan peperiksaan serta skema jawapan boleh dirujuk oleh pelajar. Sehingga penghujung 2001, hampir 40% daripada kursus-kursus yang ditawarkan oleh fakulti telah menggunakan kaedah kelas maya ini.

Kurikulum Baru Fakulti Kejuruteraan

Dalam mempertingkatkan daya saing graduan Bachelo Kejuruteraan, fakulti telah memperkenalkan bentuk program baru Kurikulum Kejuruteraan empat tahun yang berdasarkan kajian saintifik 'model kejuruteraan'. Kurikulum ini direka bentuk untuk melahirkan jurutera saintifik yang bukan sahaja berkemampuan tinggi dalam aspek penyelidikan bagi era k-ekonomi tetapi mempunyai nilai tambah dalam keterampilan global, industri, komunikasi, sahsiah dan jati



As stated in UPM's course of action 2001 – 2010, UPM shall reduce bachelor's degree student enrolment in stages. By the year 2010, bachelor's degree student enrolment shall be limited to and maintained at 20,000. This reduction aims to strengthen the process of knowledge transfer by creating an increasingly conducive learning environment. UPM, however, shall increase graduate student intake, in accordance with UPM's move to further consolidate its strength in research. By the year 2010, graduate student enrolment is expected to rise to 10,000.

New Department of the Faculty of Human Ecology

The Department of General Studies was established in 2001 as an extension to the four existing departments, i.e. Department of

Resource Management and Consumer Studies, Department of Human Development and Family Studies, Department of Social Sciences and Development and Department of Music. The faculty also has a special unit that manages off-campus programmes.

Virtual Classes at the Faculty of Economics and Management

In the year 2001, the Faculty of Economics and Management commenced usage of virtual classes for teaching purposes. The virtual class utilizes Lotus Notes Application whereby lecture notes, course contents, tutorials, examination questions as well as marking schemes may be referred to by students. By the end of 2001, approximately 40% of all courses offered by the faculty have begun using the virtual class method.

New Curriculum of the Faculty of Engineering

In its quest to enhance the competitiveness of the Bachelor of Engineering graduates, the faculty has introduced a new four-year Engineering Curriculum based on "engineering model" scientific studies. The curriculum is designed such that it will produce scientific engineers who are not only highly competent in aspects of research for the k-economy era but also equally prolific in terms of value-added characteristics of global ability, industrial, and communication skills, and refined personality and character. In order to ensure a conducive environment for research activities, Phase 1 of Engineering Complex has been completed and fully occupied on the 2nd of July 2001.

diri. Bagi memastikan suasana pembelajaran dan penyelidikan yang selesa, Kompleks Kejuruteraan Fasa 1 telah dibina dan digunakan sepenuhnya pada 2 Julai 2001.

Menyokong Sektor Pertanian

Sepanjang tahun 2001, Fakulti Pertanian telah diberi mandat oleh pihak pengurusan UPM untuk menyokong hasrat negara dalam membangunkan kembali sektor Pertanian, selaras dengan peranan sektor ini sebagai jentera pertumbuhan ekonomi ketiga. Sehubungan itu, fakulti perlu memberi tumpuan dan merancang penyusunan semula kurikulum dan kemudahan fizikal yang sesuai untuk melaksanakan tanggungjawab baru ini secara efektif. Pada suku tahun 2001, barisan pengurusan Fakulti Pertanian telah diubah dengan pelantikan Dekan baru dan tiga

Timbalan Dekan. Bagi memantapkan lagi pengurusan pentadbiran fakulti ini, bidang tugas Timbalan-timbalan Dekan telah disusun semula kepada Timbalan Dekan (Akademik & Hal Ehwal Pelajar), Timbalan Dekan (Penyelidikan & Pengajian Siswazah) serta Timbalan Dekan (Pembangunan & Khidmat Profesional). Di samping itu, Fakulti juga terus menawarkan program yang berkaitan dengan disiplin-disiplin Pertanian pada peringkat Diploma, Ijazah Pertama dan Ijazah Lanjutan (M.S. dan Ph.D).

Peningkatan Pelajar Siswazah di Fakulti Reka Bentuk dan Seni Bina

Fakulti Reka Bentuk dan Seni Bina terus berkembang dengan pesatnya sepanjang tahun 2001. Bilangan tenaga pengajar telah meningkat kepada 37 orang yang meliputi bidang

Seni Bina, Seni Bina Landskap, Perancangan dan Reka Bentuk Bandar, Reka Bentuk Industri, Reka Bentuk Dalaman, Reka Bentuk Grafik dan Multimedia serta Seni Halus. Program Bachelor Reka Bentuk Perindustrian dijangka akan ditawarkan pada semester Mei 2002 setelah mendapat kelulusan daripada Kementerian Pendidikan.

Dalam tahun ini terdapat lapan pelajar di peringkat Master Sains (M.Sc.) yang berada di bawah penyeliaan tenaga pengajar di fakulti ini dari pelbagai bidang termasuk Seni Bina Landskap, Seni Bina, Perancangan dan Reka Bentuk Bandar, Reka Bentuk Grafik/Multimedia dan Reka Bentuk Industri. Pada masa yang sama terdapat lima pelajar pascasiswazah yang mengikuti program profesional (Struktur C) Master Seni Bina Landskap (MLA).

Supporting the Agriculture Sector

Throughout the year 2001, the Faculty of Agriculture had been given the mandate by the management of UPM to fully support the nation's aspiration to redevelop and revitalise the Agriculture sector in line with the sector's role as the third machinery for economic growth. In connection with that, the faculty has been focussing and planning on reorganizing its curriculum and physical facilities vital for carrying out the new responsibility in the best possible manner. The second quarter of 2001 witnessed a revamp of the Faculty of Agriculture's management team with the appointment of a new Dean and three new Deputy Deans. To further reinforce the management of the faculty, the job functions of the Deputy Deans have been restructured to be

Deputy Dean (Academic & Student Affairs), Deputy Dean (Research & Graduate Studies) and Deputy Dean (Development & Professional Services) The Faculty however continues to offer agriculture-related programmes at Diploma, undergraduate and graduate levels.

Increase of Graduate Students in the Faculty of Design and Architecture

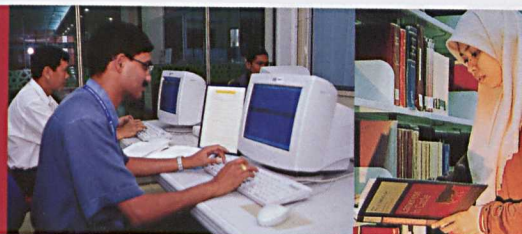
The Faculty of Design and Architecture has been expanding rapidly through 2001. The number of teaching staff rose to 37 covering fields of Architecture, Landscape Architecture, Town Planning and Design, Industrial Design, Interior Design, Graphic/Multimedia Design and Fine Arts. The Bachelor of Industrial Design Programme is expected to be offered in Semester

May 2002 upon receiving approval from the Ministry of Education.

This year, there are 8 Master of Science (MSc) students placed under the supervision of the faculty's teaching staff majoring in various fields of study including Landscape Architecture, Architecture, Town Planning and Design, Graphic/Multimedia and Industrial Design. Meanwhile, there are also 5 multidisciplinary graduate students undergoing professional training (structure C) for Masters in Landscape Architecture (MLA).

Facilities at the Faculty of Computer Science and Information Technology

The Faculty of Computer Science and Information Technology also offers the Bachelor of Computer Science Programme with four majors – Software Engineering, Computer



Kemudahan di Fakulti Sains Komputer dan Teknologi Maklumat

Fakulti Sains Komputer dan Teknologi Maklumat juga menawarkan program Bachelour Sains Komputer dengan empat pengkhususan iaitu Kejuruteraan Perisian, Sistem Komputer, Multimedia, dan Rangkaian di samping menawarkan program Diploma Sains Komputer. Selain daripada itu, terdapat juga program di peringkat Master Sains seperti mana Struktur C yang dikembangkan kepada empat pengkhususan iaitu Kejuruteraan Perisian, Multimedia, Sistem Pengurusan Maklumat, dan Sistem Teragih. Fakulti juga meneruskan penawaran program Ph.D untuk memenuhi permintaan pengajian siswazah.

Pada bulan Jun 2001, Fakulti Sains Komputer dan Teknologi Maklumat secara keseluruhannya telah berpindah ke bangunan baru. Bangunan baru

ini mempunyai dua blok yang menempatkan bahagian pentadbiran fakulti, bilik-bilik pensyarah, bilik-bilik kuliah dan juga makmal-makmal komputer.

Bangunan baru ini telah dilengkapi dengan sistem rangkaian setempat (LAN) yang menggunakan teknologi *Gigabit Ethernet* sebagai kemudahan komunikasi. Teknologi terkini ini berupaya meningkatkan keupayaan sistem rangkaian untuk sambungan dan capaian data yang lebih cepat. Selain daripada itu, fakulti turut menyediakan kemudahan sistem rangkaian tanpa wayar (*wireless network*) untuk kegunaan pembelajaran dan penyelidikan.

Fakulti turut menyediakan kemudahan pelayan komputer untuk membantu pengurusan dan pembelajaran. Sebanyak sembilan unit pelayan telah di tempatkan di fakulti

untuk menyediakan perkhidmatan e-mel, pelayan aplikasi dan pengaturcaraan, pelayan pangkalan data, automasi pejabat dan juga sebagai kemudahan penyelidikan. Pelayan-pelayan ini dikelaskan mengikut keperluan pengguna iaitu untuk pengurusan fakulti dan juga alat bantu pembelajaran pelajar.

Makmal-makmal komputer dilengkapi dengan perkakasan komputer dan perisian-perisian sebagai keperluan asas pengajaran dan pembelajaran yang boleh digunakan untuk pengaturcaraan, pembangunan multimedia, realiti maya, pangkalan data, pembangunan perisian, dan pengkomputeran berprestasi tinggi.

Kuliah On-Line di Fakulti Sains Makanan dan Bioteknologi

Fakulti Sains Makanan dan Bioteknologi sentiasa peka terhadap



Systems, Multimedia and Networking, whilst offering a Diploma in Computer Science. Apart from that, Master's in Science Programme is also offered as in Structure C which is expanded into four majors - Software Engineering, Multimedia, Information Management System and Distributed system. The faculty also continues to offer Ph.D programmes to meet graduate studies demand.

In June 2001, the Faculty of Computer Science and Information Technology moved to its new building which houses the faculty's administration, lecturers' rooms, lecture rooms and computer laboratories.

The new building is equipped with local area network (LAN) which uses Gigabit Ethernet technology as its communications facility. This state-of-the-art technology is able to enhance

the capacity of networking systems, hence faster connection and data retrieval. In addition to that, the faculty also offers a wireless network system for learning and research purposes.

The faculty also provides computer server facilities to assist administration and learning processes. Nine units of servers are placed in the faculty to provide services such as e-mail, application server and programming, database server, office automation services as well as research amenities. These servers are categorized according to users' requirements for administration and teaching purposes.

The computer laboratories are equipped with computer hardware and software as basic requirements for the process of teaching and learning which may be used

for programming, multimedia development, virtual reality, database software development and high-performance computerization.

On-Line Lectures at the Faculty of Food Science and Biotechnology

The Faculty of Food Science and Biotechnology has always remained sensitive to industrial development and current requirements and continues to establish co-operation with industrial players and companies, and professional bodies whether in the public or private sector. Courses offered have incorporated the on-line lectures in consonance with the advancement in the Communications Technology Laboratory.

Those graduating in this programme have vast career opportunities. They are able to fit into organizations such as the

perkembangan dan keperluan semasa industri dan sentiasa menjalin kerjasama dengan industri, syarikat-syarikat perniagaan dan badan-badan profesional sama ada di sektor awam mahupun swasta. Kursus-kursus yang ditawarkan telah menggunakan kuliah *on-line* selaras dengan perkembangan Teknologi Makmal Komunikasi.

Graduan yang mengikuti program ini mempunyai peluang kerjaya yang sangat luas. Mereka boleh bekerja dalam industri makanan, farmasi, perubatan, fermentasi, restoran, hotel, katering, agensi kawalan alam sekitar, sektor awam, institusi-institusi penyelidikan dan universiti-universiti.

Pihak Fakulti juga mula mengikut format ISO 9000 bagi aktiviti pengajaran yang setiap pensyarah dikehendaki menyediakan fail bagi setiap kursus yang diajar lengkap dengan sinopsis kursus, kandungan

kursus, bilangan dan senarai pelajar, nota kursus, markah ujian serta peperiksaan dan maklumat lain yang diperlukan. Fakulti juga telah mengadakan bengkel Penasihat Akademik bagi memantapkan sistem penasihat akademik fakulti.

Program Jarak Jauh

Institut Pendidikan dan Pembelajaran Jarak Jauh (IDEAL), Universiti Putra Malaysia ditubuhkan pada tahun 1995 berdasarkan saranan Kementerian Pendidikan Malaysia agar semua Institusi Pengajian Tinggi menawarkan program pendidikan Jarak Jauh (PJJ). Penubuhan IDEAL adalah berasaskan penyusunan semula Unit Pendidikan Lanjutan (UPL) dan Pusat Pengembangan dan Pendidikan Lanjutan (PPPL).

IDEAL menawarkan program di peringkat Bachelor dan Master secara jarak jauh. Pada masa ini program-

program yang ditawarkan ialah:

- Bachelor Komunikasi
- Bachelor Komunikasi '*on-line*'
- Bachelor Sains (Pembangunan Manusia)
- Bachelor Sains (Pembangunan Sumber Manusia)
- Bachelor Sains (kepujian) dalam bidang Matematik, Statistik, Kimia dan Biologi
- Bachelor Sains dengan Pendidikan (kepujian) dalam bidang Matematik, Statistik, Kimia dan Biologi
- Bachelor Sains Komputer
- Bachelor Pentadbiran Perniagaan
- Bachelor Pendidikan (Pengajaran Bahasa Inggeris sebagai Bahasa Kedua)
- Bachelor Pendidikan (Bimbingan dan Kaunseling)
- Bachelor Sastera (Bahasa dan Linguistik Melayu)
- Bachelor Sastera (Bahasa Inggeris)



food industry, pharmacy, fermentation, restaurant, hotel catering, environment control agency, public sector, research institutions and universities.

The faculty also has begun using the ISO 9000 format in teaching activities where each lecturer has to prepare files for each course taught complete with course synopsis, course contents, the number and list of students, course notes, test and examination marks, and other pertinent information. The Faculty also organized an Academic Advisory Workshop to further consolidate its academic advisory system.

Distance Learning Programme

The Institute of Distance Education and Learning (IDEAL), Universiti Putra Malaysia was established in 1995 based on the emphasis given by the Ministry

of Education Malaysia that all Institutions of Higher Learning can offer Distance Learning Programmes (DLP). The establishment of IDEAL was achieved by restructuring the Continuing Education Unit (UPL) of the former Centre for Extension and Continuing Education.

IDEAL offers distance learning programmes at both Bachelor's and Master's levels. Currently, programmes that are offered are:

- Bachelor of Communication
- Bachelor of On-Line Communication
- Bachelor of Science (Human Development)
- Bachelor of Science (Human Resources Development)
- Bachelor of Science (Honours) in Mathematics, Statistics, Chemistry and Biology
- Bachelor of Science with Education (Honours) in Mathematics, Statistics, Chemistry and Biology

- Bachelor of Computer Science
- Bachelor of Business Administration
- Bachelor of Education (Teaching of English as a Second Language)
- Bachelor of Education (Guidance and Counseling)
- Bachelor of Arts (Malay Language and Linguistics)
- Bachelor of Arts (English Language)
- Master of Science (Human Resources Development)
- Master of Science (On-Line Human Resources Development)
- Master of Science (Corporate Relations)
- Master of Science (Teaching of Malay as a First Language)
- Master of Science (Permanent Resources Management)
- Master of Arts (Malay Language)

DLP requires self study via special modules given to students apart from

- Master Sains (Pembangunan Sumber Manusia)
- Master Sains (Pembangunan Sumber Manusia 'on-line')
- Master Sains (Komunikasi Korporat)
- Master Sains (Pengajaran Bahasa Melayu sebagai Bahasa Pertama)
- Master Sains (Pengurusan Sumber Lestari)
- Master Sastera (Bahasa Melayu)

PJJ menekankan pembelajaran secara persendirian melalui modul-modul khusus yang diberikan kepada pelajar di samping sesi bertemu pensyarah di kampus UPM. Antara kemudahan yang diberikan kepada pelajar ialah penggunaan perkhidmatan Perpustakaan UPM dan sesi tutorial yang diadakan di pusat-pusat pembelajaran PJJ UPM di bandar-bandar strategik di seluruh Malaysia. Pusat-pusat pembelajaran PJJ yang disediakan itu

terdapat tutor-tutor yang dilantik untuk membimbing pelajar bagi memudahkan pengajaran dan pembelajaran.

Selaras dengan perkembangan dan pertambahan jumlah program yang ditawarkan, bagi melengkapkan kandungan program, IDEAL telah menerbitkan 53 modul (kursus) yang terdiri daripada bidang-bidang Sains Tulen 13 modul (kursus), Sains Sosial 38 modul (kursus) dan Pertanian 2 modul (kursus).

IDEAL dengan kerjasama Fakulti Pertanian UPM telah memperkenalkan satu lagi program di peringkat Master secara jarak jauh iaitu Program Master Sains (Pengurusan Sumber Manusia). Sementara itu pusat ini juga telah menubuhkan dua lagi pusat pembelajaran PJJ iaitu di Sabah dan Sarawak untuk kemudahan pelajar PJJ di Malaysia Timur sesuai dengan peningkatan jumlah pelajar di negeri-negeri tersebut.

Program Kerjasama dengan IPTS

Pusat Program Luar ditubuhkan pada bulan Mei 1997 untuk menggalakkan penawaran program akademiknya secara kerjasama antara IPTS dan universiti lain. Pada tahun 2001 terdapat 28 IPTS yang bekerjasama dengan UPM. Seramai 9,026 pelajar telah berdaftar untuk pelbagai program. Jumlah kemasukan pada tahun 2001 ialah 3,226 iaitu 3012 pelajar mendaftar dalam program Diploma dan 214 pelajar mendaftar dalam program Bachelor.

Secara keseluruhan prestasi akademik pelajar IPTS adalah baik. Keputusan 5.2% bagi program Diploma dan 0.2% bagi program Bachelor. Sementara itu seramai 1,560 pelajar program kerjasama UPM telah bergraduasi pada tahun 2001 dan graduan-graduan ini telah menyertai Majlis Konvokesyen yang sama seperti

meet-the-lecturer sessions at UPM Campus. The facilities provided for the students include the use of UPM Library services and tutorial sessions held in the respective DLP UPM centers of learning located in strategic towns covering the whole of Malaysia. At the PJJ centers of learning, there are specially appointed tutors who are committed to teach and guide students, thus facilitating the process of teaching and learning.

In line with the development and increase of programmes offered and in order to complete the course contents, IDEAL has published 53 modules (courses) covering Pure Sciences – 13 modules (courses), Social Sciences – 38 modules (courses) and Agriculture – 2 modules (courses).

IDEAL, in collaboration with the Faculty of Agriculture UPM, has introduced another programme at the

Master's level as a distance learning programme, i.e. Master of Science (Human Resources Management). Meanwhile, the institute has also established two more DLP centers of learning, i.e. in Sabah and Sarawak for the benefit of DLP students in East Malaysia, where the number of students has been steadily increasing.

Collaboration with IPTS

The External Programme Centre was established in May 1997 with the objective of encouraging the offering of academic programmes in collaboration with other IPTS and universities. In 2001, there were 28 IPTS still affiliated with UPM. A total of 9,026 students were registered for various programmes. The total intake in 2001 was 3,226, i.e. 3012 students were registered for Diploma programmes and 214 students registered

for the Bachelor's programmes. (Table 1: Student Intake and Enrolment in IPTS by Ethnic Groups)

The overall academic performance of IPTS students was good. Statistics of examination results for Semester May 2001 show that only a few students obtained the Fail and Terminated (GB) status – i.e. for Diploma programme (5.2%) and Bachelor's Programme (0.2%) (Table 2: Evaluation Statistics of IPTS for May 2001/2002 (%) Semester). A total of 1,560 students from UPM collaboration programmes graduated in 2001 and the graduates received their scrolls in the same Convocation Ceremony as others from the UPM main campus. Many Diploma graduates from the said programmes managed to continue their education at the Bachelor's level in UPM main campus.

graduan-graduan kampus induk di UPM. Ramai graduan Diploma bagi program kerjasama telah berjaya melanjutkan pengajian di peringkat Bachelor di kampus induk UPM.

E-Universiti

Pembangunan yang pesat dalam Teknologi Maklumat dan Komunikasi (ICT) dan aplikasinya terhadap pengajaran, pembelajaran dan pendidikan akan merupakan ancaman kepada sesebuah universiti jika universiti itu gagal mengintegrasikan teknologi ini dalam semua prosesnya. Selaras dengan hasrat pengintegrasian tersebut, UPM telah mewujudkan program E-Universiti bagi meningkatkan keberkesanan dan kecekapan fungsi utama universiti. Mengikut Majalah "Managing Information Strategies", UPM menduduki tempat ke-46 dalam senarai 100 Pengguna IT Terbaik

di Asia pada tahun 2001. E-Universiti merangkumi pengajaran dan pembelajaran, penyelidikan, perkhidmatan profesional dan pengurusan secara digital. Untuk mengurus secara strategik, ICT akan digunakan untuk membantu fungsi utama tersebut. Ini akan membawa kepada pembudayaan ICT untuk meningkatkan produktiviti dan menyediakan perkhidmatan yang berkualiti kepada pelanggan.



E-University

The rapid development in Information Technology and Communication (ICT) and its application in teaching, learning and education may inevitably pose a serious threat to the university's excellence should it fail to integrate this technology into all its processes. In accordance with that aspiration of integration, UPM has introduced the e-University programme so as to improve efficiency and effectiveness of the main functions of the university. According to the "Managing Information Strategies" periodical UPM stands at the 46th position in the list of 100 Best IT Users in Asia for the year 2001. E-University incorporates the functions of digital teaching and learning, research, professional services and management. In order to enhance strategic management,

ICT is used to assist the said primary functions; hence ICT usage improves productivity and provides quality services for clients.



Universiti Putra Malaysia (UPM) mempunyai rekod prestasi yang cemerlang dalam usaha-usaha penyelidikan di peringkat kebangsaan mahupun antarabangsa.

Sebagaimana Universiti awam dan institusi penyelidikan yang lain, peruntukan penyelidikan di UPM diterima daripada kerajaan di bawah program *Intensification of Research in Priority Areas* (IRPA).

Sebagai sebuah agensi Penyelidikan dan Pembangunan (P&P) yang terbesar di Malaysia, UPM menerima peruntukan penyelidikan IRPA yang paling tinggi berbanding institusi-institusi P&P lain dalam Rancangan Malaysia ke-7 iaitu berjumlah RM123.19 juta untuk membiayai sebanyak 646 projek penyelidikan. UPM juga menerima bayaran sebanyak RM9.51 juta dari kontrak penyelidikan dan RM7.81 juta bagi bayaran perundingan. Dalam

Rancangan Malaysia ke-8 (2001-2005), program IRPA merangkumi tiga kategori penyelidikan iaitu Penyelidikan *Experimental Applied Research* (EA), *Prioritised Research* (PR) dan *Strategic Research* (SR).



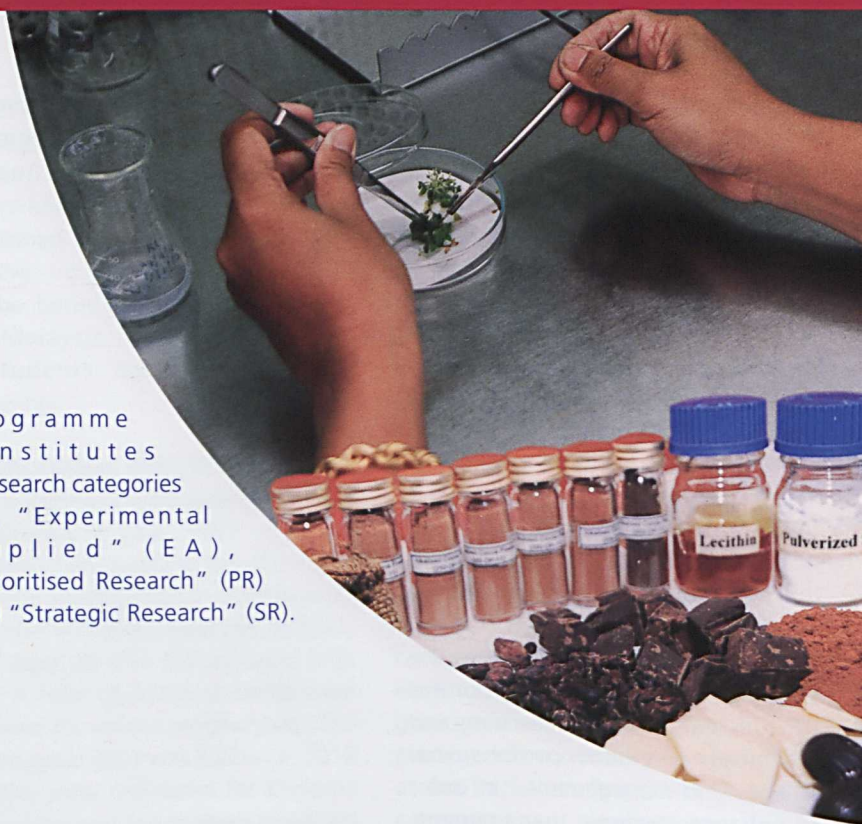
Penyelidikan dan Pembangunan Research and Development

Universiti Putra Malaysia (UPM) can be proud of having attained an excellent track record in the field of research, both locally and at the international arena.

Like other public universities and research institutions, allocation for research in UPM is received from the government under the "Intensification of Research in Priority Areas" (IRPA) programme.

UPM, as the largest Research and Development (R&D) agency in Malaysia, received the highest IRPA research allocation as compared to other R&D institutions in the 7th Malaysia Plan, totaling RM123.19 million to finance 646 research projects. UPM also received a payment of RM9.51 million from research contract work and RM7.81 million as consultancy revenue. In the 8th Malaysia Plan (2001-2005), the IRPA

programme constitutes 3 research categories i.e. "Experimental Applied" (EA), "Prioritised Research" (PR) and "Strategic Research" (SR).



**Penyelidikan *Experimental Applied* (EA)
"Experimental Applied" (EA) Research**

Untuk pusingan satu tahun 2001, sebanyak 372 kertas cadangan projek telah disaring di bawah peruntukan EA dengan jumlah RM90.10 juta dan sebanyak 238 projek dengan jumlah keseluruhannya RM43,574,665 telah disokong dan dicadangkan untuk menerima peruntukan.

For round 1, the first of the year 2001, a total of 372 project proposals were scrutinised under the EA provision totaling to RM 90.10 million and 238 projects totaling to RM43,574,665 were recommended and proposed to receive the allocation.

**Kelulusan Projek dan Peruntukan IRPA (EA 2001) Berdasarkan Sektor
Approvals for IRPA Projects and Allocations (EA 2001) according to Sector**

Sektor Sector	No. Projek Diluluskan No. Project Approved	Jumlah Peruntukan Diluluskan Total Allocation Approved
Agroindustri (01) Agro-Industry (01)	73	13,790,202
Tenaga, Mineral & Geosains (02) Energy, Minerals & Geoscience (02)	3	666,022
Pengeluaran & Pembinaan (03) Production & Construction (03)	31	6,081,461
Perkhidmatan & IT (04) Services & IT (04)	5	1,131,460
Ekonomi (05) Economics (05)	19	2,245,950
Kesihatan (06) Health (06)	9	1,896,936
Sosial (07) Social (07)	7	1,196,140
Persekitaran (08) Environment (08)	10	1,667,668
Sains & Kejuruteraan Science & Engineering	81	14,898,806
JUMLAH TOTAL	238	RM43,574,665

Peruntukan Projek IRPA (EA 2001-2004) Mengikut Sektor
IRPA Project Allocation (EA 2001-2004) by Sector

Sektor Sector	No. Projek Project No.	2001	2002	2003	2004	JUMLAH TOTAL
Agroindustri Agro-Industry	55	2,776,963	3,753,396	2,599,896	445,184	9,565,412
Tenaga, Mineral & Geosains Energy, Minerals & Geoscience	3	308,940	218,036	149,646	-	676,622
Pengeluaran & Pembinaan Production & Construction	19	714,850	1,669,254	1,019,274	433,984	3,837,356
Perkhidmatan & IT Services & IT	4	299,000	310,500	231,500	48,000	889,000
Ekonomi Economics	16	241,912	903,380	580,640	140,050	1,865,982
Kesihatan Health	7	22,000	666,548	478,548	211,440	1,378,536
Sains Sosial Social Science	5	-	348,850	374,250	66,350	789,180
Persekitaran Environment	9	137,000	531,376	502,580	203,732	1,374,688
Sains & Kejuruteraan Science & Engineering	50	1,245,540	3,496,388	2,506,208	950,240	8,198,376
JUMLAH TOTAL	168	5,736,178	11,897,458	8,442,542	2,498,980	28,575,158

Peruntukan Projek IRPA (EA 2001-2004) Berdasarkan Fakulti/Institut
IRPA Project Allocation (EA 2001-2004) by Faculty/Institute

Bil No.	Fakulti/Institut Faculty/Institute	No. Projek Project No.	2001	2002	2003	2004	Jumlah TOTAL
1	Ekologi Manusia Human Ecology	2	-	181,100	168,100	-	349,200
2	Ekonomi & Pengurusan Economics & Management	15	265,912	759,020	455,640	112,050	1,592,622
3	Kejuruteraan Engineering	15	414,520	1,261,260	672,140	193,000	2,540,920
4	Pengajian Pendidikan Educational Studies	1	-	34,280	69,450	36,250	139,980
5	Perhutanan Forestry	9	231,040	585,358	465,360	239,000	1,520,756
6	Pertanian Agriculture	27	1,520,296	1,791,436	1,403,436	306,740	5,021,908
7	Perubatan & Sains Kesihatan Medicine & Health Sciences	9	110,000	833,468	538,108	164,000	1,645,576
8	Perubatan Veterinar Veterinary Medicine	9	558,380	675,888	283,088	-	1,517,356
9	Sains & Pengajian Alam Sekitar Science & Environmental Studies	49	1,524,840	3,343,876	2,671,506	973,532	8,513,754
10	Sains Komputer & Teknologi Maklumat Computer Science & Information Technology	2	178,000	157,500	120,500	-	456,000
11	Sains Makanan & Bioteknologi Food Science & Biotechnology	12	439,050	963,618	789,958	299,868	2,489,494
12	Institut Biosains Bioscience Institute	11	278,560	813,256	570,756	144,440	1,807,012
13	Institut Multimedia & Perisian Multimedia & Software Institute	1	-	45,700	38,800	-	84,500
14	Institut Pengajian Komuniti & Keamanan Institute for Community and Peace Studies (PEKKA)	2	-	133,200	136,700	30,100	300,000
15	Institut Teknologi Maju Institute for Advanced Technology (ITMA)	4	215,580	318,500	62,000	-	596,080
	JUMLAH TOTAL	168	5,736,178	11,897,458	8,442,542	2,498,980	28,575,158

"Prioritised Research (PR)"

Bagi tahun 2001, tiga program PR daripada tujuh projek dengan UPM sebagai ketua agensi telah diluluskan dengan jumlah peruntukan diterima sebanyak RM2.8 juta. Projek-projek yang diluluskan adalah :

Tajuk	: <i>Development Economical Processing Technologies</i>
Institusi	: UPM/MARDI
Penyelidikan	: <i>Manufacturing</i>
Geran	: RM219,800
Tajuk	: <i>Development of Commercialisable-Agrobio-technologies for Fusarium</i>
Institusi	: UPM/MINT/USM/UM/MARDI
Penyelidikan	: <i>Plant Production and Primary Products</i>
Geran	: RM 2,051,000

Tajuk	: <i>Scale up production: Enzymatic Synthesis of Palm-based Wax Esters</i>
Institusi	: UPM/MPOB/UiTM
Penyelidikan	: <i>Plant Production and Primary Products</i>
Geran	: RM518,000

Projek Bioteknologi

Tiga projek bioteknologi *top-down* telah diluluskan bagi tahun 2001 dengan peruntukan berjumlah RM1.3 juta. Projek-projek tersebut adalah:

- *Improvement of Shrimp health through bioremediation and natural health food* (RM433,534).
- *Development of novel therapeutic and diagnostic reagent from Newcastle disease virus* (RM527,875).
- *Improving the functionality and qualities of fats and oils using biotechnological processes* (RM360,062).

Geran Penyelidikan Lain

UPM juga menerima geran penyelidikan daripada agensi tempatan dan luar negara seperti *International Atomic Energy Agency (IAEA)*, *Japan International Cooperation Agency (JICA)*, *International Plant Genetic Resources Institute (IPGRI)*, Kementerian Perumahan dan Kerajaan Tempatan, Kementerian Pertanian, Tenaga Nasional Berhad (TNB), Lembaga Minyak Sawit Malaysia (MPOB)", FELDA, Sapura Holdings Bhd, dan lain-lain lagi. Bagi tahun 2001 UPM menerima geran bernilai RM1,112,225 untuk membiayai 27 buah projek.

Hasil Penyelidikan

Tahun 2001 menyaksikan penghasilan sejumlah 37 judul buku dan 1,728 penulisan rencana-rencana saintifik dan kertas kerja persidangan, serta 21 hasil penyelidikan yang menunggu untuk



Prioritised Research (PR)

For the year 2001, 3 PR programmes comprising 7 projects, with UPM acting as agency leader, were approved with a total allocation of RM2.8 million. The approved projects are as follows:

Title	: <i>Development Economical Processing Technologies</i>
Institution	: UPM/MARDI
Research	: <i>Manufacturing</i>
Grant	: RM219,800
Title	: <i>Development of Commercialisable Agrobiotechnologies for Fusarium</i>
Institution	: UPM/MINT/USM/UM/MARDI
Research	: <i>Plant Production and Primary Products</i>
Grant	: RM2,051,000

Title	: <i>Scale up production: Enzymatic Synthesis of Palm-based Wax Esters</i>
Institution	: UPM/MPOB/UiTM
Research	: <i>Plant Production and Primary Products</i>
Grant	: RM518,000

Biotechnology Projects

Three "top-down" biotechnology projects were approved for the year 2001 with a total allocation of RM1.3 million. The said projects are as follows:

- *Improvement of Shrimp health through bioremediation and natural health food* (RM433,534)
- *Development of novel therapeutic and diagnostic reagent from Newcastle disease virus* (RM527,875)
- *Improving the functionality and qualities of fats and oils using biotechnological processes* (RM360,062)

Other Research Grants

UPM also obtained research grants from local and foreign agencies such as the International Atomic Energy Agency (IAEA), Japan International Cooperation Agency (JICA), International Plant Genetic Resources Institute (IPGRI), The Ministry of Housing and Local Governments, Ministry of Agriculture, Tenaga Nasional Berhad (TNB), Malaysian Palm-Oil Board (MPOB)", FELDA, Sapura Holding Bhd, etc. For the year 2001, UPM received grants valued at RM1,112,225 for the purpose of financing 27 projects.

Research Results

The year 2001 witnessed the production of 37 books and 1,728 scientific articles and conference working papers. Twenty-one research findings are due for patenting. UPM is truly committed to

dipatenkan. UPM beriltizam untuk meningkatkan penyelidikan dan pembangunan. Dengan itu fokus penyelidikan meliputi sembilan sektor utama dalam program IRPA iaitu Agroindustri, Pembuatan, Alam Sekitar, Kesihatan, Perkhidmatan, Sosial, Ekonomi, Sains Bahan dan Geosains.

Sistem Maklumat Penyelidikan On-Line

University Research Online (ROL) merupakan satu projek dalam sistem UPMNet yang dibangunkan oleh Unit Penyelidikan Universiti (URU), yang kini dikenali sebagai Pusat Pengurusan Penyelidikan (RMC). Sistem ini mengandungi maklumat-maklumat bibliografi staf akademik dan profesional. Ia juga merupakan sistem pencarian bagi mengakses maklumat penyelidikan dan dirangkai kepada tapak-tapak web bagi fakulti-fakulti,

pusat dan institut di Universiti Putra Malaysia.

Antara ciri menarik ROL adalah walaupun maklumat yang dibekalkan oleh penulis pertama, pangkalan data akan merekodkan, maklumat di dalam senarai bibliografi bagi setiap fakulti atau jabatan mereka. Penyedia kandungan disaran menyumbangkan abstrak yang tidak melebihi 200 patah perkataan.

Senarai penerbitan dapat diakses menerusi *browser* di URL: <http://uru.upm.edu.my> atau *login* kepada enjin pencari. Sehingga kini pangkalan data ROL mengandungi lebih daripada 7,000 data masukan.

Pengiktirafan Kebangsaan dan Antarabangsa

Hasil penyelidikan UPM diiktiraf di peringkat kebangsaan dan antarabangsa kerana prestasi pencapaian penyelidikan yang cemerlang sejak tahun 1984 lagi.

Di peringkat antarabangsa, Fakulti Kejuruteraan telah memenangi satu Pingat Emas, dua Pingat Perak dan dua Pingat Gangsa di Pertandingan Reka Cipta Antarabangsa Geneva ke-29. Selain itu UPM juga memenangi satu pingat emas di Pertandingan Reka Cipta Antarabangsa *Invention/New Product Exposition (INPEX) USA* dan dua anugerah di pertandingan Prototaip Traktor Berskala 1/4, di Illinois, USA. Di peringkat kebangsaan pula, dua Pingat Perak dan satu Pingat Gangsa dimenangi di Pertandingan Reka Cipta Ekspo Sains dan Teknologi 2001. Encik Husaini Omar telah memenangi Anugerah Saintis Muda.

enhancing research and development activities, focussing on nine primary sectors within the IRPA programme, i.e. Agro-Industry, Manufacturing, Environment, Health, Services, Social, Economics, Material Sciences and Geoscience.

Online Research Information System

The University Research Online (ROL) is one of the projects in the UPMNet system developed by the Research Unit, Universiti Putra Malaysia (URU), which is now known as Research Management Centre. This system contains bibliographic information on the academic and professional staff. It also serves as search hardware used to access the research information and to establish networks with web sites of faculties, centers and institutes within Universiti Putra Malaysia.

One of the more interesting characteristics of ROL is that even though information is entered by the first author, the database will record information in the bibliographical list of each faculty or the respective department. Providers of contents are encouraged to submit abstracts that are not longer than 200 words.

The list of publications may be accessed through the browser at URL: <http://uru.upm.edu.my> or by logging into the search engine. To date, the ROL database comprises more than 7,000 entry data items.

National and International Recognition

UPM research findings are given recognition at national and international levels, having attained an excellent performance in research since 1984. Internationally, the Faculty of Engineering

has won a Gold Medal, two Silver Medals and two Bronze Medals at the 29th International Inventions Competition held in Geneva, and a gold medal at the International Invention/New Product Exposition (INPEX) USA and two awards in the Prototype Tractor Scaled 1/4 Competition held in Illinois, USA. At the national level, UPM won two Silver Medals and a Bronze Medal at the Inventions Competition Science and Technological Exposition 2001. The National Young Scientist Award was won by Husaini Omar.



Anugerah • Awards

Anugerah Award

Penerima Recipient

Senarai Anugerah Antarabangsa 2001 List of International Awards 2001

Gold medal - INPEX-Invention/New Product Exposition)	Husaini Omar (Mr.)
I-TEX Gold Medal Award, Geneva – Interlocking Modular Load-bearing blocks for construction of walls	Razali Abdul Kadir (Assoc. Prof. Dr.)
Gold Medal US INPEX 2001, Best Innovation Booth	Ratnasamy Muniandy (Mr.)
Silver Medal - Stone Mastic Asphaltic with Cellulose Oil Palm Fibre for Malaysian Roads American Oil Chemists Society Award	Yaakob B. Che Man (Prof. Dr.)
I-TEX Bronze Medal Award, Geneva – Distributed Client/Server Architecture with Dynamic Middle Tier	Borhanuddin Mohd. Ali (Assoc. Prof. Dr.)
Invention Exhibition Bronze Medal, Geneva – Innovative White Spot Syndrome Virus (WSSV) Detection Kit	Mohamed Shariff Mohamed Din (Prof. Dr.)
Invention Exhibition Silver Medal, Geneva – Bioplastics from Palm Oil Mill Effluent Within a Zero Discharge System	Mohd. Ali Hassan (Assoc. Prof. Dr.)
I-TEX Bronze Medal Award, Geneva – Smart Pile Testing Device	Rosely Ab. Malik (Dr.)

Senarai Anugerah Pameran Negara 2001 List of National Exhibition Awards 2001

Public Service Innovation Award, Information Technology Management Award (MAMPU)	Ratnasamy Muniandy (Mr.)
1 st Prize for Best Innovation Booth, Information Technology Management Award (MAMPU)	Ratnasamy Muniandy (Mr.)
Silver Medal Science & Technology (S&T) Exhibition Award	Khatijah Yusoff
Silver Medal Science & Technology (S&T) Exhibition Award	Ishak Aris (Dr.)
Bronze Medal Science & Technology (S&T) Exhibition Award	JPA Invention Award
Silver Medal Science & Technology (S&T) Exhibition Award	Shattri Mansor (Assoc. Prof. Dr.)
Bronze Medal Science & Technology (S&T) Exhibition Award	Azmi Yahya (Dr.)
Bronze Medal Science & Technology (S&T) Exhibition Award	Mohd Azmi Mohd Lila (Assoc. Prof. Dr.)
Bronze Medal Invention and Innovation Award	Syed Omar Syed Rastan (Dr.)

Anugerah Reka Cipta dan Penyelidikan UPM 2001 Inventions and Research Awards UPM 2001

UPM Research and Development Exhibition (Top Ten) – Genetic Engineering for Flower Colour, in Vitro Flowering Commercial Micro-Cloning of Orchids	Marziah Mahmood (Prof. Dr.)
UPM Research and Development Exhibition (Top Ten) – Seagrass Resources in Malaysia-What is New?	Japar Sidik Bujang (Assoc. Prof. Dr.)
UPM Research and Development Exhibition (Top Ten) – High Performance Kojic Acid Fermentation using Local Isolated Fungus	Arbakariya Ariff (Assoc. Prof. Dr.)
UPM Research and Development Exhibition (Top Ten) – Development and Application of Giant Magnetostrictive and Magneto resistive Materials	Abdul Halim Shaari (Prof. Dr.)
UPM Research and Development Exhibition (Top Ten) – Development of Serogroup Specific Vaccine Against Foot root Infected Sheep in Malaysia	Zunita Zakaria
UPM Research and Development Exhibition (Top Ten) – Nontoxic Glucose Fatty Esters from Palm Oil Products	Dzulkiyly Kuang Abdullah (Assoc. Prof. Dr.)

**Anugerah
Award****Penerima
Recipient**

UPM Research and Development Exhibition (Top Ten) – Hypocholesterolemic and Anti-Cancer Effect of Rice Bran and Rice Bran Oil	Maznah Ismail (Assoc. Prof. Dr.)
UPM Research and Development Exhibition (Top Ten) – Anti-Oxidative and Potential Anti-Cancer Agents from Zingiberaceous Species	Md. Nordin Haji Lajis (Prof. Dr.)
UPM Research and Development Exhibition (Top Ten) – Nanocomposite Materials	Mohd. Zobir Hussein (Assoc. Prof. Dr.)
UPM Research and Development Exhibition (Top Ten) – Formulation of Bacterial Consortia for Biomediation	Abu Bakar Salleh (Prof. Dr.)
UPM Research and Development Exhibition (Consolation Prizes) – Enhancement of Shrimp Production Through Ecosystem Remediation	Fatimah Md Yusoff (Prof. Dr.)
UPM Research and Development Exhibition (Consolation Prizes) – Novel Hepatitis B Inhibitors	Tan Wen Siang (Dr.)
UPM Research and Development Exhibition (Consolation Prizes) – Recent Development and Application of Differential Scanning Calorimetry for Assessing Various Physical and Oxidative Changes in Vegetable Oils	Yaakob B. Che Man (Prof. Dr.)
UPM Research and Development Exhibition (Consolation Prizes) – Preparation and Characterisation of New Oxide Ion Conductors	Lee Choong Kheng (Prof. Dr.)
UPM Research and Development Exhibition (Consolation Prizes) – The Antioxidative Flavonoids Contents of 62 Edible Tropical Plants	Suhaila Mohamed (Prof. Dr.)
UPM Research and Development Exhibition (Consolation Prizes) – Graft Copolymerisation of Vinyl Monomers onto Sago Starch	Wan Md Zin Wan Yunus (Prof. Dr.)
UPM Research and Development Exhibition (Consolation Prizes) – Development of Multimedia Modules for Student-Centered Learning	Zaidan Abdul Wahab (Dr.)
UPM Research and Development Exhibition (Consolation Prizes) – Enzyme Catalyzed Stereoselective Reactions to Produce Useful Products	Mahiran Basri (Assoc. Prof. Dr.)
UPM Research and Development Exhibition (Consolation Prizes) – Enhancement in Efficiency of Oil Palm Production Through Exploitation of N ₂ -Fixing Azospirillum	Zulkifli Hj. Shamsuddin (Assoc. Prof. Dr.)
UPM Research and Development Exhibition (Consolation Prizes) – Simplex-Full Duplex (SFD) Converter	Mohamad Khazani Abdullah (Assoc. Prof. Dr.)

**Anugerah Siswazah 2001
Graduate Awards 2001**

American Oil Chemists' Society (AOCS) Honored Students' Award for Analytical Chemistry	Mohammed Elwathiq
Best Doctoral Thesis, SEAMEO Regional Centre for Graduate Studies and Research in Agriculture	Tri Haryati
Student Travel Grant, International Union of Food Science and Technology Tanabe Foundation Research Award	Paridah Md. Tahir
Best Paper Presentation Award – APAFRI	Tan Teck Hock
French Government Scholarship Award for Training in Simulation and Visualisation of Landscapes, CIRAD, Montpellier, France	Nayan Deep S. Kanwal
Paper Presentation Award at International Forum for Urban Landscape Technologies, Lullier, Switzerland	Nayan Deep S. Kanwal

**Anugerah-anugerah 2001 yang lain
Other 2001 Awards**

Tractor competition in US – Best Teamwork Award (Belangtara) Second place for Web Site Design (Belangtara)	KBP Department, Engineering Faculty
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Institut Biosains

Institut Biosains menjadi tapak untuk penyelidikan asas dan penyelidikan gunaan bagi menghasilkan produk dan kaedah pemprosesan yang berguna untuk sektor industri yang dirangsang oleh pasaran. Penyelidikan melibatkan pelbagai disiplin, berdasarkan *market-driven* atau *Top-down* dalam bidang utama seperti makanan, tanaman, kesihatan, akuakultur, pemuliharaan dan penggunaan sumber genetik, produk semulajadi dan 'biofarmaseutikal'. Ijazah Lanjutan (M.Sc. dan Ph.D.), juga ditawarkan dalam bidang utama. Institut Biosains juga membangunkan suatu rangkaian kerjasama dan hubungan dengan pusat penyelidikan dan industri kebangsaan dan antarabangsa untuk membantu dalam mempercepat pengkomersialan hasil penemuan dan ciptaan. Selain dari itu, Institut Biosains adalah pengurus dan



Infrastruktur Penyelidikan Research Infrastructure

The Institute of Bioscience

The Institute of Bioscience serves as the center for basic and applied research for producing products and processing methods beneficial for the market-driven industrial sector. The Research involves various disciplines based on "market-driven" or "Top-down" forces in main fields such as food, plant, health, aquaculture, conservation and use of genetics sources natural products and "biopharma-ceuticals". Post-graduate degrees (MSc and PhD) are also offered in main fields. The Bioscience Institute has also been successful in developing a cooperation and communication network with the national research and industrial center, which helps to expedite commercialization of research findings and inventions. In addition, the Institute of Bioscience serves as the manager and provider of central facilities for research excellence which include



penyedia kemudahan perkhidmatan pusat kecemerlangan penyelidikan 'fingerprinting, DNA arraying dan DNA chip analysis, teknologi pencapaian serta kejuruteraan bioproses.

Selain daripada tugas utamanya dalam penyelidikan, Institut akan membangunkan dan mengembangkan rangkaian, usaha sama dan hubungan dengan institusi-institusi kebangsaan dan antarabangsa, organisasi serta industri yang akan memudahkan penyelidikan dan mempercepat usaha untuk mengkomersilkan penemuan dan ciptaan baru. Institut juga mengurus dan menyediakan unit kemudahan penyelidikan yang unggul seperti Unit Mikroskopi Elektron & Sistem Imejan dan Unit Teknologi Fermentasi.

Penyelidikan untuk setiap bidang utama yang dijalankan di makmal

penyelidikan dilengkapi pelbagai peralatan kegunaan umum, perkakasan dan peralatan yang khusus untuk menjalankan sesuatu projek yang spesifik. Terdapat juga beberapa rumah kaca, rumah teduhan dan 10 hektar tanah yang dilengkapi sistem pengairan yang moden. Makmal-makmal ini boleh menempatkan pelajar siswazah fakulti yang menjalani penyelidikan dalam bidang berkaitan. Makmal penyelidikan akan diterajui oleh penyelidik-penyelidik yang akan dijemput sebagai *Fellow* Institut dan akan dibantu oleh Pegawai Sains, Juruteknik dan Pembantu Makmal.

Antara unit-unit penting yang terdapat di Institut Biosains ialah :

- Unit Mikroskop Elektron
- Unit Teknologi Fermentasi
- Unit Kimia Analisis
- Unit *Bioresource Technology*
- Unit Genomik

Pada masa ini Pusat ini menawarkan khidmat berikut:

- Mengenal pasti jujukan DNA secara automatik
- Analisis serpihan DNA
- Membangunkan vektor dan pengklonan DNA
- Khidmat Pakar Perunding

Perkhidmatan tambahan yang akan ditawarkan pada akhir tahun:

- Analisis AFLP secara automatik
- DNA *microarrays*
- Kultura tisu tumbuhan
- Analisis 'On-line' PCR

Institut Teknologi Maju (ITMA)

Institut Teknologi Maju (ITMA) mengetuai penyelidikan dan pembangunan dalam bidang sains fizikal, teknologi maklumat dan kejuruteraan. ITMA menjalankan penyelidikan dan pembangunan terkini dan menawarkan program pascasiswazah yang terbahagi



"fingerprinting", "DNA arraying" and "DNA chip analysis", fermentation technology as well as "bioprocess" engineering.

Apart from its main research function of research, the Institute shall further develop and expand its cooperation and communication network with national and international institutions, organizations and industries, thus expediting commercialization of research findings and new inventions. The Institute also manages and provides specialized research facilities such as the Electron Microscopy Unit & Imaging System and the Fermentation Technology Unit.

Research work conducted at the Institute of Bioscience covers a wide spectrum of topics, using state-of-the-art methodology in the molecular biology field and this methodology is

often used in most of the projects being undertaken. Research on each field is conducted in laboratories equipped with various tools specifically designed for specific projects. The numerous glass houses, shades and a land area of 10 hectares equipped with modern irrigation system are also in place. These laboratories can accommodate faculty graduate students who are involved in research work in their respective fields. The research laboratories are headed by researchers who are invited as Fellows, assisted by Science Officers, Technicians and Laboratory Assistants.

The important units within the Institute of Bioscience are as follows:

- Electron Microscopy Unit
- Fermentation Technology Unit
- Chemical Analysis Unit
- Bio-Resource Technology Unit
- Genomic Unit

Services currently being offered by the Centre are as follows:

- Automatic identification of DNA sequencing
 - DNA Chip analysis
 - Development of vectors and DNA cloning
 - Consultancy Expert Services
- Auxiliary services that will be made available by the end of the year:
- Automatic AFLP analysis
 - DNA microarraying
 - Plant tissue culture
 - 'On-line' PCR analysis

Institute for Advanced Technology (ITMA)

The Institute for Advanced Technology (ITMA) leads the way in research and development work in physical sciences, information technology and engineering. ITMA conducts the latest research and development

penajaan, mereka bentuk laman web, membina traktor prototaip, serta proses membawa traktor dan 20 ahli pasukan ke Amerika Syarikat.

UPM adalah pasukan pertama dari luar Amerika Utara yang menyertai pertandingan anjuran Persatuan Jurutera Pertanian Amerika Syarikat (ASAE) itu.

Kemenangan *H-Ometer*

Dua penyelidik UPM, Encik Husaini Omar dan Encik Ratnasamy Muniandy berjaya mengharumkan nama negara apabila produk ciptaan mereka *H-Ometer* berjaya memenangi Pingat Emas dalam Pertandingan Reka Cipta Antarabangsa di Pittsburgh, Amerika Syarikat. Pertandingan yang dikenali sebagai *Invention/New Product Exposition (INPEX)* yang ke-17 merupakan yang terbesar di Amerika Syarikat. Ia memberi peluang kepada seluruh pereka cipta di dunia untuk mempamerkan produk baru

dan menjalinkan perhubungan strategik dengan pihak-pihak yang berminat untuk pemasaran.

Pada pertandingan tersebut kira-kira 35 negara mengambil bahagian dalam 40 kategori yang dipertandingkan. Encik Husaini Omar dan Encik Ratnasamy Muniandy dari UPM merupakan satu-satunya wakil tunggal negara dan penyertaan ini merupakan penyertaan pertama rakyat Malaysia di INPEX.

Produk

H-Ometer menyertai pertandingan di bawah kategori *Manufacturing*. Hanya tiga pingat sahaja telah dimenangi mengikut kategori yang dipertandingkan iaitu Pingat Emas, Perak dan Gangsa tidak seperti pertandingan yang lain.

H-Meter sebelum ini pernah memenangi Pingat Emas dalam Pertandingan Reka Cipta Antarabangsa 2000, di Geneva, Switzerland.



page, construction of a prototype tractor and the process of transporting the tractor and 20 members of the team to USA.

UPM was incidentally the first team outside North America to participate in the competition organized by the Association of Agriculture Engineers (ASAE) USA.

H-Ometer Comes Out Tops

Two UPM researchers, Mr. Husaini Omar and Mr. Ratnasamy Muniandy, made Malaysia proud when their invention called *H-Ometer* won the Gold Medal at the International Inventions Exposition held in Pittsburgh, USA. The competition called the 17th Invention/New Product Exposition (INPEX) is the grandest in USA. It is an avenue for inventors of the world to exhibit their new products while at the same time fostering strategic alliances

with parties interested in marketing them.

The competition drew a participation of 35 countries, competing in 40 categories. Mr. Husaini Omar and Mr. Ratnasamy Muniandy were the only two representatives of the nation and their participation was also the first ever by Malaysians in the history of INPEX.

H-Ometer competed under the Manufacturing category. Only three medals were won according to the category of participation – Gold, Silver and Bronze.

H-Ometer has previously won the Gold Medal in the International Inventions Competition 2000 in Geneva, Switzerland.





UPM melihat perubahan struktur ekonomi sebagai satu peluang peningkatan daya saing. UPM mesti mampu bersaing dengan organisasi swasta yang menggunakan pengetahuan dan kepakaran untuk menjana pendapatan, terutamanya melalui perkhidmatan runding cara iaitu menawarkan program penyelidikan secara kontrak dan program latihan profesional. Bagi tujuan tersebut antara strategi yang termaktub dalam Hala Tuju UPM 2001-2010 ialah menjana sumber pendapatan daripada pengkomersialan hasil penyelidikan, perundingan, latihan dan perkhidmatan lain.

Melalui institusi kecemerlangannya, UPM mampu memberikan khidmat runding cara kepada mana-mana institusi awam atau swasta yang memerlukan. Antara institusi tersebut ialah Pusat Inkubator UPM-MTDC, Taman Bioteknologi, Putra Infoport yang

Khidmat Runding Cara **Consultancy Services**



As a center of knowledge and learning, UPM views changes in the economical structure as an avenue to upgrade its competitiveness. UPM is also able to compete with private organizations that use knowledge and expertise as their income-generating tools, particularly via consultancy services i.e. providing research programme on a contractual basis and professional training services. These activities are used by numerous renowned universities of the world to generate revenue. Similarly, UPM would also strive to head towards that direction. Towards this end, some of the strategies drawn up in the UPM Direction 2001-2010 are generation of an income source from the commercialization of results of research, consultancy, training and miscellaneous services.

Through its institution of excellence, UPM is in a position to

membangunkan teknologi pintar bagi membantu Koridor Raya Multimedia (MSC) dan Pusat Makanan Asia. Institut-institut lain termasuklah Institut Biosains dan Institut Teknologi Maju di samping kerja-kerja runding cara yang dijalankan oleh fakulti-fakulti di UPM.

Taman Pertanian Universiti (TPU)

Kewujudan Taman Pertanian Universiti (TPU) di UPM adalah untuk membantu serta melaksanakan rancangan pembangunan fizikal dan akademik universiti di samping memajukan kampus UPM sebagai sebuah taman pertanian ulung yang lengkap dengan taman botani, khazanah sumber genetik pertanian, muzium pertanian (statik dan hidup), ladang/bidang usaha contoh atau "showcase", kawasan rekreasi/ekopelancungan, stesen penyelidikan dan juga program pembangunan agroteknopreneur.

TPU merupakan jentera penggerak dan pelantar kepada pengintegrasian kesemua komponen pertanian dengan menggunakan pendekatan menyeluruh dalam usaha membangun dan memoden sektor pertanian dan pengeluaran makanan negara. Peranan TPU tidak berhenti setakat itu sahaja, taman ini merupakan pengendali kawasan kampus UPM bagi memastikan kawasan ini diguna dan diselenggara untuk kepentingan pembelajaran dan penyelidikan berasaskan pertanian.

TPU mempunyai empat fungsi iaitu pengajaran dan pembelajaran, penyelidikan, perkhidmatan dan "technology showcase".

- Menyediakan kemudahan dan rancangan lengkap untuk latihan praktik.
- Meningkatkan taraf kemahiran dan meluaskan pengalaman pelajar dalam perusahaan pertanian pada tahap

pendedahan, pengalaman dan kemahiran.

- Menjadikan kawasan kampus UPM sebagai Taman Ilmu dan Teknologi Pertanian
- Pelantar bagi meningkatkan perkhidmatan pertanian.
 - Pusat pengiktirafan sumber dan produk pertanian
 - Pusat pendedahan, pengalaman dan kemahiran pertanian
 - Pusat perkhidmatan pakar dan jururujuk pertanian

TPU menyediakan kemudahan penyelidikan yang lengkap di makmal, ladang dan stesen penyelidikan bagi melicinkan pelaksanaan penyelidikan dan pembangunan. Antara perkhidmatan yang ditawarkan adalah perkhidmatan tapak dan kawasan penyelidikan, bahan-bahan penyelidikan, alatan dan jentera serta pengangkutan.



successfully offer consultancy services to any public or private institution requiring such services. Such institutes include the UPM-MTDC Incubation Centre, Biotechnological Park, Putra Infoport which develops smart technology to assist in the Multimedia Super Corridor (MSC) and The Asian Food Institute. Other institutes include the Bioscience Institute and Institute for Advanced Technology, apart from consultancy work carried out by the various faculties in UPM.

The University Agriculture Park (TPU)

The establishment of the University Agriculture Park (TPU) assists in the implementation of UPM's physical and academic development plans and also further develop the campus as the foremost agriculture park which comes complete with a botanical

garden, agricultural genetics source heritage, agriculture museum (static and live), model plantations/ entrepreneurship or showcase, recreational area/agro-tourism, research stations and agroteknopreneur development programmes.

TPU serves as the prime mover and platform for the integration of all agricultural components using an overall approach in the effort of developing and modernizing the agricultural and national food production sectors. Inevitably, TPU's role does not end there. The park serves as 'keeper' of the UPM campus area so as to ensure that the area is appropriately used and maintained for the purpose of agriculture-based learning and research.

TPU's functions are four-fold; teaching and learning, research, services and technology showcase.

- Provision of facilities and comprehensive planning for practical training purposes
- Enhancement and upgrading of the level of skills and widening of student experience in the agricultural industry in terms of exposure, experience and skills.
- Turning UPM campus into an area of Agricultural Knowledge and Technology Park
- A platform of enhancement of agricultural services.
 - Centre for recognition of agricultural sources and produce
 - Centre for agriculture exposure, experience and skills
 - Centre for agriculture expert and referral services

Comprehensive research amenities are provided by TPU at the laboratories, plantations and research stations in

Peranan TPU sebagai 'Technology Showcase'

TPU mengadaptasi teknologi terkini bagi tujuan pengajaran dan penyelidikan dalam usaha membangunkan teknologi pertanian. 'Technology Showcase' menunjukkan:

- Pengurusan sebagai satu unit komersil, mencapai tahap keuntungan dan menunjukkan beberapa prinsip pengurusan perniagaan yang berjaya
- Teknologi-teknologi dan amalan-amalan pengeluaran pertanian terkini mementingkan penggunaan teknologi untuk pertanian lestari dan persis (*sustainable and precision agriculture*)
- Contoh yang baik mengenai integrasi teknik-teknik perladangan moden, pengurusan lading perhutanan (*Agro-Forestry*) dan pemuliharaan/peningkatan pelbagai kehidupan semulajadi

- Amalan-amalan ladang yang praktikal dan relevan.

Seramai 26 individu dan penyelidik dari UPM, jabatan-jabatan kerajaan dan syarikat-syarikat luar yang telah menggunakan kawasan dan kemudahan di TPU untuk tujuan penyelidikan mereka sepanjang tahun ini. Penyelidikan yang dijalankan merangkumi pelbagai disiplin terutamanya yang berkaitan pertanian.

UPM-MTDC telah meluaskan dan memantapkan operasi mereka di kawasan UPM antaranya dengan pembukaan "Server Farm" yang telah berjaya menarik minat syarikat-syarikat besar untuk menggunakan perkhidmatan yang disediakan. Putra Infoport pula telah melalui pembangunan yang pesat dengan pertambahan bilangan syarikat dan juga pertambahan unit sewaan.

Antara syarikat yang masih beroperasi di kawasan TPU ialah *Malaysian Agri Hi-Tech* (MAH). Syarikat berkenaan membuat pengeluaran dan pembungkusan di atas tanah seluas 14 ekar yang terletak di Ladang Puchong.

Antara komponen-komponen fizikal yang sedia ada dan juga yang akan dibangunkan di TPU ialah:

- Kawasan ladang dan penyelidikan di Serdang dan Puchong.
- Projek Pembangunan Kemudahan Penyelidikan Pertanian yang merangkumi Kompleks Tapak Semaian, Unit Sayuran dalam Persekitaran Terkawal, Unit Penyelidikan Tanaman Ladang, Kompleks Mekanisasi, Kompleks Pemprosesan Bijibenih dan Pascatuai, Unit Lembu Tenusu dan Kompleks Teknologi Akuakultur.
- Pusat Inkubasi Teknologi (*Technology Incubation Center*)



order to facilitate implementation of research and development endeavors. Amongst the services provided are site and research locality services, research material, equipment and transportation.

TPU's Function as 'Technology Showcase'

The TPU carries out adaptation of state-of-the-art technology for the purpose of teaching and research in its quest of developing the agricultural technology. The Technology Showcase illustrates the following:

- Management as a commercial unit, attainment of profitability and outlining numerous principles of successful business management practices
- Latest agricultural technology and practices giving particular emphasis on the use of technology in the field of sustainable and precision agriculture.

- A good example of integration of modern planting techniques, Agro-Forestry management and rehabilitation of natural life
- Practical and relevant plantation practices.

A total of 26 individuals and researchers from UPM, government departments and external companies have used the TPU area and facilities provided therein for the purpose of research throughout the year. Their research covered various disciplines especially agriculture-related subjects.

The UPM-MTDC undertook various measures to further expand and consolidate their operations within the TPU area; amongst others, opening a "Server Farm" which successfully attracted numerous established companies to make use of the facilities provided. The Putra Infoport also enjoys

rapid development with a hefty increase in the number of companies as well as an increase in rental units.

Among the companies still operating within the TPU area is *Malaysian Agri Hi-Tech* (MAH). The said company carries out its production and packaging operations on a piece of land measuring 14-acres located at Ladang Puchong.

The readily available physical components as well as those that would be developed in TPU are as follows:

- Plantation and research area in Serdang and Puchong.
- Agriculture Research Facilities Development Project comprising a Nursery Complex, Vegetable Unit in a Controlled Environment, Plantation Research Unit, Mechanization Complex, Seedling and Multi-Harvest Processing Unit, Dairy Farm Unit and Aquaculture Technology Complex.

merangkumi UPM-MTDC dan Putra Infoport.

Pusat Pembangunan Perniagaan (UBC)

Menyedari akan perkembangan pesat dalam sektor korporat dan pembangunan ekonomi, UPM telah menubuhkan Pusat Pembangunan Perniagaan (UBC) yang bertujuan untuk mempertahankan dan menggunakan sepenuhnya penemuan hasil kajian yang berkualiti dan kepakaran teknikal. UBC merupakan "tunggak pelaburan" UPM bagi memperjelaskan komitmen UPM dari aspek pengkomersialan bidang teknologi dan membantu pegawai akademik memindahkan teknologi, keupayaan dan kepakaran mereka ke sektor industri.

UPM akan menggunakan satu konsep baru dalam menjalankan

perniagaan iaitu penubuhan kumpulan "Pembangunan dan Penyelidikan" (P&P) dengan sektor industri. Ianya bertujuan memesat dan memperkenalkan penemuan dan ciptaan baru untuk tujuan komersil. Tujuan utama UBC ialah untuk membantu menjana pendapatan kepada UPM dengan memberi peluang perniagaan kepada usahawan, kakitangan universiti dan pelajar dengan sumber tertentu bagi membolehkan mereka menjalankan perniagaan perundingan dan komersialisasi teknologi. UBC secara keseluruhannya akan memupuk semangat keusahawanan di kalangan individu.

Unit-unit UBC

Unit Pembangunan Perniagaan

Unit ini ditubuhkan untuk mengenal pasti peluang perniagaan bagi UPM, menyediakan pelan perniagaan untuk

pengkomersialan projek dan menggalakkan peluang perniagaan bagi kumpulan sasar yang telah dikenal pasti.

Unit Perundingan

Unit ini berperanan untuk mengenal pasti peluang perundingan bagi meningkatkan penglibatan perundingan di kalangan pegawai akademik UPM, menubuhkan kumpulan perunding yang terdiri dari pelbagai bidang kepakaran dari dalam dan luar UPM dan menyelaras segala aktiviti perundingan UPM.

Unit Komersialisasi Teknologi

Unit ini bertanggungjawab untuk menghubungkan UPM dengan agensi kerajaan dan sektor swasta bagi memesatkan aktiviti pengkomersialan hasil penyelidikan, menggalakkan penyelidikan kontrak dan mewujudkan peluang pemasaran produk.



- Technology Incubation Center comprising UPM-MTDC and Putra Infoport.

University Business Centre (UBC)

While acknowledging the rapid development in the corporate and economic development sectors, UPM has established the University Business Centre (UBC), a move aimed at sustaining and fully utilizing results or findings of quality research work as well as technical expertise. The UBC is UPM's investment hub, reflecting UPM's commitment to commercialize technology and to help academicians in the process of transferring technology, capability and expertise to the industrial sector.

UPM introduces a new concept in conducting business, i.e. establishing a "Development and

Research" (D&R) group with the industrial sector. This aim is to further intensify and introduce new findings and inventions for commercial purposes. The primary objective of UBC is to help generate income for UPM by offering opportunities to entrepreneurs, university staff and students to enable them to carry out consultancy and technology commercialization business. Generally, UBC instills the entrepreneurship spirit amongst individuals.

UBC Units

Business Development Unit

This unit is established to identify business opportunities for UPM, provide business plans for project commercialization and encourage business opportunities for a predetermined target group.

Consultancy Unit

This unit plays the role of identifying consultancy opportunities in order to increase the involvement of UPM's academic officers consultancy services, and to establish a consultancy group comprising of individuals from diverse expert groups, both from within and outside UPM and coordinate all consultancy activities in UPM.

Technology

Commercialization Unit

This unit is responsible for linking UPM with government agencies and the private sector for the purpose of intensifying commercialization of research findings, encouraging research contracts and creating product marketing opportunities.



Dalam usaha menghasilkan sistem pentadbiran yang berkualiti bagi mencapai wawasan untuk menjadi universiti bertaraf dunia, Universiti Putra Malaysia (UPM) memberikan penekanan yang lebih mendalam terhadap sumber manusia dan kemudahan prasarana. Ini kerana pengurusan berkualiti memerlukan pembentukan sistem yang sesuai. Proses, struktur dan yang paling utama ialah pembangunan tenaga kerja berkualiti. Penekanan kepada kualiti telah disebut oleh Y.Bhg. Naib Canselor dalam Hala Tuju UPM yang diisytiharkan pada 31 Julai 2001 dengan misi utamanya ialah untuk melaksanakan semua aktiviti pengajaran, penyelidikan dan perkhidmatan profesional berteraskan standard bertaraf antarabangsa.

Dasar kualiti yang ditegaskan ialah semua kakitangan seharusnya beriltizam ke arah kecemerlangan melalui

Pengurusan Berkualiti Quality Management



In its quest to provide an administrative system of quality which would facilitate to achieve UPM's vision to be a world class university, UPM gives extra emphasis on human resources and its infrastructure facilities. It is necessary to build a sound system of work process and most important is to develop a quality workforce. The emphasis on quality has been clearly spelt out in UPM's future direction declared on 31st July 2001 whereby its primary mission is to implement all teaching, research and professional services activities as per international standards.

The policy on quality is that the entire workforce shall strive towards excellence by applying the quality culture in teaching, research and professional services to fulfil cliental needs. Quality improvement ought to be given continuous priority in order to sustain UPM's continued excellence.

penerapan budaya kualiti dalam pengajaran, penyelidikan dan perkhidmatan profesional untuk memenuhi kehendak pelanggan. Peningkatan kualiti perlu diberikan penekanan berterusan bagi memastikan kesinambungan kecemerlangan UPM.

Sistem pengurusan kualiti ISO 9000 telah diterima sebagai asas mengenal pasti serta memantau tahap motivasi dan prestasi pegawai dalam bidang pengajaran, penyelidikan dan perkhidmatan profesional. Sistem kepastian kualiti yang memberikan penekanan kepada pencapaian prestasi berasaskan sasaran yang dirancang itu bakal mewujudkan budaya kualiti di UPM.

Pensijilan ISO 9001

Usaha UPM untuk mendapatkan pengiktirafan MS ISO 9000 adalah untuk memastikan institusi ini mempunyai cara

bekerja yang sistematik bagi menjamin kualiti kepada pelanggan. Ini terbukti apabila Fakulti Kejuruteraan UPM yang beriltizam untuk menjadi institusi kejuruteraan terulung di dunia telah menerima Sijil Pendaftaran Sistem Kualiti MS 9001 daripada Sirim Berhad. Sijil tersebut telah disampaikan oleh YAB Perdana Menteri Malaysia, Dato' Seri Dr. Mahathir Mohamed pada 12 September 2001.

Pensijilan kualiti ini memberikan jaminan bahawa *input* dan *outputnya* sentiasa berada pada tahap yang diakui badan penilaian antarabangsa. Jaminan tersebut termasuklah kawalan mutu fakulti tersebut dilakukan menerusi peningkatan jumlah dan kelayakan pensyarah, pencapaian pelajar pada tahap terbaik dan kurikulum serta kemudahan pendidikan yang progresif.

Sehubungan itu, UPM telah memsasarkan untuk mencapai

pengiktirafan ISO 9000 menjelang akhir tahun 2002.

UPM kini mempunyai seramai 3,647 kakitangan yang terdiri daripada 1,541 kakitangan akademik, 209 kakitangan pengurusan dan 1,897 kakitangan kumpulan sokongan.

Tenaga Kerja Berkualiti

Program pembangunan kakitangan yang dikendalikan adalah berdasarkan tiga asas utama iaitu peningkatan motivasi, kemahiran dan kursus asas yang wajib atau induksi. Dalam masa yang sama juga pelbagai seminar, bengkel, kursus dan forum sentiasa dikendalikan sama ada di peringkat pengurusan mahupun di setiap fakulti, institut, pusat penyelidikan dan kolej kediaman.

Untuk mengeluarkan graduan berkualiti yang mampu bersaing di pasaran, tenaga pengajar juga perlu melengkapkan diri dengan ilmu yang

The ISO 9001 quality management system has been accepted as a benchmark or basis for identifying the level of staff motivation and performance such a quality verification system which emphasizes the attainment of targeted level of performance that facilitates and inculcates the quality culture in UPM.

ISO 9001 Certification

UPM's mission in attaining the MS ISO 9000 certification was to ensure that this institution has a systematic work methodology so as to ensure quality products for clients. This became a reality when the Faculty of Engineering, UPM, which has always aspired to be the foremost engineering institution in the world, attained the MS9001 Quality Systems from Sirim Berhad. The certificate was

presented by the Honorable Prime Minister of Malaysia, Dato' Seri Dr. Mahathir Mohamed on 12th September 2001.

The quality certification offers assurance that its input and output will always remain at a level attested by the international evaluation board. The said assurance includes quality control at faculty level which is implemented through increasing the number and raising qualifications of lecturers, performances of students at the best level and progressive curriculum and educational amenities.

In this connection, UPM has targeted to achieve the ISO 9000 certification by the end of 2002.

Currently, UPM has 3,647 staff at various levels, comprising 1,541 academic staff, 209 management staff and 1,897 support staff.

Quality Workforce

Staff development programme is carried out based on three primary tenets, i.e. motivational enhancement, skills and the basic or compulsory induction course. Various seminars, workshops, courses and forums are held from time to time, either at the management, faculty, institute, research center or residential colleges levels.

In order to produce quality graduates who are able to compete in the market, the teaching staff will also have to equip themselves with sound knowledge so as to benefit the students. Therefore, academic staff are also sent abroad to further their studies each year, whether at the master's degree, PhD or fellowship levels so that they can in turn, improve teaching quality and conduct more research. A committed cadre of teaching staff will ensure that UPM's vision to emerge as a renowned university in the

tinggi bagi memastikan pelajar mendapat manfaat daripadanya. Oleh itu, kakitangan akademik juga dihantar untuk melanjutkan pelajaran ke luar negara setiap tahun sama ada bagi peringkat ijazah sarjana, Ph.D dan juga *fellowship* supaya mereka dapat meningkatkan kualiti pengajaran dan menjalankan lebih banyak penyelidikan. Tenaga pengajar yang berwibawa akan dapat memastikan matlamat UPM untuk muncul sebagai sebuah universiti terkemuka dan diiktiraf di rantau ini dan di peringkat antarabangsa.

Bagi membangunkan sumber manusia serta persekitaran profesional yang cemerlang, UPM menyediakan pelan tindakan yang lengkap untuk menarik serta melantik calon berpotensi serta mengekalkan tenaga kerja yang berkecayaan dan terlatih. UPM juga melanjutkan perkhidmatan pensyarah yang berkaliber, menggalak pertukaran

kakitangan secara dua hala di peringkat antarabangsa dan mewujudkan lebih banyak kerusi profesional dengan pembiayaan daripada sektor korporat.



region and at the international level be realised.

Hence, in order to develop human resources and to provide an excellent professional environment, UPM has come up with a comprehensive action plan to attract and appoint potential candidates whilst maintaining a suitably qualified and trained staff. UPM also extend the services of good lecturers and encourage two-way transfers of staff at international level while creating more professional positions or academic chairs financed by the corporate sector.



Bahagian Pembangunan bertanggungjawab untuk menyelenggara dan membangunkan prasarana dan infrastruktur kampus Universiti Putra Malaysia (UPM). Program pembangunan yang dirancang dilaksanakan selari dengan kedudukan UPM di perijiranan Putrajaya dan Cyberjaya yang menjadikan universiti ini sebagai Bandar Universiti Dalam Koridor Raya Multimedia. Lokasinya yang direntasi kemudahan sistem pengangkutan terbaru negara, ERL, menjadikan UPM universiti paling dinamik dan progresif di negara ini.

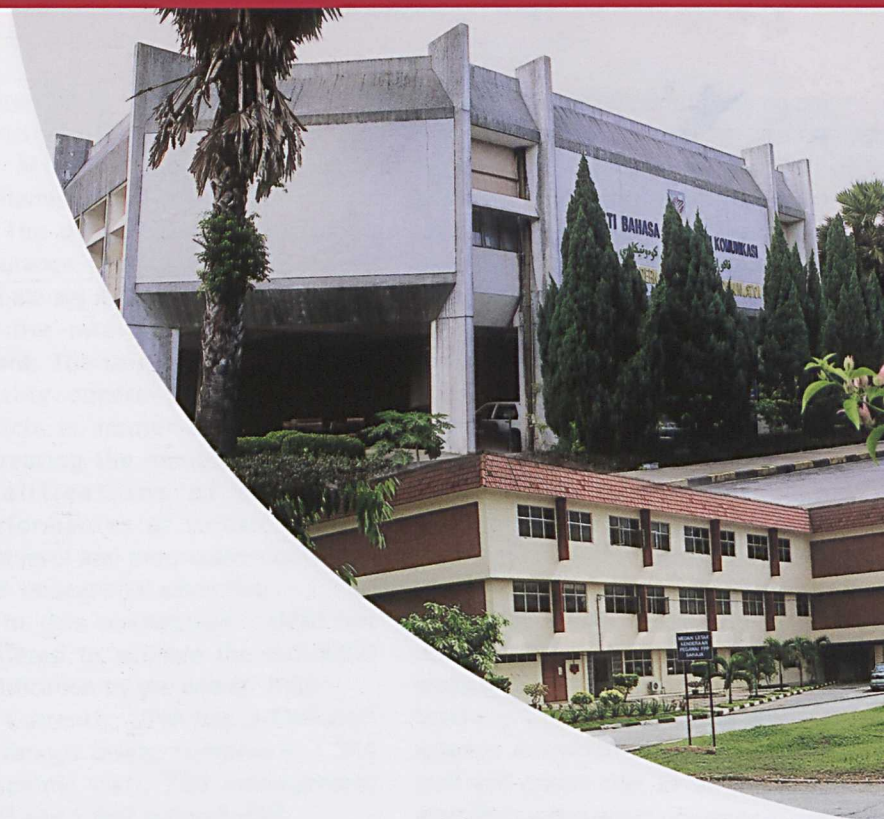
Bersesuaian dengan identiti asalnya yang berasaskan pembangunan sektor pertanian, UPM menggunakan konsep Agropolis bagi pelan induk pembangunannya. Konsep yang hanya diamalkan di bandar-bandar Perancis dan Amerika Syarikat itu diterapkan dalam pelan induk yang dilaksanakan dalam



Pengurusan Infrastruktur Infrastructure Management

The Development Division is entrusted with the duty to maintain and develop the infrastructure of UPM campus. Development projects planned for implementation in consonance with UPM's location close to neighbouring Putrajaya and Cyberjaya, create a University City within the Multimedia Super Corridor. Moreover, the nation's latest transportation facility, the ERL, which passes through this location indeed makes UPM the most progressive and dynamic university in Malaysia.

In keeping with its original identity which was based on the development of the agriculture sector, UPM utilizes the Agropolis concept in implementing its development master plan. The concept, which is only practised in towns in France and USA, is incorporated in the master plan and implemented in its development programme including aspect of Genetics Sources, Botanical



program pembangunannya termasuk dari segi Sumber Genetik, Taman Botani dan Kajian Pembangunan dan Penyelidikan Golf. Konsep ini juga merangkumi:

- Sempadan Prasarana Umum
- Kajian Ekologi Tanaman dan Haiwan Ekuatik
- Muzium Pertanian Hidup
- Pusat Perkebunan Universiti
- Muzium Statik
- Pusat Agroteknopreneur

Sehingga kini, dengan keluasan 1,200 hektar, kampus UPM telah menggunakan sepenuhnya kawasan tersebut dengan pelbagai projek yang dibangunkan sejak penubuhannya 70 tahun lalu. Di samping itu dengan pembinaan Fakulti Perubatan dan Sains Kesihatan UPM, selain memuatkan bangunan pentadbiran, akademik dan 14 kolej kediaman pelajar, UPM akan

mempunyai Bandar Perubatannya sendiri di samping Zon R&D, Sukan dan Rekreasi.

Sehingga bulan Disember 2001 semua projek yang dirancang dalam Rancangan Malaysia Ke-7, sebanyak RM400 juta telah dibelanjakan untuk pelbagai projek pembangunan yang kini dalam pembinaan dan akan siap mengikut jadual yang ditetapkan. Pencapaian cemerlang Bahagian Pembangunan mengurus peruntukan Rancangan Malaysia Ke-7, meyakinkan kerajaan meluluskan peruntukan yang sama iaitu sebanyak RM400 juta untuk projek Rancangan Malaysia Ke-8 (2001 - 2005). Dalam Rancangan Malaysia Ke-8 Bahagian Pembangunan akan melaksanakan pembangunan berdasarkan misi dan wawasan Universiti Putra Malaysia yang mengutamakan pembangunan R&D, kemajuan sumber tenaga manusia, pengetahuan, rekreasi dan lanskap yang indah.



Gardens and Golf Development & Research Studies. This concept also entails the following:

- Boundaries of Common Infrastructure
- Plant and Aquatic Life Ecology Studies
- Live Agriculture Museum
- University Farming Centre
- Static Museum
- Agro-Technopreneur Centre

To date, the UPM campus which sits on a land of 1,200 hectares, has fully utilized the area for various projects which have been developed since its inception 70 years ago. In addition, with the construction of the Faculty of Medicine and Health Sciences and besides accommodating its administration building, academic infrastructure and 14 student residential colleges, UPM will also have its own

Medical Town and the R&D, Sports and Recreation zone.

As at December 2001, a total of RM400 million has been spent on various development projects which are under the 7th Malaysia Plan and expected to be completed as scheduled. Sound management practices by the Development Division in managing allocation for the 7th Malaysia Plan has convinced the Government to approve an allocation of another RM400 million under the 8th Malaysia Plan (2001 - 2005). Under the 8th Malaysia Plan, the Development Division will implement development programmes based on UPM's vision and mission which prioritise R&D development, human resources development, knowledge enhancement, recreation and captivating landscaping.



Perpustakaan Universiti Putra Malaysia (UPM) terus cemerlang dalam memastikan kualiti sistem pengurusan bahan dan perkhidmatannya berkembang selaras dengan perkembangan Teknologi Maklumat dan Komunikasi (ICT). Usaha ini membolehkan warga UPM menggunakan teknologi terkini bagi memenuhi keperluan maklumat dalam pengajaran, pembelajaran dan penyelidikan masing-masing.

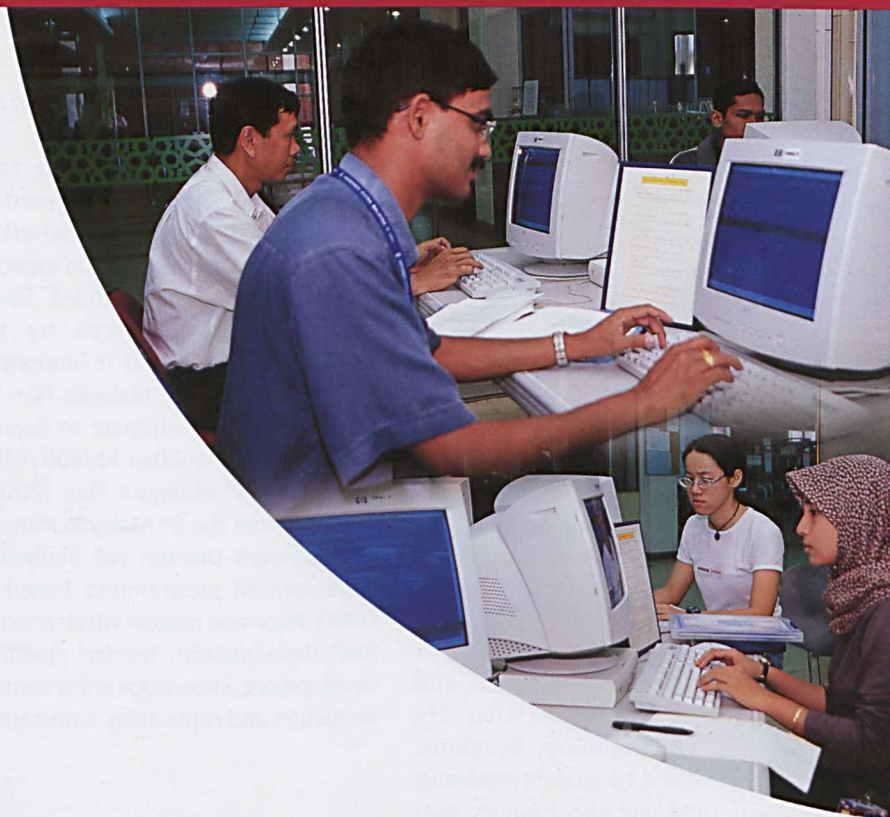
Dalam usaha untuk menyediakan lebih kemudahan berkualiti kepada pelajar dalam era ICT, pada bulan November 2001 Perpustakaan UPM telah membina sebuah Makmal Komputer dengan kemudahan 32 komputer peribadi. Dengan kewujudan makmal ini, pelajar berpeluang melayari internet untuk mendapatkan maklumat dan mengakses semua pangkalan data yang terdapat di dalam Perpustakaan



Sumber Informasi Source of Information

The Universiti Putra Malaysia (UPM) library has been outstanding in its efforts to ensure that its material management system is of quality and its services develop concurrently with the rapid progress in the field of Information Technology and Communication (ICT). This has enabled the UPM community to benefit from the state-of-the-art technology to meet their needs in the process of teaching, learning and research.

As part of its efforts to provide more value-added facilities to students in this ICT-era, the UPM Library has in November 2001 established a Computer Laboratory equipped with 32 personal computers. Students can now surf the net to retrieve information while having access to all database available in the UPM Library, whether in the form of CD-ROM, internal database or on-line database.



UPM sama ada dalam bentuk CD-ROM, pangkalan data dalaman mahupun pangkalan data dalam talian.

Perpustakaan UPM juga telah menambah rekod-rekod untuk pangkalan data dalaman yang dibina beberapa tahun lalu. Sehingga 31 Disember 2001, jumlah rekod yang boleh diakses di dalam pangkalan data dalaman ialah:

- AGRIMAL – 21,239
- MAKMAL – 60,472
- FAMILY – 4,179
- WMS – 7,611
- HRC – 6,026
- SMI – 2,946

Manakala bagi membolehkan pengguna mengakses sumber maklumat dalam talian melalui internet, Perpustakaan UPM sehingga akhir tahun 2001 telah melanggan sebanyak 19 pangkalan data yang membolehkan pengguna mengakses lebih 8,000

jurnal antarabangsa. Di samping itu, pengguna masih terus boleh mengakses pangkalan-pangkalan data dalam negara seperti NSTP e-media, PALMOILIS dan SIRIMLINK.

Bagi pangkalan data CD-ROM, Perpustakaan kini mempunyai 27 judul yang merangkumi pelbagai bidang pengajaran atau penyelidikan, termasuklah pangkalan data yang dihasilkan oleh *Commonwealth Agricultural Bureau (CAB)* dan *Institute for Science Information (ISI)*. Perpustakaan UPM juga mempunyai judul-judul CD terkini dalam bidang-bidang :

- Kejuruteraan
- Komputer dan Teknologi
- Fizik
- Sains Kimia dan Tanah
- Pertanian
- Biologi dan Sains Persekitaran
- Sains Hayat
- Sains Klinikal



The UPM Library has also increased records for internal database compiled a couple of years ago. As at 31 December 2001, the total number of records accessible in the internal database is as follows:

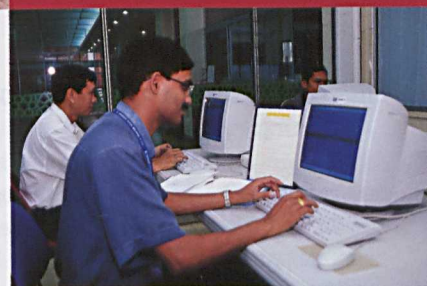
- AGRIMAL – 21,239
- LABORATORY – 60,472
- FAMILY – 4,179
- WMS – 7,611
- HRC – 6,026
- SMI – 2,946

Meanwhile, as at the end 2001, in order to offer access to information through the internet, the UPM Library has subscribed to 19 databases providing access to more than 8,000 international journals. In addition, users may still have access to our local databases such as NSTP e-media, PALMOILIS and SIRIMLINK.

As for CD-ROM database, the UPM Library now has 27 titles incorporating

various fields of teaching or research, including data base produced by the Commonwealth Agricultural Bureau (CAB) and the Institute for Science Information (ISI). The Library possesses the latest CD titles in the following fields:

- Engineering
- Computer and Technology
- Physics
- Chemical Science and Soil
- Agriculture
- Biology and Environmental Science
- Life Sciences
- Clinical Sciences



Sempena Sambutan 70 Tahun UPM

Tanggal 21 Mei 2001 menandakan genaplah 70 tahun kewujudan Universiti Putra Malaysia (UPM). Dengan gabungan tenaga staf, kira-kira 3,647UPM sehingga kini telah melahirkan sejumlah 69,013 graduan yang cemerlang dalam pelbagai bidang. Dengan tema sambutan 'Jejak-jejak Kegemilangan' UPM pasti akan mencapai matlamatnya menjadi Institusi pengajian tinggi yang unggul hingga ke peringkat antarabangsa.

Tujuan Sambutan

- Menonjolkan kewibawaan UPM sebagai Institusi Pengajian Tinggi yang banyak melahirkan pemimpin masyarakat yang cemerlang dan berdaya saing.
- Memaparkan jejak-jejak kegemilangan dari aspek pengajaran,



Jejak Kegemilangan

Path To Excellence

In Conjunction with UPM's 70th Anniversary

21st May 2001 marks the 70th year since the inception of Universiti Putra Malaysia (UPM). With a combined workforce of approximately 3,647 to date, UPM has produced 69,013 excellent graduates in various fields of study, hence it is confident of emerging as an outstanding and internationally renowned institute of higher learning in line with its quest – 'Path to Excellence'.

Objectives of Celebration

- (i) Highlighting UPM's integrity as an institution of higher learning which is able to produce excellent and competitive leaders of the community.
- (ii) Projecting past excellences in teaching, research and professional services in developing UPM from its humble beginnings as a School of



penyelidikan dan khidmat profesional dalam pembangunan UPM dari bermulanya penubuhan Sekolah Pertanian Malaya (1931) sehingga Universiti Putra Malaysia.

- Mengekalkan semangat berpasukan, bekerjasama, dan kekitaan di kalangan warga kampus dan alumni UPM.
- Membawa kembali alumni ke kampus bagi mengingati perjuangan dalam mengharungi cabaran dunia akademik di samping mengekalkan pakatan strategi dalam menjayakan wawasan UPM.
- Meneliti kejayaan dan pencapaian dalam bidang-bidang pengajaran, penyelidikan dan khidmat profesional dan merancang arah tuju UPM selaras dengan perancangan strategi Universiti.

Menyingkap Sejarah

Sekolah Pertanian Malaya dirasmikan oleh John Scott, Pegawai Pentadbir

Negeri-negeri Selat pada 21 Mei 1931. Institusi pendidikan yang ditubuhkan ini memberi tumpuan dan penekanan kepada pengajian dalam bidang pertanian dan ditubuhkan untuk memenuhi keperluan tenaga kerja di Jabatan Pertanian ketika itu.

Sebagai permulaan, hanya dua program ditawarkan iaitu pengajian diploma selama tiga tahun dan kursus sijil selama setahun. Selepas 10 tahun menyediakan peluang pendidikan, Sekolah Pertanian Malaya berjaya melahirkan 155 pemegang diploma dan 166 lulusan sijil.

Hasrat menaikkan taraf sekolah berkenaan kepada kolej hasil kesedaran tentang kepentingan peranan dan kemajuan sekolah berkenaan dilaksanakan oleh Gabenor Kesatuan Malaya, Sir Edward Grant yang merasmikan Kolej Pertanian Malaya pada 23 Jun 1942. Menjelang ulang tahun

Jubli Perak Ke-25, Kolej Pertanian Malaya pada tahun 1956 telah mengeluarkan sejumlah 699 pelajar iaitu 288 pemegang Diploma Pertanian dan 411 pemegang Sijil Pertanian.

Atas kecemerlangan Kolej tersebut, mendapat perhatian, maka timbul cadangan pada 1948 untuk menaikkan tarafnya kepada universiti. Penubuhan Fakulti Pertanian Universiti Malaya pada 1960 merupakan titik tolak kepada pembentukan UPM kerana penubuhan fakulti tersebut mengambil kira peranan Majlis Kolej Pertanian Malaya dengan pelantikan kolej tersebut sebagai salah satu pihak berkuasa universiti berkenaan pada 1 Januari 1962.

Kemajuan dan pembangunan pertanian dan pengenalpastian pertanian sebagai tunjang ekonomi menyerlahkan hasrat dan kepentingan memperkembang Kolej Pertanian Malaya. Hasilnya pada 31 Mac 1969,



Agriculture (1931) to the current Universiti Putra Malaysia, a premier institution of learning of today.

- (iii) Maintaining excellent team spirit, cooperation and a sense of oneness amongst the campus community and UPM alumni.
- (iv) 'Bringing home' members of the Alumni to the Campus to reminisce past challenges in the academic world while sustaining a strategic alliance in the realisation of UPM's mission.
- (v) Scrutinizing the success and achievements in teaching, research and professional services while charting UPM's future direction in line with its strategic planning.

A Peek into UPM History

The opening of the School of Agriculture Malaya was officiated by John Scott, the Administrator of The Straits Settlement

on 21st May 1931. It was established to give particular attention and focus to studies in the field of agriculture as well as to meet the manpower requirements of the then Department of Agriculture.

In the beginning, only two programmes were offered – a three-year Diploma and a one-year Certificate course. After 10 years of providing educational opportunities, the School of Agriculture Malaya succeeded in producing 155 diploma and 166 certificate holders.

The vision to upgrade the school to a college was realised by the Governor of Malayan Union, Sir Edward Grant who officiated the opening of the College of Agriculture Malaya on 23rd June 1942. By its 25th Silver Jubilee Celebrations in 1956, the College of Agriculture Malaya had produced a total of 699 graduates of which 288 were holders

of Diploma in Agriculture and 411 holders of Certificate in Agriculture.

The excellence of the College had not gone unnoticed, thus paving the way in 1948 for it to be upgraded to a university. The establishment of the Faculty of Agriculture, University of Malaya in the year 1960 actually was the starting point towards the formation of UPM. This was evident when on 1st January 1962 the council for the College of Agriculture Malaya was observed as an authority of the University of Malaya.

The advancement and development of agricultural pursuits and the acknowledgement of agriculture at the core of the national economy augured well for the calling of concerted efforts to further enhance and expand the College of Agriculture Malaya. As a result, on 31st March 1969, the then Deputy

Timbalan Perdana Menteri Malaysia, Yang Amat Berhormat Tun Hj. Abdul Razak Tun Hussein telah mencadangkan supaya Kolej Pertanian dinaik taraf kepada sebuah universiti.

Sehubungan itu, pada Mei 1969, Menteri Pelajaran Malaysia, Yang Berhormat Datuk Haji Abdul Rahman Yaakub telah menyiapkan memorandum menubuhkan Universiti Pertanian Malaysia. Dr. Mohd. Rashdan Haji Baba telah diberi penghormatan sebagai Naib Canselor.

Universiti Pertanian Malaysia pada tanggal 23 Julai 1973, bersama 1,559 pelajar memulakan sesi akademik yang pertama dengan tiga fakulti asas iaitu Fakulti Pertanian, Fakulti Perhutanan dan Fakulti Kedokteran Veterinar dan Sains Peternakan serta satu Bahagian Sains Asas. Manakala, empat tahun kemudian, Universiti Pertanian Malaysia telah mengadakan

Majlis Konvokesyen Pertamanya pada 30 Julai 1977.

Pegangan falsafah “ilmu untuk berbakti,” asas operasi Universiti Pertanian Malaysia adalah berpandukan kepada tiga kegiatan utama, iaitu pengajaran, penyelidikan dan pengembangan. Maka itulah Universiti Pertanian Malaysia memfokus kepada penerokaan pelbagai bidang penyelidikan yang memberikan sumbangan ke arah mutu kehidupan yang lebih baik, keperluan masyarakat terhadap pengeluaran makanan berasaskan tanaman dan haiwan dengan lebih cekap serta persekitaran yang lebih bersih dengan penggunaan sumber-sumber yang berdaya kekal. Di samping itu, universiti ini meneroka perkembangan teknologi komputer dengan menjanakannya dalam pengajaran, pentadbiran dan kegiatan penyelidikan.

Beriltizamkan kecemerlangan dalam pendidikan bagi melahirkan individu pemikir yang berilmu, kreatif dan berdisiplin, Universiti Pertanian Malaysia berhasrat menjadi pusat pembelajaran dan penyelidikan unggul dan ulung yang menyumbang kepada kemajuan manusia dan penerokaan ilmu di samping pembentukan kekayaan dan pembangunan negara.

Universiti Pertanian Malaysia sekali lagi mengalami titik perubahan bersejarah apabila Yang Amat Berhormat Perdana Menteri Malaysia, Datuk Seri Dr. Mahathir Mohamed pada 3 April 1997 mengisytiharkan nama Universiti Putra Malaysia (UPM) sebagai menggantikan Universiti Pertanian Malaysia.

Pengisytiharan tersebut merupakan pemangkin kepada proses transformasi ke arah institusi pendidikan tinggi multidisiplinari negara yang mampu bersaing di peringkat antarabangsa.



Prime Minister of Malaysia, YAB Tun Hj. Abdul Razak Tun Hussein proposed that the College of Agriculture be upgraded to a university.

Consequently, in May 1969, the Minister of Education, Malaysia, YB Datuk Haji Abdul Rahman Yaakub completed a memorandum of establishment of Universiti Pertanian Malaysia and Dr. Mohd. Rashdan Haji Baba was given the honour to be the Vice Chancellor.

On 23rd July 1973, Universiti Pertanian Malaysia, with 1,559 students, commenced the maiden academic session in three core faculties, i.e. Faculty of Agriculture, Faculty of Forestry and Faculty of Veterinary Medicine and Animal Science and a Basic Science Division. Four years later, Universiti Pertanian Malaysia held its First Convocation Ceremony on 30th July 1977.

The philosophy of Universiti Pertanian Malaysia which is “knowledge to serve,” is based on three primary activities, i.e. teaching, research and extension. Therefore, UPM strived hard in focusing on exploratory work in various fields of research which contributed to a better quality of life, the community’s requirement for food production based on plants and animals, and a cleaner environment using permanent resources. In addition, the University also explored the rapid advancement of computer technology by generating it in teaching, administration and research activities.

UPM aims 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 once again made history when on 3rd April 1997, the Prime Minister, Datuk

Seri Dr. Mahathir Mohamed declared the change of name from ‘Universiti Pertanian Malaysia’ to ‘Universiti Putra Malaysia’ (UPM). Inevitably, the declaration served as a transformation catalyst to make UPM a multi-disciplinary institution of higher learning at par with other institutions worldwide. The change of name is also seen as a strategic move which reflects the position of UPM as an institution of higher learning which offers various up-to-date studies including Information Technology (IT) with special focus placed on the field of agriculture.

Agriculture Technology Excellence

There has been no change in the emphasis given by Universiti Putra Malaysia (UPM) on agriculture although there is no more reference to the word “pertanian” which means “Agriculture”. This is because the field of agriculture

Perubahan nama itu juga merupakan langkah strategik yang mencerminkan kedudukan UPM sebagai institusi pengajian tinggi yang menawarkan pelbagai pengajian terkini, termasuk teknologi maklumat (IT) di samping penumpuan kepada bidang pertanian.

Kegemilangan Teknologi Pertanian

Penekanan kepada bidang pertanian masih diteruskan oleh Universiti Putra Malaysia (UPM) walaupun tiada lagi rujukan "pertanian" setelah 70 tahun tertera pada namanya. Ini kerana bidang pertanian adalah teras dan tujuan asal penubuhannya. Malahan, disiplin berasaskan bidang pertanian akan terus diperkukuh mengikut dasar kerajaan dan keperluan masyarakat.

UPM terus membantu memodenkan sektor pertanian selaras dengan hasrat kerajaan dalam Rangka Rancangan

Jangka Panjang Ketiga (RRJP3) menjadikan pertanian terutama pengeluaran bahan makanan sebagai sumber pertumbuhan ekonomi yang ketiga selepas elektronik dan perkhidmatan. Dengan itu, kerajaan menerusi Kementerian Pertanian mahu menjadikan sektor pertanian negara sebagai industri yang menguntungkan dan menggunakan teknologi maju. Sehubungan itu, salah satu matlamat Pelan Strategi 10 tahun UPM (2001-2010) ialah meningkatkan keupayaan UPM dalam penjana ilmu pertanian yang baru serta menghasilkan produk atau teknologi inovatif melalui penyelidikan.

Pengalaman dan latar belakang UPM selama 70 tahun dalam bidang pertanian, memungkinkan peningkatan keupayaan pengeluaran tenaga mahir dan penyelidikan dalam semua aspek bidang tersebut. Pengeksplotasian

peralatan moden seperti teknologi maklumat dan komunikasi (ICT), di samping kejuruteraan pertanian berupaya meningkatkan produktiviti pengeluaran makanan.

Di samping itu, UPM mempunyai fakulti-fakulti dan institut penyelidikan yang khusus untuk membantu kerajaan membangun dan memodenkan sektor pertanian negara seperti Fakulti Pertanian, Fakulti Perhutanan, Fakulti Perubatan Veterinar dan Fakulti Sains Makanan dan Bioteknologi. Selain itu, UPM juga mempunyai Institut Biosains yang memberi tumpuan kepada penyelidikan dalam bidang penghasilan baja baru, vaksin, pemantauan kesuburan tanah menggunakan satelit, penghasilan makanan haiwan yang lebih baik dan benih pokok yang tahan penyakit atau cepat membesar, ubat herba, makanan kesihatan dan sebagainya.



forms the core and original objective of its establishment, hence agriculture-based disciplines shall be continually reinforced in response to governmental policies as well as the requirements of the community.

UPM continues to assist in modernizing the agricultural sector in line with the aspirations of the government in the Third Long Term Plan Outline (RRJP3) making agriculture (especially food production) the third most important source of economic growth after electronics and services. Therefore, the government, through the Ministry of Agriculture, intends to make the national agriculture sector a profitable industry accompanied with the exploitation of advanced technology. In that light, one of the objectives of the UPM 10-Year Strategic Planning (2001-2010) is the enhancement of

UPM's capacity in generating new agricultural knowledge and producing innovative products or technology via research.

UPM's 70 years of experience and strong foothold in the field of agriculture makes it possible to enhance its production of skilled manpower and research in all aspects of the field. The exploitation of modern equipment such as the Information Technology and Communications (ICT) and innovative agriculture engineering are also instrumental in improving the productivity of food.

Besides, UPM has specific faculties and specialized research institutes to assist the government in developing and modernizing the agricultural sector such as the Faculty of Agriculture, Faculty of Forestry, Faculty of Veterinary Medicine and Faculty of

Food Science and Biotechnology. Apart from that, UPM has also established the Bioscience Institute that focuses on research in formulation of new fertilizers, vaccines, satellite-aided soil fertility surveillance, production of better feed material and seedlings that are more resistant to plant diseases or that which grow faster, herbal medicines, health food etc.

Current agriculture-supporting institutions such as the Faculty of Engineering and the Institute for Advanced Technology (ITMA) also play an important role in carrying out research and development pertaining to the potential of using specialized machinery in all agricultural processes. UPM is the only university that offers biology and agriculture engineering programmes through the Faculty of Engineering

Institusi sokongan pertanian yang sedia ada seperti Fakulti Kejuruteraan dan Institut Teknologi Maju (ITMA) turut berperanan menjalankan penyelidikan dan pembangunan tentang potensi penggunaan mesin khusus dalam semua proses pertanian. UPM adalah satu-satunya universiti yang menawarkan program kejuruteraan biologi dan pertanian menerusi Fakulti Kejuruteraan dengan tujuan mengeluarkan jurutera pertanian dan penyelidik kejuruteraan pertanian.

Kegemilangan Penyelidikan

UPM kini bukanlah semata-mata menumpukan kepada aktiviti pengajaran dan pembelajaran malah UPM juga amat menitikberatkan aktiviti penyelidikan. Ini terbukti apabila Kementerian Sains, Teknologi dan Alam Sekitar telah memperuntukkan dana sebanyak RM123 juta kepada UPM melalui Skim

Peningkatan Penyelidikan Bidang Keutamaan (IRPA) sepanjang Rancangan Malaysia Ke-7 (1996-2000). Bagi menjadi sebuah universiti terkemuka dalam penyelidikan khususnya di peringkat antarabangsa, UPM telah menetapkan beberapa matlamat dalam Perancangan Strategi 2001-2010. Sebagai penerima peruntukan IRPA yang terbesar di kalangan universiti awam lain, UPM yakin bahawa iltizam dan kesungguhan para penyelidikinya bukanlah satu perkara yang mustahil untuk mencapai matlamat 2001-2010.

Dalam tempoh lima tahun Rancangan Malaysia Ke-7 itu, UPM telah berjaya menyiapkan sejumlah 646 projek penyelidikan. UPM juga telah menduduki tempat pertama anugerah Majlis Penyelidikan dan Kemajuan Sains Negara (MPKSN) bagi kategori Institut Penyelidikan dan Pembangunan Terbaik pada tahun 1996.

Kecemerlangan UPM sebagai institusi penyelidikan dirasionalkan lagi dengan anugerah dan pengiktirafannya di peringkat antarabangsa. Antara tahun 1984 hingga 2001, UPM telah menerima 21 anugerah antarabangsa, 11 anugerah MPKSN, dua Anugerah Juruteknologi Negara, sembilan hadiah pertandingan, 10 anugerah pameran Negara, 25 *fellowship*, enam anugerah siswazah antarabangsa, 15 anugerah siswazah dan tujuh anugerah Akademi Sains Negara.

Galakan dan penekanan terhadap penyelidikan tidak hanya tertumpu kepada pensyarah atau pegawai penyelidik, malah pelajar ijazah pertama UPM juga aktif dalam bidang tersebut. Terbukti pada Jun 2001, kira-kira 15 pelajar Jabatan Kejuruteraan Biologi dan Pertanian, Fakulti Kejuruteraan mencatat sejarah apabila



with the aim of producing agricultural engineers and researchers in agricultural engineering.

Research Excellence

The present-day activities of UPM are no longer confined to teaching and learning since great emphasis is given to research activities. The allocation provided by the Ministry of Science, Technology and Environment to UPM totaling RM123 million through the IRPA under the 7th Malaysia Plan (1996-2000) is a clear proof of this. In order to emerge as a renowned and internationally acclaimed research-based university, UPM has identified numerous targets in its Strategic Plan 2001-2010. As the recipient of the largest IRPA grant amongst other public universities, UPM is confident that commitment and sheer perseverance of its research teams is

enough to see them through to achieve the 2001-2010 objectives.

During the five-year period of the 7th Malaysia Plan, UPM has successfully completed 646 research projects. UPM also won the top spot in the National Research and Development Council (MPKSN) Award for the Best Research and Development Institution for the year 1996.

UPM's excellence as a research institute was further rationalized by its success in winning international awards and recognition. From the year 1984 to 2001, UPM won 21 international awards, 11 MPKSN awards, two National Technologist Awards, nine competition prizes, ten National exhibition awards, 25 fellowships, 6 international graduate awards, 15 graduate awards and seven National Science Academy awards.

Encouragement and emphasis given in the field of research is not only confined to lecturers or research officers. First degree students in UPM are also given the opportunity to avail themselves to research work and facilities. This was indeed proven true on 1 June 2001 when about 15 students from the Department of Biological and Agricultural Engineering, Faculty of Engineering, wrote a new chapter in the history of UPM by becoming the first ever team from outside North America to participate in the 1/4 Scaled Prototype Tractor Competition in Illinois. Not only was it their maiden participation, but they emerged top in the category of Best Teamwork Award and attained second placing for web page design. The Faculty of Food Science and Biotechnology is also involved in organizing annual competitions for new products which is open to students. In

menjadi pasukan pertama dari luar Amerika Syarikat yang menyertai Pertandingan Prototaip Traktor Berskala 1/4 di Illinois. Selain penyertaan sulung itu, mereka juga memenangi hadiah pertama bagi Anugerah Kerja Berpasukan Terbaik dan tempat kedua bagi reka bentuk laman web. Fakulti Sains Makanan dan Bioteknologi juga turut bergiat menganjurkan pertandingan tahunan produk baru di kalangan pelajar. Selain mendapat tajaan, syarikat-syarikat perniagaan makanan, aktiviti sihat ini dapat memupuk budaya penyelidikan dan pembangunan di kalangan pelajar ijazah pertama yang bakal melahirkan penyelidik bertaraf dunia pada masa hadapan.

Kegemilangan Program Akademik

Bermula dengan hanya menawarkan dua program iaitu pengajian diploma dan

kursus sijil tujuh dekad lalu, Universiti Putra Malaysia (UPM) kini telah memperkembangkan program akademiknya melalui 13 fakulti, enam pusat dan empat institut yang membantu peningkatan perkembangan akademik serta kemajuan industri penyelidikan dan pembangunan.

Fakulti-fakulti di UPM

- Fakulti Perubatan dan Sains Kesihatan
- Fakulti Ekologi Manusia
- Fakulti Ekonomi dan Pengurusan
- Fakulti Perhutanan
- Fakulti Perubatan Veterinar
- Fakulti Kejuruteraan
- Fakulti Pengajian Pendidikan
- Fakulti Sains Makanan dan Bioteknologi
- Fakulti Sains dan Pengajian Alam Sekitar
- Fakulti Pertanian

- Fakulti Bahasa Moden dan Komunikasi
- Fakulti Reka Bentuk dan Seni Bina
- Fakulti Sains Komputer dan Teknologi Maklumat

Pusat Pengajaran dan Pembelajaran

- Pusat Pengajian Siswazah
- Pusat Siswazah Pengajian Pengurusan
- Pusat Program Luar (PPL)
- Pusat Pembangunan Perniagaan Universiti
- Pusat Islam
- Pusat Kebudayaan dan Kesenian Sultan Salahuddin Abdul Aziz Shah

Institut

- Institut Pendidikan dan Pembelajaran Jarak Jauh (IDEAL)
- Institut Biosains



in addition to obtaining sponsorships from food business concerns, this healthy activity can also inculcate the culture of research and development work amongst first degree students, who may well be future world-class researchers.

Academic Programme Excellence

From the humble beginnings of only offering two programmes, i.e. at diploma and certificate levels seven decades ago, Universiti Putra Malaysia (UPM) has expanded its academic programmes through 13 faculties, six centers and four institutes that assist in the enhancement of academic development and the advancement of industrial research and development.

Faculties in UPM

- Faculty of Medicine and Health Sciences

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

Teaching and Learning Centres

- Graduate Studies Centre
- Graduate School of Management

- External Programme Centre (PPL)
- University Business Centre
- Islamic Centre
- SSAAS Arts and Cultural Centre

Institutes

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

To date, UPM offers eight (8) programmes at Diploma level, 69 programmes at bachelor's level and eight at graduate level.

Quality Excellence

Universiti Putra Malaysia's vision to become an institution of world standard by producing a community of learners and intellectuals of international calibre has been proven the overall excellence

- Institut Teknologi Maju
- Institut Multimedia dan Perisian

Sehingga kini UPM menawarkan lapan (8) program peringkat Diploma, 69 program peringkat bachelors dan lapan untuk program siswazah lanjutan.

Kegemilangan Kualiti

Wawasan Universiti Putra Malaysia (UPM) untuk menjadi universiti bertaraf dunia dengan penghasilan komuniti cendekiawan dan intelek berkualiti antarabangsa telah dibuktikan dengan pencapaian cemerlang warga UPM secara keseluruhannya. Komitmen yang ditunjukkan oleh pensyarah, pegawai penyelidik, pelajar dan kakitangan sokongan bakal merealisasikan hasrat UPM untuk mendapatkan pensijilan MS ISO 9000 secara berperingkat dalam jangka masa terdekat.

Sepanjang penubuhannya, UPM telah mendapat pengiktirafan kualiti

melalui dua fakultinya iaitu Fakulti Perubatan Veterinar dan Fakulti Kejuruteraan yang masing-masing berjaya mendapatkan pensijilan kualiti ISO 9001 daripada Sirim Berhad pada tahun 2000 dan 2001. Paling membanggakan Fakulti Perubatan Veterinar merupakan Fakulti pertama dianugerah pensijilan ISO di Malaysia dan Fakulti Kejuruteraan UPM merupakan satu-satunya fakulti kejuruteraan yang mendapatkan pensijilan kualiti di negara ini.

Di samping itu, kebanyakan hasil penyelidikan dan penerbitan para penyelidik UPM mendapat pengiktirafan tempatan dan antarabangsa yang menggambarkan ketinggian kualiti hasil-hasil tersebut. Malah ada juga hasil kajian yang berjaya dikomersialkan seperti baja organik '*Vesicular Arbuscular Mycorrhiza (VAM) Biofertiliser*' hasil kajian Profesor Dr.

Azizah Hashim dan '*Vita-Grow*' ciptaan Dr. Syed Omar Syed Rastan.

Kegemilangan Graduan

Majlis Konvokesyen pertama Sekolah Pertanian Malaya pada tahun 1932 hanya membabitkan 10 graduan peringkat sijil dan diploma. Hari ini Universiti Putra Malaysia (UPM) muncul antara institusi pengajian tinggi yang berjaya melahirkan paling ramai graduan di negara ini.

Sehingga kini, UPM telah mengeluarkan sejumlah 69,013 graduan pelbagai peringkat iaitu sijil, diploma, bachelors, diploma profesional, sarjana dan doktor falsafah (Ph.D). Daripada jumlah tersebut, 68,177 adalah graduan yang mengikuti pengajian di UPM, sementara bakinya adalah menerusi program kerjasama akademik dengan institusi pengajian tinggi swasta.

achieved by the UPM community. The state of commitment portrayed by lecturers, research officers, students and support staff will indeed pave the way for UPM in attaining the prestigious MS ISO 9000 Certification progressively in the immediate future.

Since its inception, UPM has obtained recognition for quality through two of its faculties, i.e. the Faculty of Veterinary Medicine and the Faculty of Engineering for attaining the ISO 9001 Quality Certification from Sirim Berhad in 2000 and 2001 respectively. Even more encouraging is the fact that the Faculty of Veterinary Medicine emerged as the first ever faculty to have obtained the ISO certification in Malaysia and the Faculty of Engineering UPM is the one and only engineering faculty to have attained the quality certification in this country.

In addition, most of the research work and publication of UPM's

researchers have gained local and international recognition, hence reflecting the quality of such research findings. Indeed there are also research findings that have been commercialized such as the organic fertilizers known as "*Vesicular Arbuscular Mycorrhiza (VAM) Biofertiliser*", (research work of Prof. Dr. Azizah Hashim) and *Vita-Grow* invented by Dr. Syed Omar Syed Rastan.

Graduates Excellence

In sharp contrast to the First Convocation Ceremony of the School of Agriculture, Malaya in 1932 in when 10 students passed out with certificates and diplomas, Universiti Putra Malaysia (UPM) is now one of the institutions of higher learning which produces the largest number of graduates in Malaysia.

To date, UPM has produced 69,013 graduates at various levels including

certificate, diploma, bachelors, professional diploma, masters and doctorate (PhD), of which 68,177 are graduates who underwent courses in UPM while the balance were through academic collaboration programmes with private institutions of higher learning.

UPM's excellence in the standard of teaching and learning has also attracted students from abroad to pursue their education here. UPM saw a surge in foreign student intake of 695 for higher degrees, i.e. Doctorate programme and 377 for masters level. There were also 10 foreign students registered for first degree programmes, bringing the overall foreign student enrolment for this programme to 51 students in 2001.

On a more encouraging note, many of UPM graduates have gone on to become well respected individuals in the corporate world, as community leaders

Kecemerlangan UPM dalam program-program pengajaran dan pembelajarannya menarik minat pelajar-pelajar luar negara untuk mengikuti pengajian di universiti ini. UPM menerima peningkatan kemasukan pelajar dari luar negara seramai 695 orang bagi ijazah tinggi untuk program Doktor Falsafah dan 377 di peringkat sarjana. Manakala 10 pelajar dari luar mendaftar untuk program ijazah pertama yang menjadikan jumlah keseluruhan enrolmen pelajar asing untuk program ini 51 orang pada tahun 2001.

Amat membanggakan ialah perkembangan dan kejayaan ramai graduan UPM yang menjadi tokoh terkenal serta disegani dalam bidang korporat, pemimpin masyarakat ataupun pemimpin politik. Sekadar menyebut beberapa nama, mereka adalah Pengerusi Malaysia *Airports Holdings*

Berhad, Tan Sri Basir Ismail dan Pengerusi Majlis Perniagaan Segi Tiga Indonesia-Singapura (IMS-GT), Tan Sri Dr. Arshad Ayub iaitu graduan Diploma Pertanian, Kolej Pertanian Malaya tahun 1955. Manakala graduan-graduan lain ialah bekas Timbalan Naib Canselor UPM, Datuk Dr. Mohd Noor Ismail yang kini adalah Pengarah Eksekutif Kumpulan FIMA Berhad dan Pengerusi Lembaga Pertubuhan Peladang, Datuk Dr. Alang Perang Abdul Rahman Zainuddin.

UPM beriltizam akan meneruskan kesinambungan tradisi kecemerlangan ini agar hala tuju yang telah ditetapkan akan tercapai.



or political figures. Some of the most prominent amongst them are the Chairman of Malaysia Airports Holdings Berhad, Tan Sri Basir Ismail and Chairman of Majlis Perniagaan Segitiga Indonesia-Singapura (IMS-GT), Tan Sri Dr. Arshad Ayub, a Diploma in Agriculture graduate from the College of Agriculture, Malaya in 1955. Other graduates include the ex-Deputy Vice Chancellor UPM, Datuk Dr. Mohd Noor Ismail who is now the Group Executive Director of Kumpulan Fima Berhad and Chairman of Lembaga Pertubuhan Peladang, Datuk Dr. Alang Perang Abdul Rahman Zainuddin.

UPM is committed to continue its tradition of excellence so as to realise the future direction already set.

DIARI

PERISTIWA

DIARY OF EVENTS

2001

MEMORANDUM PERSEFAHAMAN

MEMORANDUM OF UNDERSTANDING

[Januari • January]

- 23 Majlis Menandatangani Memorandum Perjanjian antara UPM dengan MARDI

[Februari • February]

- 5 Majlis Menandatangani Memorandum Persefahaman antara UPM dengan Ministry of Science, Research and Technology, The Islamic Republic of Iran
- 8 Majlis Menandatangani Memorandum Perjanjian antara UPM dengan SEAMEO Regional Centre for Graduate Study and Research in Agriculture (SEARCA)
- 15 Majlis Menandatangani Memorandum Perjanjian antara UPM dengan Yayasan Alumni Universiti Putra Malaysia, Indonesia (YAUPM)

[Mac • March]

- 29 Majlis Menandatangani Memorandum Persefahaman antara UPM dengan Jamia Millia Islamia, New Delhi, India
- 11 Majlis Menandatangani Memorandum Persefahaman antara UPM dengan Metro Kajang Holdings Berhad
- 11 Majlis Menandatangani Memorandum Persefahaman antara UPM dengan IEC College of Engineering and Technology

[Julai • July]

- 18 Majlis Menandatangani Memorandum Persefahaman antara UPM dengan The International Maritime Organization, United Kingdom

[September • September]

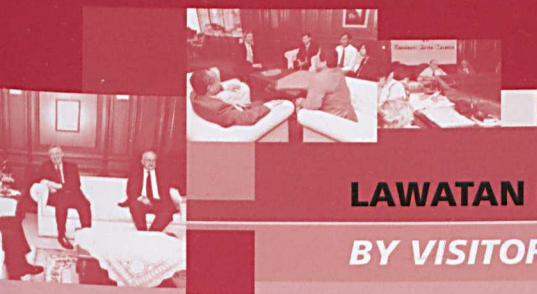
- 19 Majlis Menandatangani Memorandum Persefahaman antara UPM dengan Monash University

[Oktober • October]

- 25 Majlis Menandatangani Memorandum Persefahaman antara UPM dengan Pusat Remote Sensing Negara
- 25 Majlis Menandatangani Memorandum Persefahaman antara UPM dengan Pakar Management Technology (M) Sdn. Bhd.
- 25 Majlis Menandatangani Memorandum Persefahaman antara UPM dengan Diversatech (M) Sdn. Bhd.

[November • November]

- 5 Majlis Menandatangani Memorandum Persefahaman antara UPM dengan Majlis Sukan Negara



LAWATAN RASMI LUAR NEGARA BY VISITORS FROM ABOARD

[Januari • January]

- 4 **Canseleri** – Lawatan wakil Bernidji State University, USA
- 8 **Fakulti Perhutanan** – Prof. Madya Dr. Tsuyoshi Yoshimura, Japan
- 8 **Fakulti Sains Komputer dan Teknologi Maklumat** – Profesor Erkki Sutinen, University of Joensuu, Finland
- 9 **Fakulti Pertanian** – Dr. Peter Rowllimsom. Faculty of Agriculture & Biological Science, University of Newcastle, United Kingdom
- 14-20 **Fakulti Perhutanan** – Penyelidik dari Chinese Academy of Science, China
- 15-19 **Fakulti Ekonomi dan Pengurusan** – Prof. Roger Juchau dari College of Law and Business, UWS Hawkesbury, Australia
- 22 **Fakulti Pertanian** – Prof. Bruce Young and Mr. Peter Goodusen. Animal Studies, University of Queensland Gatton Qld, Australia
- 27-Feb 2 **Fakulti Ekonomi dan Pengurusan** – Prof. Dr. C.P.Rao (Department of Management and Marketing, University of Kuwait)
- 30 **Fakulti Pertanian** – P.C.Choong, Dynamedix, Animal Production and Health Division

[Februari • February]

- Fakulti Sains Makanan dan Bioteknologi - **Prof. Dr. Yoshihito Shirai, NewEnergy Development Organisation (NEDO), Khushu Institute of Technology, Japan**
- 1 **Fakulti Pertanian** – Dr. Manuel D. Sanchee. FAO, Rome, Italy
- 4 **Fakulti Pertanian** – Prof. Donald Broom, Cambridge University, United Kingdom
- 12-17 **Fakulti Ekonomi dan Pengurusan** - Prof. Gupta (Asian Institute of Management, Ahmadabab, India) Pemeriksa/Penilai Luar Program Bachelo Ekonomi
- 16 **Fakulti Pertanian** – Dr. Perry Wong, Organic Waste Recycling Unit, Richerwood, Australia
- 19 **Canseleri** – Lawatan dari Universitas Muhammadiyah, Indonesia
- 21 **Canseleri** – Lawatan dari Soka University, Japan

[Mac • March]

- Fakulti Sains Makanan dan Bioteknologi** - Prof. Dr. Shigeaki Takagi, Japan International Cooperation Agency (JICA) Projek JICA Aftercare UPM-Okayama University (2000-2001)
- 11 **Canseleri** – Prof. Djoko Sutriana, Indonesia
- 14 **Canseleri** – Lawatan Pelajar Sekolah-sekolah Singapura
- 14 **Fakulti Perhutanan** - Pegawai-pegawai Kanan daripada Nigeria
- 15 **Canseleri** – Lawatan dari IRID, Iran
- 15 **Fakulti Pertanian** - Prof. Dr. Ismail Hussain. Department of Plant Pathology, Bangladesh Agriculture University, Mymensingh, Bangladesh
- 23 **Canseleri** – Prof. Dr. Mary O’Kane
- 28 **Canseleri** – Dr. Toda, Soka University, Japan
- 29 **Fakulti Sains Komputer dan Teknologi Maklumat** – Mr. Syed Shahid Mahdi, Naib Canselor Jamia Millia Islamia New Delhi, India
- 5 **Canseleri** – Her Excellency Lindiwa Maabuza, High Commission of South Africa
- 20 **Canseleri** – Prof. Nedzad Mulabagei,–University of Sarajevo



LAWATAN RASMI LUAR NEGARA

BY VISITORS FROM ABOARD

[April • April]

- 20 **Fakulti Pertanian** - Prof. Dr.Nasser Latiff. Gonjan, Iran

[Mei • May]

- 9 **Fakulti Pertanian** - Dr. Alistair Murdock, Department of Agriculture, University of Reading, United Kingdom
- 16 **Canseleri** – Delegasi dari Embassy of Mauritius : The Honorable S. Saddhum, Minister of Labour and Industrial Relations dan H.E. Mr. S.K. Dosowoth
- 16 **Fakulti Perhutanan** – Pegawai-Pegawai Kanan Perhutanan Vietnam
- 18 **Fakulti Pertanian** - Dr. Abdul Hamid Yazdani, Iran
- 23 **Fakulti Perhutanan** —Penyelidik dari Universiti Kasetsart
- 23 **Canseleri** – Delegasi dari Faculty of Science and Technology, Prince of Songkhla University, Pattani Campus, Thailand
- 25 **Fakulti Pertanian** - Prof. Tran P. Doung, Cantho University, Vietnam

[Jun • June]

- 15 **Fakulti Pertanian** - Ir. Markhaini M.I. Medan, Indonesia
- 15 **Fakulti Pertanian** - Prof. Dr. Usman Nasution, Universiti Islam Sumatera Utara (UISU), Medan Indonesia
- 23 **Fakulti Perhutanan** - Penyelidik dari Jepun (Projek JICA)
- 27 **Canseleri** – Dr. Sidge, Iran, MRST
- 30 **Canseleri** - Delegasi dari Commonwealth Secretaries

[Julai • July]

- 5 **Fakulti Pertanian** - Dr. Wae-asae Warhamad, Faculty of Science & Technology, Prince of Songkhla, University Pattani, Thailand
- 12 **Canseleri** – Lawatan dari Osan Junior College, The Republic of Korea
- 22 **Canseleri** – Prof. Dr. Min Soe, Rektor dan Prof. Dr. Tin Htwe, Pro Rektor, University of Veterinar Science, Yezin, Myanmar
- 25 **Fakulti Perhutanan** - Penyelidik Wood Research Institute, Kyoto University
- 27 **Canseleri** – Lawatan dari Miike High School, Japan



[Ogos • August]

- 1 **Canseleri** – Lawatan dari *Soka High School*, Japan
- 9 **Fakulti Perhutanan** - Penyelidik dari DANCED, Denmark
- 14 **Canseleri** – Prof. Qurasi Mohamed Ali, Naib Canselor, Universiti Azahari, Sudan
- 24 **Canseleri** – Lawatan dari Yayasan Bina Pertiwi, Sekolah Tinggi Manajemen Informatif dan Komputer Mikroskei, Indonesia
- 25 **Fakulti Pertanian** – Abdul Rasheed Hussein, Ministry of Fisheries Agriculture & Marine Resources, Republic Of Maldives

[September • September]

- 3-6 **Fakulti Perhutanan** - Encik Toshiteru Kanetuki, Tanabe South East Asia Nation Foundation, Jepun
- Fakulti Perhutanan** - Prof. Madya Dr. Takashi Watanabe, Kyoto University
- Fakulti Sains Makanan dan Bioteknologi** - Prof. Dr. Yoshihito Sirai, Khushu Institute of Technology, Japan
- 5-8 **Fakulti Pertanian** – Afrot John Janes, L. Julian Fernandy & Prof. Murety M'Gregor, 'Muresk Institute of Agriculture
- 24 **Canseleri** – Delegasi dari Bogor Agricultural University, Indonesia
- 25 **Canseleri** – Mr. Ernesto Guajardo Maldonado, Director General, Ministry of Public Education, Mexico

[Oktober • October]

- 4 **Canseleri** – Delegasi dari Ministry of Fisheries, The Republic of Vietnam
- 16 **Fakulti Sains Makanan dan Bioteknologi** – Dr. Raj Singh & Mr. Foo Check Wee, Nestle R & D Centre, Singapore

[November • November]

- 2 **Fakulti Pertanian** – Prof. Akira Sugiura, Kyoto University, Japan
- 2 **Fakulti Pertanian** – Prof. Ikuo Kataoka, Kagawa University, Japan
- 2 **Fakulti Pertanian** – Prof. Naohiro Kubota, Okayama University, Japan
- 24 **Fakulti Pertanian** – Prof. Seiichi Oshita, The University of Tokyo, Japan
- 20 **Perpustakaan** – Lawatan Delegasi dari Universitas Riau, Indonesia
- 24 **Fakulti Pertanian** – Ms. Kayo Kakibaya & Mr. Noriyoshi Kudo. KOKKEN Tokyo, Japan

LAWATAN RASMI DALAM NEGERI

VISITORS FROM WITHIN MALAYSIA



[Januari • January]

- 23 **Canseleri** – Pelajar SMK Tumpat, Kelantan

[Februari • February]

- 10 **Fakulti Sains Komputer dan Teknologi Maklumat** - Pelajar Institut Kota, Melaka
17 **Canseleri** – Persatuan Tingkatan Enam, SMK Munshi Sulaiman, Batu Pahat, Johor
23 **Pusat Islam** - Timbalan Perdana Menteri, Malaysia

[Mac • March]

- 24 **Fakulti Sains Komputer dan Teknologi Maklumat** - Persatuan Puteri Islam, Wilayah Persekutuan

[April • April]

- 5 **Canseleri** – Pelajar SMJK Chong Hwa, Gombak, Kuala Lumpur
9 **Canseleri** – Pelajar Institut Pertanian Kuala Lipis, Pahang
9 **Canseleri** – Pegawai Tadbir INSTEDT, Johor Bahru, Johor
9 **Fakulti Sains Komputer dan Teknologi Maklumat** - Pegawai Tadbir Kolej INSTEDT, Johor
12 **Canseleri** – Pelajar Tadika Emmanuel Petaling Jaya, Selangor
13 **Canseleri** – Pelajar SM Saint Paul, Seremban, Negeri Sembilan
13 **Perpustakaan** – Pelajar dan guru SMK Saint Paul, Seremban, Negeri Sembilan
14 **Canseleri** – Pelajar SMA Dato' Kelana Maamor, Kuala Pilah, Negeri Sembilan
14 **Canseleri** – Pelajar SMK Sungai Manik, Telok Intan, Perak
14 **Canseleri** – Pelajar SMK Munshi Ibrahim, Labis, Johor
14 **Perpustakaan** – Pelajar dan guru Sek. Men. Agama Persekutuan Dato' Klana Petra Maamor, Seremban, Negeri Sembilan

[Mei • May]

- 5 **Canseleri** – Persatuan Belia Xian Lian Kota Melaka, Melaka
8 **Canseleri** – Persatuan Belia Xian Lian Kota Melaka, Melaka
12 **Fakulti Sains Komputer dan Teknologi Maklumat** - Pelajar Kolej Mara Banting
14 **Perpustakaan** – Pelajar dan guru SMK Dato' Sheikh Ahmad, Seremban, Negeri Sembilan
26 **Canseleri** – Pelajar SMK Tunku Muhammad, Kuala Pilah, Negeri Sembilan
26 **Canseleri** – Pelajar SMK Sultan Ismail, Kemaman, Terengganu
27 **Canseleri** – Pelajar SK Tekek, Pulau Rompin, Pahang
28 **Canseleri** – Pelajar SMK (P) Temenggong Ibrahim, Batu Pahat, Johor
28 **Canseleri** – Pelajar SMK Sultan Sulaiman, Kuala Terengganu, Terengganu
28 **Canseleri** – Pelajar SMK Beris Panchor, Bachok, Kelantan



[Mei • May]

- 29 **Canseleri** – Pelajar SM Kamil, Pasir Puteh, Kelantan
- 29 **Canseleri** – Pelajar SMK Tinggi Perempuan Melaka, Durian Daun, Melaka
- 30 **Canseleri** – Persatuan Sains SMK Seri Kampar, Perak
- 30 **Canseleri** – Amanah Ikhtiar Malaysia, Cawangan Kerian, Perak
- 31 **Canseleri** – Pelajar SMK Taman Kenari, Kulim, Kedah

[Jun • June]

- 1 **Canseleri** – Pelajar SMK Tengku Ampuan Intan, Kuala Berang, Terengganu
- 1 **Canseleri** – Pelajar SMK Megat Dewa, Kodiang, Kedah
- 9 **Canseleri** – Persatuan Bahasa Tamil, SM Labis, Labis, Johor
- 18 **Canseleri** – Pelajar SMK Bukit Payong, Jerteh, Terengganu
- 18 **Fakulti Sains Komputer dan Teknologi Maklumat** – Pelajar Sekolah Menengah Keb. Bukit Payong, Kerteh, Terengganu
- 18 **Perpustakaan** – Pelajar dan guru SMK Bukit Payong, Jerteh, Terengganu
- 20 **Perpustakaan** – Pelajar dan guru SMK Dato' Sheikh Ahmad, Seremban, Negeri Sembilan
- 23 **Canseleri** – Kelab Sains Pertanian, SMK Jengka 6, Jengka, Pahang
- 23 **Fakulti Sains Makanan dan Bioteknologi** – Pelajar SMK Jengka Enam, Bandar Jengka, Pahang
- 30 **Canseleri** – Pelajar SMK Dato' Sheikh Ahmad, Seremban, Negeri Sembilan

[Julai • July]

- 18 **Canseleri** – Pelajar SMK Mantin, Negeri Sembilan
- 19 **Canseleri** – Pelajar SMA Pedas, Negeri Sembilan
- 20 **Canseleri** – Pelajar Sekolah Dato' Abdul Razak, Seremban, Negeri Sembilan
- 27 **Pusat Pengajian Siswazah** - Peserta Kursus Program Kerjasama Teknikal Malaysia (PKTM), Jabatan Perikanan Malaysia
- 27 **Pusat Islam** - Lawatan dari Pusat Islam, UUM
- 28 **Canseleri** – Pelajar SM Pendeta Za'ba, Seremban, Negeri Sembilan
- 28 **Canseleri** – Pelajar SMK Abdul Rahman Talib, Kuantan, Pahang
- 28 **Canseleri** – Pelajar SMK Seri Ampang, Ipoh, Perak

[Ogos • August]

- 9 **Canseleri** – Lawatan dari Malaysia France Institute, Bangi, Selangor
- 11 **Canseleri** – Pelajar SMK Pangkalan TLDM, Lumut, Perak
- 11 **Fakulti Sains Makanan dan Bioteknologi** – Pelajar SMK Pangkalan TLDM, Lumut, Perak
- 25 **Perpustakaan** - Pelajar dan guru SMK Karak, Pahang

LAWATAN RASMI DALAM NEGERI

VISITORS FROM WITHIN MALAYSIA

[Ogos • August]

- 25 **Fakulti Sains Makanan dan Bioteknologi** - Biro Wanita ANULAE, Dewan Bandaraya, Kuala Lumpur
- 27 **Canseleri** – Pelajar SM Teknik, Shah Alam, Selangor
- 27 **Fakulti Sains Makanan dan Bioteknologi** – Pelajar SM Teknik, Shah Alam, Selangor
- 30 **Canseleri** – Encik Mustafa Dollah, Kementerian Pendidikan Malaysia
- 30 **Canseleri** – Menteri Pertanian Malaysia
- 30 **Perpustakaan** - Pegawai dan Pembantu Pusat Latihan KWSP

[September • September]

- 6 **Canseleri** – Pelajar SMK Dong, Raub, Pahang
- 9 **Canseleri** – Pelajar Maktab Pengajian Islam Kedah, Changlun, Kedah
- 13 **Canseleri** – Pelajar SMK Jalan Kolam Air, Batu Pahat, Johor
- 13 **Fakulti Sains Makanan dan Bioteknologi** – Pelajar SMK Jalan Kolam Air, Batu Pahat, Johor
- 14 **Canseleri** – Encik Azmi Ab. Aziz, Lembaga Tembakau Negara, Kelantan
- 14 **Canseleri** – Pelajar SMA Al-Irshad, Kepala Batas, Pulau Pinang
- 15 **Canseleri** – Pelajar SMK Baling, Baling, Kedah
- 16 **Canseleri** – Pelajar SMK Kok Lanas, Kota Bharu, Kelantan
- 18 **Canseleri** – Pelajar SMK Seri Keledang, Ipoh, Perak
- 22 **Canseleri** – Pelajar SMK Tun Mamat, Tangkak, Johor
- 22 **Canseleri** – Pelajar SMK (LKTP) Mempaga 2, Karak, Pahang
- 22 **Canseleri** – Pelajar SM Seri Kota, Air Leleh, Melaka
- 29 **Canseleri** – Pelajar SMK Batu Sepuluh, Lekir, Sitiawan, Perak
- 29 **Canseleri** – Pelajar SK Pendeta Za'ba, Tapah Road, Perak

[Oktober • October]

- 9 **Fakulti Sains Komputer dan Teknologi Maklumat** - Pelajar Diploma Sains Komputer Kolej Shahputra
- 10 **Canseleri** – Pelajar SMK Sungai Besi, Kuala Lumpur
- 11 **Canseleri** – Pelajar SK Pandan Jaya, Cheras, Kuala Lumpur
- 10 **Pusat Islam** - Lawatan dari Pusat Islam, UKM
- 13 **Canseleri** – Pelajar SMK Sri Tapah, Perak
- 13 **Canseleri** – Pelajar SM Tun Hussein Onn, Kuala Lumpur
- 16 **Canseleri** – Persatuan Pegawai Tadbir dan Ikhtisas, UKM
- 24 **Canseleri** – Pelajar SMK Bukit Damar, Lancang, Pahang
- 26 **Canseleri** – Pelajar SMK Putera, Wakaf Mek Zainab, Kota Bharu, Kelantan
- 26 **Canseleri** – Pelajar SMK Sri Muda, Penaga, Seberang Perai



- 27 **Canseleri** – Pelajar SMK Seri Kota, Jalan Air Leleh, Melaka
- 27 **Canseleri** – Pelajar SMK Tengku Sulaiman, Beseri, Perlis
- 30 **Fakulti Perhutanan** - Pelajar Garden International School, Kuala Lumpur

[November • November]

- 1 **Canseleri** – Pelajar SMK Chung Hwa, Kuala Lipis, Pahang
- 1 **Fakulti Sains Makanan dan Bioteknologi** – Pelajar SMK Chung Hwa, Pahang
- 2 **Canseleri** – Kelab Usahawan Muda Kubang Kerian, Kota Bharu, Kelantan
- 5 **Canseleri** – Pelajar SMK Tengku Ampuan Afzan, Pahang
- 6 **Canseleri** – Pelajar SMK Chung Hwa, Kuala Lipis, Pahang
- 9 **Canseleri** – Pelajar SMK Che Tom, Sungai Petani, Kedah
- 9 **Canseleri** – Borneo Exploration Tours & Travel, Kuching, Sarawak
- 9 **Fakulti Sains Makanan dan Bioteknologi** – Pelajar SMK Che Tom, Sungai Petani, Kedah
- 10 **Canseleri** – Pelajar Kolej Matrikulasi, Londang, Melaka
- 10 **Fakulti Ekonomi dan Pengurusan** – Pelajar Kolej Matrikulasi, Melaka
- 11 **Canseleri** – Pelajar SMK Wangsa Melawati, Kuala Lumpur
- 12 **Canseleri** – Pelajar SMA Al-Irshad, Kepala Batas, Pulau Pinang
- 12 **Canseleri** – Tuan Haji Rosdi Haji Tuan Ibrahim, Lembaga Kemajuan Kelantan Selatan, Kelantan
- 14 **Canseleri** – Pergerakan Puteri Islam Malaysia, SMK Pendang, Kedah
- 15 **Canseleri** – Penolong Pengarah (Kaunseling), Kolej Matrikulasi Kuala Pilah, Negeri Sembilan
- 15 **Canseleri** – Pelajar Kolej Matrikulasi Negeri Sembilan
- 19 **Canseleri** – Pengarah Tadika Bunga Tulip, Puchong, Selangor
- 25 **Canseleri** – Pelajar Kolej Matrikulasi, Londang, Melaka
- 26 **Canseleri** – Pelajar SMK Sri Muda, Seberang Perai
- 4 **Canseleri** – Pelajar SMJK Jit Sin, Bukit Mertajam, Seberang Perai
- 6 **Canseleri** – Pelajar SMK St Xavier, Pulau Pinang
- 8 **Canseleri** – Pelajar Kolej Matrikulasi, Masjid Tanah, Melaka
- 12 **Canseleri** – Pelajar Pusat Tuisyen Kenyalang, Kuching, Sarawak
- 27 **Canseleri** – Pelajar SK (LKTP) Triang 3, Triang, Pahang
- 28 **Canseleri** – Pelajar SMK Tinggi Bukit Mertajam, Seberang Perai



PAMERAN DAN PROMOSI PENDIDIKAN 2001

EDUCATION EXHIBITIONS AND PROMOTIONS 2001

[Januari • January]

- 13 **Canseleri** – Pameran dan Ceramah Pendidikan 2001, Kolej Cermai, Jempol, Negeri Sembilan
- 18 **Canseleri** – Pameran dan Ceramah Pendidikan 2001, Kolej Teras Timur, Dungun, Terengganu
- 21 **Canseleri** – Pameran dan Ceramah Pendidikan 2001, Kolej SAL, Kuala Lumpur
- 23 **Canseleri** – Pameran dan Ceramah Pendidikan 2001, Kolej Teknologi Timur, Dengkil, Selangor
- 30 **Canseleri** – Pameran dan Ceramah Pendidikan 2001, Kolej Kurniawan, Cheras, Selangor

[Februari • February]

- 2 **Canseleri** – Pameran dan Ceramah Pendidikan 2001, Kolej Yayasan Pelajaran MARA, Bangi, Selangor
- 5 **Canseleri** – Pameran dan Ceramah Pendidikan 2001, Institut Teknologi Tun Abdul Razak (ITTAR), Langkawi, Kedah
- 8 **Canseleri** – Pameran dan Ceramah Pendidikan 2001, Institut Maxisegar, Rawang, Selangor
- 9 **Canseleri** – Pameran dan Ceramah Pendidikan 2001, Kolej TAJ, Sungkai, Perak
- 10 **Canseleri** – Pameran dan Ceramah Pendidikan 2001, Kolej Yayasan Pelajaran MARA, Kota Bharu, Kelantan
- 13-15 **Canseleri** – Pameran Pendidikan 2001, Universiti Multimedia, Melaka
- 14-17 **Canseleri** – Pameran dan Ceramah Pendidikan 2001, Kolej Matrikulasi Kuala Pilah, Negeri Sembilan
- 22-25 **Canseleri** – Pameran Pendidikan 2001, Kolej Universiti Terengganu
- 23-25 **Canseleri** – Pameran Pendidikan 2001, *FACON Exhibition & Trade Fairs (M) Sdn Bhd*, Taman Desa, Kuala Lumpur
- 28 **Canseleri** – Pameran dan Ceramah Pendidikan 2001, Kolej Cermai Jaya, Kuching, Sarawak

[Mac • March]

- 2 **Canseleri** – Pameran dan Ceramah Pendidikan 2001, Kolej Matrikulasi Labuan, Sabah
- 3 **Canseleri** – Pameran dan Ceramah Pendidikan 2001, Kolej Ibukota, Kinabalu, Sabah
- 10 **Canseleri** – Pameran dan Ceramah Pendidikan 2001, PERTAMAS, Segamat, Johor
- 10-13 **Canseleri** – Pameran Pendidikan 2001, Sektor Pengurusan Pembangunan Kemanusiaan, Johor Bahru, Johor
- 14 **Canseleri** – Pameran dan Ceramah Pendidikan 2001, SMK Seksyen 24, Shah Alam, Selangor
- 26-28 **Canseleri** – Pameran Pendidikan 2001, Dewan Majlis Perbadanan Jitra, Kedah
- 27 **Canseleri** – Pameran Pendidikan 2001, Dewan Felda Padang Piol Jerantut, Pahang

[April • April]

- 17-19 **Canseleri** – Pameran Pendidikan 2001, Universiti Islam Antarabangsa



[Mei • May]

11-13 **Canseleri** – Pameran dan Ceramah Pendidikan 2001, Kolej Shah Putra, Pekan, Pahang

[Jun • June]

Perpustakaan - Pameran Perkhidmatan-perkhidmatan Perpustakaan

11-14 **Canseleri** – Pameran dan Ceramah Pendidikan 2001, IDEAL, UPM

16-17 **Canseleri** – Pameran dan Ceramah Pendidikan 2001, Dewan Suarah, Sibul, Sarawak

23-25 **Canseleri** – Pameran dan Ceramah Pendidikan 2001, Universiti Utara Malaysia

29 – 30 **Fakulti Reka Bentuk dan Seni Bina** - Pameran Reka bentuk Industri

[Julai • July]

Perpustakaan - Pameran “Membaca Memerdekakan Minda”

21 **Canseleri** – Pameran Pendidikan 2001, Sekolah Menengah Agama Cheras, Kajang, Selangor

26-29 **Canseleri** – Pameran dan Ceramah Pendidikan 2001, Dewan Balai Islam Lundang, Kelantan

[Ogos • August]

Perpustakaan - Pameran “Keranamu Malaysia”

3 **Canseleri** – Pameran dan Ceramah Pendidikan 2001, SM Dato’ Harun, Tanjung Karang, Selangor

9-11 **Canseleri** – Pameran dan Ceramah Pendidikan 2001, SM Dato’ Harun, Tanjung Karang, Selangor

10 **Canseleri** – Pameran dan Ceramah Pendidikan 2001, Universiti Teknologi MARA, Arau, Perlis

16-19 **Canseleri** – Pameran Pendidikan 2001, Bukit Ekspo UPM

[September • September]

Perpustakaan - Pameran sejarah sukan Malaysia

6 **Canseleri** – Pameran dan Ceramah Pendidikan 2001, SM Teknik, Sungai Buluh, Selangor

11 **Canseleri** – Pameran dan Ceramah Pendidikan 2001, Dewan Besar Nibong Tebal, Pulau Pinang

25-27 **Canseleri** – Pameran dan Ceramah Pendidikan 2001, Dewan Besar, Sekolah Tinggi Port Dickson, Negeri Sembilan

29 **Canseleri** – Pameran dan Ceramah Pendidikan 2001, Dewan Besar, SMK Seri Perak, Teluk Intan, Perak

[Oktober • October]

Perpustakaan – Pameran Hari Q

2 **Pusat Kebudayaan dan Kesenian Sultan Salahuddin Abdul Aziz Shah** - Pameran Reka Cipta anjuran Unit Penyelidikan

2 - 4 **Institut Teknologi Maju (ITMA)** - Pameran Hasil Penyelidikan dan Pembangunan, UPM

PAMERAN DAN PROMOSI PENDIDIKAN 2001

EDUCATION EXHIBITIONS AND PROMOTIONS 2001



[Oktober • October]

- 11-13 **Canseleri** – Pameran dan Ceramah Pendidikan 2001, Kolej MARA, Seremban, Negeri Sembilan
- 18-19 **Canseleri** – Pameran Pendidikan 2001, Kompleks Tabung Haji, Pulau Pinang
- 25-28 **Institut Teknologi Maju (ITMA)** - Pameran Hasil Penyelidikan dan Pembangunan IPTA 2001, "*Virtual Motion Pneumatic Robot Interface (VMPRI)*," di PWTC, Kuala Lumpur
- 27 **Canseleri** – Pameran dan Ceramah Pendidikan 2001, SMK Agama, Kerian, Perak
- 29 **Canseleri** – Pameran dan Ceramah Pendidikan 2001, Kolej Teknologi Timur, Sepang, Selangor

[November • November]

- 1-7 **Canseleri** – Pameran Pendidikan 2001, Dewan Majlis Bandaran Kampung Gajah, Perak
- 16 **Pusat Kebudayaan dan Kesenian Sultan Salahuddin Abdul Aziz Shah** - Pameran Lukisan "di sini kita bertemu..."
- 12-14 **Canseleri** – Pameran Pendidikan 2001, Pusat Sains Negara, Kuala Lumpur

[Disember • December]

- 26-30 **Institut Multimedia dan Perisian** – IMP-GT Pertanian dan Perikanan 2001



SEMINAR, PERSIDANGAN, BENGKEL, KURSUS 2001

SEMINARS, CONFERENCES, WORKSHOPS, COURSES 2001

[Januari • January]

- 13 **Fakulti Sains Komputer dan Teknologi Maklumat - Seminar *Virtual Reality***
- 13-14 **Institut Multimedia dan Perisian** - Kursus *Macromedia Flash*
- 13-15 **Fakulti Sains Makanan dan Bioteknologi** - 6th *International Conference of Emerging Infectious Diseases in the Pacific Rim*, Manila, Philippines
- 15 **Fakulti Sains dan Pengajian Alam Sekitar** - Ceramah Kerjaya oleh Dr. Foo Say Moo dari Petronas
- 18 **Pusat Islam** - Majlis Meraikan Bakal Haji, Masjid, UPM
- 19 **Pejabat Bendahari** - Bengkel ISO 9000
- 19, 20, 26 & 27 **Fakulti Sains Makanan dan Bioteknologi** - Memberi perkhidmatan menunjuk ajar latihan amali pelajar kursus Teknologi Pemprosesan Makanan (BP2243) UKM
- 28 **Pusat Kebudayaan dan Kesenian Sultan Salahuddin Abdul Aziz Shah** - Pertandingan Nasyid antara Kolej

[Februari • February]

- 2 **Pusat Islam** - Kelas pengajian Agama Selepas Solat Maghrib, Masjid, UPM
- Pusat Islam** - Kelas Pengajian Al-Qur'an, Masjid, UPM
- 3 - 4 **Pusat Kebudayaan dan Kesenian Sultan Salahuddin Abdul Aziz Shah** - Pertandingan Band antara Kolej
- 8 **Pusat Islam** - Kelas Fardhu Ain Kanak-Kanak, Masjid, UPM
- 8 - 9 **Institut Multimedia dan Perisian** - Kursus CGI-Perl
- 9 **Institut Teknologi Maju** - Seminar Siswazah oleh Prof. K.N. Seetharamu (*School of Engineering, USM*) "*Finite Element Method in the Analysis of Multiple Stack Cold Plate*", ITMA
- 12 **Pejabat Bendahari** - Bengkel Belanjawan Dua Tahun Sekali UPM
- 15 **Fakulti Sains Makanan dan Bioteknologi** - Seminar Cadangan Undang-undang Baru Pelabelan dan Akuan Pemakanan, Petaling Jaya
- 18 **Fakulti Perubatan Veterinar** - Bengkel *Neurology Course Module 1*
- 18 - 20 **Institut Teknologi Maju** - Bengkel Strategik "*Leading Academic Change*" di Hotel Regency, Port Dickson, Negeri Sembilan
- 19 - 23 **Fakulti Reka Bentuk dan Seni Bina** - Kursus Landskap dan Penyelenggaraan Pokok-FRIM
- 19 **Fakulti Reka Bentuk dan Seni Bina** - Kursus Latihan Pengeluaran Pokok Bunga '*Annuals*'-RSSB
- 20 **Pejabat Bendahari** - Program Kesedaran Pertama - ISO
- 20 **Pusat Islam** - Majlis Sambutan Hari Raya Aidil Fitri (Tadika Islam Antarabangsa, UPM), Dewan Serbaguna Pusat Islam
- 23 **Pusat Islam** - Lawatan Timbalan Perdana Menteri Ke Masjid UPM
- 23 - 24 **Fakulti Sains Makanan dan Bioteknologi** - *Symposium on Utilisation of Tropical Waste Resources*, Kyoto, Japan.
- 24 **Pejabat Bendahari** - Program Penerangan Elemen-elemen ISO 9000
- 24 - 26 **Fakulti Perubatan Veterinar** - Seminar *Recent Advances in Animal Health and Production*
- 27 - Mac 1 **Institut Multimedia dan Perisian** - Kursus Aplikasi Kuliah *Online (sprint)*



SEMINAR, PERSIDANGAN, BENGKEL, KURSUS 2001

SEMINARS, CONFERENCES, WORKSHOPS, COURSES 2001

[Mei • May]

- 1-2 **Pejabat Bendahari** - Bengkel Belanjawan Tahun 2002-2003
- 4 **Fakulti Perubatan Veterinar** - Bengkel *Neurology Course Module 2*
- 6-9 **Pusat Islam** - Program Ibadah Korban dan Sambutan Hari Raya Aidil Fitri, Masjid, UPM
- 9 **Pejabat Bendahari** - Program Kesedaran Kedua – ISO
- 14-16 **Pejabat Bendahari** - Program Penyediaan Prosedur ISO 9000
- 16 **Perpustakaan** - Ceramah/Perbincangan Perkongsian Pengalaman Pencapaian Sijil ISO anjuran Unit Perundangan UPM dan Perpustakaan UPM
- 19-21 **Fakulti Reka Bentuk dan Seni Bina** - Kursus Landskap dan Penyelenggaraan Pokok-FRIM
- 19-24 **Fakulti Reka Bentuk dan Seni Bina** - Kursus Penyelenggaraan dan Daya Ketahanan Landskap-INTAN
- 20 **Fakulti Ekonomi dan Pengurusan** - Ceramah '*Development in Banking and Financial Services for the Global Perspective*' yang disampaikan oleh Prof. Gunter Dufey daripada University Michigan, U.S.A.
- 20 **Fakulti Ekonomi dan Pengurusan** - Ceramah '*The Changing Face of Business Communication Research- A Tale of Two Projects*' yang disampaikan oleh Dr. Priscila S. Roger daripada Nanyang University/University Michigan
- 20-22 **Institut Multimedia dan Perisian** - Kursus Aplikasi Kuliah *Online (esprint)*
- 22 **Fakulti Sains Makanan dan Bioteknologi** - *The Halal Perspective on Genetically Modified Organism; Food Biotech - Impact Of Labelling and Regulations*, Kuala Lumpur
- 22 **Fakulti Sains Makanan dan Bioteknologi** - *Sanitation, safety and hygiene in food processing. BOCIMOX Food Group Seminar*. Subang
- 22-24 **Pejabat Bendahari** - Program Penyediaan Prosedur ISO 9000 —*Core Business—*"Pembayaran dan Perolehan"
- 23-24 **Institut Multimedia dan Perisian** - Kursus *Macromedia Flash 5.0*
- 24-25 **Fakulti Sains Makanan dan Bioteknologi** - *The 16th Scientific Conference of Nutrition Society of Malaysia*, Kuala Lumpur
- 24-Mei 27 **Fakulti Reka Bentuk dan Seni Bina** - Kursus Hias Laman 3-anjuran bersama Anjung Seri
- 28 **Fakulti Sains dan Pengajian Alam Sekitar** - Majlis Pengisytiharan Ke Arah ISO 9000:2001 FSAS

[April • April]

- Fakulti Sains Makanan dan Bioteknologi** - *Rainforest Knowledge Industry Workshop on Strategic Research*
- 2-3 **Institut Teknologi Maju** - Seminar Penyeliaan dan Penulisan Ilmiah sebagai Asas Pembinaan Kesarjanaan di Hyatt Regency, Kota Kinabalu, Sabah
- 2-4 **Fakulti Reka Bentuk dan Seni Bina** - Bengkel Pelan Strategi FRSB III
- 2-7 **Fakulti Sains Komputer dan Teknologi Maklumat** - Bengkel Pemeriksaan Berpusat Semester November 2000/2001
- 5 **Fakulti Sains Makanan dan Bioteknologi** - *The National Technology Mapping Programme II Launching*, Kuala Lumpur,
- 7 **Pusat Islam** - Ceramah Sempena sambutan Maal Hijrah 1422H, Masjid, UPM
- 9-13 **Fakulti Sains Makanan dan Bioteknologi** - "*Theoretical and practical course in DNA-chips and micro arrays: technology and applications*", La Trobe University, Melbourne, Australia
- 9-15 **Pusat Program Luar** - Bengkel Pemeriksaan Skrip Semester November 2000/2001 (Hotel Mint)



[April • April]

- 10 **Fakulti Sains Makanan dan Bioteknologi** - *Meeting the technology challenges of the new economy: education as an engine for growth and innovation*, Mutiara Hotel, KL
- 10-11 **Fakulti Sains Makanan dan Bioteknologi** - *Conference on Functional Food-Latest development*, Renaissance Palm Garden Hotel, Putrajaya
- 11-12 **Fakulti Sains Makanan dan Bioteknologi** - 'Kawalan mutu di dalam ikan dan hasilan.' Workshop bagi pengusaha dan penternah ikan.
- 11-13 **Institut Multimedia dan Perisian** - Kursus Aplikasi Kuliah Online (*esprint*)
- 12 **Fakulti Sains Makanan dan Bioteknologi** - *Dialogue session between the Minister of Science, Technology and the Environmental with Biotechnology Scientist*, Grand Seasons Hotel, KL.
- 12-14 **Fakulti Sains Makanan dan Bioteknologi** - *Workshop on Functional Food*, UPM
- 12-18 **Fakulti Sains Makanan dan Bioteknologi** - Jabatan menganjurkan *Training Workshop: Approaches to Identification of Food with Health Potential*
- 17-19 **Institut Pendidikan dan Pembelajaran Jarak Jauh (IDEAL)** - *Seminar Miccolac*, Hotel Istana, Kuala Lumpur
- 17-19 **Institut Multimedia dan Perisian** - Kursus Aplikasi Kuliah Online (*esprint*)
- 17-20 **Fakulti Reka Bentuk Dan Senibina** - Bengkel Pengajaran dan Penilaian Kursus Rekabentuk Berstudio
- 18 **Fakulti Sains Makanan dan Bioteknologi** - *Soy and Health Symposium*, Kuala Lumpur
- 18 **Fakulti Ekonomi dan Pengurusan** - Bengkel Metodologi Penyelidikan di UNITEN
- 18 **Fakulti Sains Makanan dan Bioteknologi** - *Soy & Health Conference - Nutrition Society of Malaysia*, Renaissance Hotel Kuala Lumpur
- 18-19 **Fakulti Sains Komputer dan Teknologi Maklumat** - Bengkel Pengajaran
- 19 **Fakulti Sains Makanan dan Bioteknologi** - *First Industrial Workshop of The National Technology Mapping Programme II*, Kuala Lumpur
- 22-27 **Fakulti Sains Makanan dan Bioteknologi** - *11th World Congress of Food Science & Technology*, Seoul, Korea Selatan.
- 24 **Institut Multimedia dan Perisian** - Kursus Asas Laman Web
- 24-26 **Institut Multimedia dan Perisian** - Kursus Aplikasi Kuliah Online (*esprint*)
- 25 **Fakulti Sains Makanan dan Bioteknologi** - Kursus memproses susu kacang soya dan tauhu manis
- 29-Mei 2 **Fakulti Ekonomi dan Pengurusan** - Bengkel Penilaian Program Ijazah untuk Eksekutif

[Mei • May]

- Fakulti Sains Makanan dan Bioteknologi** – Simposium Biologi Molekul dan Bioteknologi Malaysia, Kuala Lumpur.
- Fakulti Pertanian** – Seminar *Pacific Food Outlook*
- 2 **Pusat Kebudayaan dan Kesenian Sultan Salahuddin Abdul Aziz Shah** - Sambutan Hari Pekerja anjuran KEPERTAMA
- 3 **Institut Multimedia dan Perisian** – Seminar Industri Ilmu Hutan Hujan Tropika Sebagai Kekayaan Biologi Untuk Pembangunan Negara
- 4 **Fakulti Reka Bentuk dan Senibina** – Bengkel Penulisan
- 8 **Fakulti Sains Makanan dan Bioteknologi** – Bengkel mengenai Standard Makanan dan Hasil Pertanian, Shah Alam



SEMINAR, PERSIDANGAN, BENGKEL, KURSUS 2001

SEMINARS, CONFERENCES, WORKSHOPS, COURSES 2001

[Mei • May]

- 8-10 **Institut Multimedia dan Perisian** – Kursus *Linux*, MySQL dan PHP (dalaman)
- 9 **Fakulti Sains dan Pengajian Alam Sekitar** – Seminar/Bengkel Keselamatan Makmal
- 12-13 **Fakulti Perubatan Veterinar** – Kursus Rawatan dan Kesihatan Kuda
- 14-15 **Fakulti Sains Makanan dan Bioteknologi** – *Conference on Quality Assurance in Cocoa Processing*, Yogyakarta, Indonesia,
- 15 **Perpustakaan** - Kursus Meningkatkan Kemahiran Komunikasi dalam Era Digital untuk Pembantu Perpustakaan
- 15 **Fakulti Perubatan dan Sains Kesihatan** —*Nutrition and cardiovascular risk factors in the Asia Pacific Region Visiting Lecture under the ASAIHL Fellowship at the Auckland University of Technology*, Auckland, New Zealand
- 15-16 **Institut Teknologi Maju** - Seminar Kebangsaan mengenai Pembangunan Bahan Maju di Malaysia 2001, "*Attainment of Fine Grained Garnets Prepared via NovellSol-Gel and Conventional Oxide Mixing Routes*," di Johor Bahru
- 14-16 **Fakulti Sains Makanan dan Bioteknologi** – *8th Symposium of the Malaysian Society for Molecular Biology and Biotechnology*, Hyatt Saujana, Selangor
- 14-16 **Fakulti Sains Makanan dan Bioteknologi** - *11th Scientific Meeting of Malaysian Society for Molecular Biology and Biotechnology*, Hyatt Regency Saujana, Subang.
- 16 **Fakulti Sains dan Pengajian Alam Sekitar** - Hari Penerangan Fakulti
- 16-18 **Fakulti Sains Makanan dan Bioteknologi** - *4th Asia-Pacific Biotechnology Congress Abstract Book*, Cebu City, Philippines
- 17 **Perpustakaan** - Kursus Meningkatkan Kemahiran Komunikasi dalam Era Digital untuk Pembantu Perpustakaan anjuran Perpustakaan UPM
- 19 **Pusat Islam** - Sukan Tahunan Tadika Islam Antarabangsa, 2001,
- 21-24 **Institut Pendidikan dan Pembelajaran Jarak Jauh (IDEAL)** - *World Education Market Conference, Vancouver Conference Center*, Vancouver, Canada
- 23-24 **Institut Multimedia dan Perisian** - Kursus Rekabentuk Pangkalan Data (Dalaman)
- 26 **Pusat Kebudayaan dan Kesenian Sultan Salahuddin Abdul Aziz Shah** - Bengkel Teknik Belajar anjuran Hal Ehwal Pelajar
- 27 **Fakulti Sains Makanan dan Bioteknologi** - Seminar Wanita Dan Kesihatan, Jabatan Kesihatan Negeri Sembilan
- 28-29 **Fakulti Sains Makanan dan Bioteknologi** - Kongres Kebangsaan Sains dan Teknologi Melayu, *Intekma Resort Covention Centre*, Shah Alam.
- 29-30 **Institut Multimedia dan Perisian** - Kursus Integrasi Laman Web

[Jun • June]

- 5-8 **Fakulti Sains Makanan dan Bioteknologi** - *The International Food, Beverage, Wine & Spirits Exhibition for Asia Singapore Expo*
- 12 **Fakulti Sains Makanan dan Bioteknologi** - *From genes to proteins: New age instruments and assay solutions*, Eastin Hotel, Petaling Jaya.
- 13-15 **Pejabat Bendahari** - Bengkel Pengurusan Kewangan Pejabat Bendahari
- 15 **Pusat Kebudayaan dan Kesenian Sultan Salahuddin Abdul Aziz Shah** - Pementasan Teater "Penunggu Pusaka"



[Jun • June]

- 16 - 17 **Pusat Islam** - Sambutan Maulidur Rasul, Acara Perarakan, Forum Perdana dan Bengkel Pembangunan Insan, Masjid, UPM
- 16 - 17 **Pusat Kebudayaan dan Kesenian Sultan Salahuddin Abdul Aziz Shah** - Malam Nostalgia P. Ramlee
- 19 - 20 **Institut Pendidikan dan Pembelajaran Jarak Jauh (IDEAL)** - *National Conference on Management Science. New Paradigm for the Knowledge Economy*
- 21 **Fakulti Sains Makanan dan Bioteknologi** - *Traditional Chinese Medicine Seminar* - FSMB, IDEAL UPM
- 23 **Pusat Kebudayaan dan Kesenian Sultan Salahuddin Abdul Aziz Shah** - Konsert Nasyid
- 23-24 **Institut Multimedia dan Perisian** - Kursus *Macromedia Flash 5.0*
- 27-29 **Pejabat Bendahari** - Latihan Tatacara Penggunaan Pakej Perisian "Wincom Pay Package" untuk Zon-zon Kewangan, Pejabat Bendahari
- 29-30 **Fakulti Reka Bentuk dan Seni Bina** - Pameran Rekabentuk Industri

[Julai • July]

- 1 **Pusat Kebudayaan dan Kesenian Sultan Salahuddin Abdul Aziz Shah** - Pesta Pantun UPM 2001
- 2-4 **Fakulti Sains Makanan dan Bioteknologi** - *International Technical and Trade Seminar on Tropical and Subtropical Fruits*, Kuala Lumpur
- 5-6 **Fakulti Sains Makanan dan Bioteknologi** - *International Conference of Intestinal Bacteriology*. Keidanren Kaiken, Tokyo, Japan. July 5-6, 2001.
- 8 **Pusat Islam** - Acara Perasmian Kursus Haji Masjid, UPM
- 8 **Pusat Islam** - Bermula Kursus Haji (Setiap Ahad), Masjid, UPM
- 8-Sept 16 **Fakulti Reka Bentuk dan Seni Bina** - Kursus Hias Laman 4-anjuran bersama Anjung Seri
- 9 **Fakulti Sains Makanan dan Bioteknologi** - Bengkel Penasihat Akademik, Putra Jaya
- 9-11 **Institut Multimedia dan Perisian** - Kursus Aplikasi Kuliah *Online (esprint)*
- 9-12 **Institut Multimedia dan Perisian** - Kursus *Adobe Photoshop*
- 9-13 **Institut Teknologi Maju** - Kursus Protokol Etik Sosial dan Keterampilan Diri 2/2001 di INTAN
- 12-16 **Institut Multimedia dan Perisian** - Kursus Rekabentuk dan Penerbitan Multimedia
- 13 **Institut Multimedia dan Perisian** - Bengkel Pelan Strategik '*R&D IRPA Top Down*'
- 13 **Fakulti Sains Makanan dan Bioteknologi** - *Rainforest Knowledge Industries Strategic Workshop (Research & Development), Bioprospecting and Genomic*, IDEAL, UPM
- 13 **Fakulti Ekonomi dan Pengurusan** - Bengkel Kaedah Pengajaran dan Pembelajaran Berkesan Untuk Orang Dewasa, yang dikendalikan oleh Prof. Madya Dr. Azahari Ismail
- 13-14 **Institut Multimedia dan Perisian** - Kursus *Page Maker*
- 14 **Pejabat Bendahari** - Tazkirah Pertama — "Kerja Sebagai Satu Ibadah"
- 14 **Pusat Kebudayaan dan Kesenian Sultan Salahuddin Abdul Aziz Shah** - Pertandingan Pidato Sains Sekolah Asrama Penuh anjuran Fakulti Sains dan Alam Sekitar
- 16 **Pejabat Bendahari** - Sesi Latihan Ketiga Sistem "*Wincom Payroll Package*" untuk Pembantu Penyelidik Siswazah (GRA/Pegawai Kontrak - Akaun Amanah)
- 18 **Fakulti Sains Makanan dan Bioteknologi** - *Training Workshop on safety and risk assessment of agriculture-related GMOs*, Marina Mandarin Singapore.



SEMINAR, PERSIDANGAN, BENGKEL, KURSUS 2001

SEMINARS, CONFERENCES, WORKSHOPS, COURSES 2001

[Julai • July]

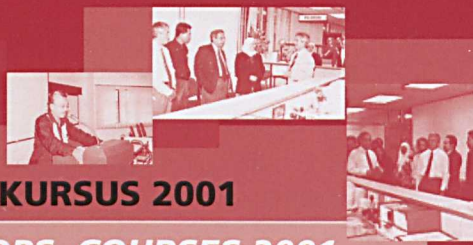
- 18 **Pejabat Bendahari** - Pelaksanaan Akta Badan-badan Berkanun – Tatatertib dan Surcaj 2000
- 17-19 **Institut Pendidikan dan Pembelajaran Jarak Jauh (IDEAL)** - Kursus Integrasi Laman Web, Institut Multimedia, UPM
- 19-21 **Fakulti Reka Bentuk dan Seni Bina** - Kursus Landskap dan Hortikultur Hiasan-PUSPANITA
- 21 **Pusat Kebudayaan dan Kesenian Sultan Salahuddin Abdul Aziz Shah** - *Birth of Putra* anjuran Kebangsaan Seni Tari India
- 21- 22 **Fakulti Sains Komputer dan Teknologi Maklumat** - Program Suaikenal Pelajar
- 23 **Fakulti Reka Bentuk dan Seni Bina** - Bengkel Manual Pelan Strategik
- 24 **Fakulti Sains Makanan dan Bioteknologi** - Seminar "*Design in GMP Manufacturing Facilities for Biopharmaceutical Industries*" anjuran Airgate (M) Sdn Bhd pada di Holiday Villa, Subang.
- 24-25 **Institut Multimedia dan Perisian** - Kursus *Macromedia Flash*
- 24-25 **Fakulti Sains Makanan dan Bioteknologi** - *Seminar on Aromatic and Medicinal Plants*, Kepong
- 25 **Fakulti Ekonomi dan Pengurusan** —'*Finding Job in the New Economy*' oleh Cik Chong See Ming, (*Head of Communication: Jobstreet.Com.*)
- 25 **Fakulti Ekonomi dan Pengurusan** - '*Getting the Job You Want*' oleh En. Sulaiman Ahmad (*Director of Human Resource, ASTRO*)
- 25 **Fakulti Sains Makanan dan Bioteknologi** - *Good Laboratory Practice Seminar*, Subang Jaya
- 27 **Fakulti Sains dan Pengajian Alam Sekitarnya**- Majlis Penyampaian Hadiah Akademik Cemerlang Sesi 2000/2001 FSAS
- 29-Ogos 2 **Fakulti Reka Bentuk dan Seni Bina** - Kursus Landskap-FRIM
- 30-Ogos 2 **Institut Multimedia dan Perisian** - Kursus Web Interaktif CGI-Perl

[Ogos • August]

- Fakulti Sains Makanan dan Bioteknologi** - Seminar/Workshop *Rainforest Knowledge Industry*, Kajang.
- 1 **Pusat Kebudayaan dan Kesenian Sultan Salahuddin Abdul Aziz Shah** - Pementasan Jikey anjuran Fakulti Bahasa Moden
- 6 **Perpustakaan** - Demo "*Emerald Fulltext*" anjuran Emerald (Asia Pacific)
- 8-9 **Institut Teknologi Maju** - Bengkel Teknologi-Nano dan Kejuruteraan Ketepatan di Hotel Renaissance Palm Garden
- 8-10 **Fakulti Perubatan dan Sains Kesihatan** - *Basic nutrition and requirement of nutrients: an update SEAMEO Regional Centre for Community Nutrition*, University of Indonesia, Graduate Programme in Jakarta
- 9 **Pusat Kebudayaan dan Kesenian Sultan Salahuddin Abdul Aziz Shah** - Pertandingan Tarian Klasik anjuran KPZ
- 9 **Fakulti Sains dan Pengajian Alam Sekitar** - Majlis Ramah Mesra Pelajar PPLD, Kementerian Pendidikan
- 9-12 **Institut Multimedia dan Perisian** - Bengkel Pelan Strategik RKI
- 10 **Perpustakaan** - Demo "*Science Direct*" anjuran *Elsevier Science (Singapore)*
- 11 **Fakulti Sains Makanan dan Bioteknologi** - *Malaysian Science and Technology Congress 2001*, Kota Kinabalu, Sabah
- 11, 21, dan 28 **Fakulti Sains Komputer dan Teknologi Maklumat** - Bengkel *Linux and Clustering of Linux PC*

[Ogos • August]

- 13 **Fakulti Sains Makanan dan Bioteknologi** - *National Natural Product Convention 2000 - National Biotechnology Directorate, PWTC, Kuala Lumpur*
- 13-15 **Fakulti Reka Bentuk dan Seni Bina** - *Kursus Pengenalan Pembinaan dan Selenggaraan Jalan dan Bangunan -IKRAM*
- 6-17 **Fakulti Sains Makanan dan Bioteknologi** - *"Course on structure and mechanical properties of fat crystal network", Istana Hotel, Kuala Lumpur.*
- 16-17 **Fakulti Sains Makanan dan Bioteknologi** - *Course on Microstructural Analysis of Fat, Hotel Istana, KL.(Dr. Lai Oi Ming)*
- 19-22 **Fakulti Sains Makanan dan Bioteknologi** - *Asia Pacific Advances Network Meeting (APAN), Penang.*
- 20-22 **Fakulti Sains Makanan dan Bioteknologi** - *Second Asian-Oceania Drying Conference ADC 2001, Penang*
- 20-23 **Fakulti Sains Makanan dan Bioteknologi** - *2001 International Palm Oil Congress, "Cutting-Edge Technologies for Sustained Competitiveness", Istana Hotel & Royal Mutiara, Kuala Lumpur, Malaysia.*
- 21 **Pusat Kebudayaan dan Kesenian Sultan Salahuddin Abdul Aziz Shah** - *Konsert Orkestra anjuran Jabatan Muzik*
- 21 **Fakulti Sains Makanan dan Bioteknologi** - *The 4th Dr. Ranjeet Bhagwan Singh Memorial Lectures, Kuala Lumpur.*
- 21 **Fakulti Sains Makanan dan Bioteknologi** - *How to deal with virus infection. ASM public lecture by Nobel Laureate, Prof. Dr. Peter Doherty, Auditorium Ungku Omar, IMR.*
- 23 **Fakulti Sains Makanan dan Bioteknologi** - *Workshop Pre-Visit untuk Perancangan National Institute of Ag-Biotechnology, Renaissance Palm Garden Hotel, Putra Jaya*
- 23 **Fakulti Sains Makanan dan Bioteknologi** - *The 15th Asia-Pacific Lecture Tour of Altech Biotechnology Corporation, Sheraton Subang Hotel, Subang Jaya.*
- 23-24 **Institut Multimedia dan Perisian** - *Kursus Linux*
- 23-24 **Fakulti Perubatan dan Sains Kesihatan** - *Assessment of iron and zinc supplementation on growth and morbidity of malnourish infants from poor villages in Kelantan, Malaysia. IAEA Regional Project Meeting on Measuring Effectiveness of Multi-Nutrient Supplementation in Vienna*
- 25 **Pusat Kebudayaan dan Kesenian Sultan Salahuddin Abdul Aziz Shah** - *Majlis Debat Kemerdekaan anjuran Hal Ehwal Pelajar*
- 26-29 **Fakulti Sains Makanan dan Bioteknologi** - *The International Symposium on Genomic & Biotechnology, Hangzhou, China*
- 27-30 **Fakulti Sains Makanan dan Bioteknologi** - *Workshop on "Fed-batch Culture"*
- 28 **Institut Teknologi Maju** - *Kursus Pengurusan ITMA (Pegawai dan Kakitangan Sokongan) di Hotel Residence, UNITEN*
- 28 **Fakulti Sains dan Pengajian Alam Sekitar** - *Ceramah Motivasi FSAS*
- 28 **Fakulti Sains Makanan dan Bioteknologi** - *Bengkel Penyelidikan Nanas, Lembaga Perindustrian Nanas Malaysia, Serdang*
- 30-31 **Fakulti Sains Makanan dan Bioteknologi** - *Current Status of Biotechnology and Biosafety in Malaysia: The Second Meeting of the Network for Scientific Cooperation in Biotechnology, Bangkok, Thailand*
- 30-31 **Fakulti Sains Makanan dan Bioteknologi** - *The 10th International Human Genome Project strategic Meeting, Hangzhou China.*
- 30-31 **Fakulti Sains Makanan dan Bioteknologi** - *The 1st Mega BACE User's Group Meeting, Hangzhou, China.*



SEMINAR, PERSIDANGAN, BENGKEL, KURSUS 2001

SEMINARS, CONFERENCES, WORKSHOPS, COURSES 2001

[September • September]

- 1-2 **Institut Pendidikan dan Pembelajaran Jarak Jauh (IDEAL)** - Seminar Kebangsaan Pengajian Ilmu Al-Quran, Pusat Islam dan Unit Bahasa Arab, Fakulti Bahasa Moden dan Komunikasi, UPM
- 3 **Fakulti Sains Makanan dan Bioteknologi** - Workshop mengenai 'Free Radicals and Health' di Hotel Equatorial Kuala Lumpur
- 3-6 **Fakulti Perhutanan** - Kursus Herba Perubatan
- 5 **Perpustakaan** - Bengkel dan Latihan *ProQuest Version 5.0* anjuran *ProQuest Information and Learning*
- 7-9 **Institut Teknologi Maju** - Persidangan Serantau *Science and Technology Solid State XVIII* di Hotel City Bayview, Pulau Langkawi, Kedah
- 8 **Pejabat Bendahari** - Tazkirah Kedua - Keikhlasan Bekerja
- 8 **Fakulti Sains Komputer dan Teknologi Maklumat** - *Seminar E-Learning*
- 9-12 **Fakulti Sains Makanan dan Bioteknologi** - Simposium Mikrobiologi Malaysia yang ke-24, Cherating Pahang.
- 10-11 **Pejabat Bendahari** - Kursus Perkhidmatan Pelanggan Berkualiti
- 13-14 **Institut Multimedia dan Perisian** - Kursus Penyelenggaraan Web
- 15 **Persatuan Pentadbir UPM** - Bengkel Pentadbir UPM, Hotel Seri Malaysia, Genting Highlands
- 16-20 **Fakulti Sains Makanan dan Bioteknologi** - *4th World Congress and Exhibition of the International Society for Fats Research*, Berlin
- 17 **Fakulti Perhutanan** - Majlis Penyampaian Cek Sumbangan ExxonMobil, Dewan Taklimat, UPM
- 17 **Taman Pertanian Universiti** - Sukan SEA *Equestrian Cross Country Event*, TPU/Pusat Ekuin
- 17-19 **Fakulti Sains Makanan dan Bioteknologi** - *Sixth ASEAN Science and Technology Week* - 'Science and Technology: Enhancing the Quality of Life'. Brunei Darussalam
- 18 **Jawatankuasa Sambutan 70 Tahun UPM** - Majlis Pelancaran Logo 70 Tahun UPM
- 19 **Fakulti Sains dan Pengajian Alam Sekitar** - Seminar Kimia Industri Ke-XIII: Kimia Pemangkin Dalam Perindustrian Negara, IDEAL
- 19-21 **Fakulti Sains Makanan dan Bioteknologi** - *BioMedical Asia 2001*, Singapore
- 20 **Fakulti Sains Komputer dan Teknologi Maklumat** - Demonstrasi Perisian *E-Learning* & Penyuntingan Video Matrox
- 22 **Fakulti Sains Makanan dan Bioteknologi** - *Public seminar: Assuring the Safety of Biotechnologically Produced Foods*, Monash University.
- 24-26 **Fakulti Sains Makanan dan Bioteknologi** - *Malaysian Science and Technology Congress 2001*, Kota Kinabalu, Sabah
- 24-26 **Fakulti Sains Makanan dan Bioteknologi** - *Malaysian Science & Technology Congress 2001 Symposium*, Kota Kinabalu, Sabah
- 25 **Fakulti Sains Makanan dan Bioteknologi** - Hari Pelancaran Produk Baru
- 25-26 **Institut Multimedia dan Perisian** - Kursus Pengaturcaraan Selari
- 26-29 **Fakulti Sains Makanan dan Bioteknologi** - *Malaysia's Official Food & Hotel Show (FHM 2001)*, Kuala Lumpur
- 26-Okt 5 **Pejabat Bendahari** - Kursus Bahasa Inggeris
- 27 **Fakulti Sains dan Pengajian Alam Sekitar** - Seminar Penyelidikan IRPA RMK7
- 29 **Fakulti Bahasa Moden dan Komunikasi** - Konferens Bahasa Cina Malaysia Pertama, Kompleks Akademik UPM
- 29 **Fakulti Sains Makanan dan Bioteknologi** - Majlis Penyampaian Hadiah dan Hari Pengenalan Produk Baru

[Oktober • October]

- 1-5 **Fakulti Ekonomi dan Pengurusan** - Seminar Tahunan Fakulti
- 2-3 **Fakulti Sains Makanan dan Bioteknologi** - *26th Annual Conference of the Malaysian Society for Biochemistry and Molecular Biology*, Kuala Lumpur
- 2-4 **Fakulti Pertanian** - Bengkel Penyelidikan Fakulti Pertanian di Hotel Residence, UNITEN
- 2-4 **Institut Multimedia dan Perisian** - Bengkel Implementasi *Rainforest* k-Industri
- 2-4 **Fakulti Sains Makanan dan Bioteknologi** - *Workshop on Implementation of Rainforest Knowledge Industries*, Residence Hotel, UNITEN.
- 2-4 **Pusat Pembangunan Perniagaan & Pusat Pengurusan Penyelidikan** – Pameran Penyelidikan dan Pembangunan UPM, di PKKSSAS
- 4 **Fakulti Sains Makanan dan Bioteknologi** - Bengkel "*Putting CE (Capillary Electrophoresis) to Work*" anjuran Beckman Coulter/Straits Scientific pada di Crown Princess Hotel, Kuala Lumpur.
- 4 **Fakulti Sains Makanan dan Bioteknologi** - *Scenario Building Workshop for the Food Industry, National Technology Mapping Programme II*, Kuala Lumpur
- 6 **Pusat Kebudayaan dan Kesenian Sultan Salahuddin Abdul Aziz Shah** - Malam Kebudayaan "*Kalai Amurthataman*" anjuran Fakulti Bahasa Moden dan Komunikasi
- 7 **Pusat Islam** - Forum Kursus Haji dan Majlis Penutup 1422H, Masjid, UPM
- 8 **Fakulti Pertanian** - Seminar "*Mites of Agricultural and Medical Importance*" anjuran Jabatan dan *CAB International and South East Asia Regional Centre* di Legend Hotel, Kuala Lumpur, Malaysia
- 8-9 **Fakulti Ekonomi dan Pengurusan** - Kursus Dalam Perkhidmatan: 'Keterampilan Sosial dan Etiket di Tempat Kerja'
- 9 **Fakulti Pertanian** - Bengkel Pelan Strategik Fakulti Pertanian di Kolej Kedua, Universiti Putra Malaysia
- 9-10 **Institut Multimedia dan Perisian** - Kursus Web Interaktif CGI-Perl
- 9-18 **Fakulti Pertanian** – Kursus "*Training Course on Phytophagous and Predatory Mites: Identification, Biology and Control*"
- 10 **Fakulti Pengajian Pendidikan** – Sambutan Hari Q dan Hari Terbuka Fakulti Sempena Sambutan 70 Tahun UPM
- 10 **Pusat Islam** – Lawatan dari Pusat Islam, Universiti Kebangsaan Malaysia
- 10-12 **Fakulti Sains Makanan dan Bioteknologi** – Memberi perkhidmatan kepada Sykt. *Essence Collection Sdn. Bhd.* Berkenaan pensterilan air kelapa
- 10-13 **Fakulti Reka Bentuk dan Seni Bina** – Bengkel Penyemakan Semula Kurikulum Baru Program Master Senibina Landskap (MLA)
- 12 **Fakulti Kejuruteraan** – Penyertaan Jabatan Kejuruteraan Biologi dan Pertanian dan *Incorporated Society of Planters (ISP), Eastern Branch Field Day*, Kuala Terengganu
- 13 **UPM** – Larian Kampus Sempena Sambutan 70 Tahun UPM
- 13 **Fakulti Pengajian Pendidikan** – Pertandingan Bowling Tertutup
- 14-18 **Pusat Program Luar** - Bengkel Pemeriksaan Skrip Semester Mei 2001/2002 (Hotel Impiana, KL)
- 15-17 **Fakulti Sains Komputer dan Teknologi Maklumat** - Bengkel Pemeriksaan Berpusat Semester Mei 2001/2002
- 15-19 **Institut Multimedia dan Perisian** - Kursus Rekabentuk dan Penerbitan Multimedia
- 18 **Fakulti Ekonomi dan Pengurusan** - Bengkel Pentadbiran untuk Staf Sokongan
- 18 **Perpustakaan** – Sambutan Hari Q
- 18-20 **Pusat Program Luar** - Bengkel Pementapan Akademik Program Kerjasama UPM/IPTS Ke-3, Impiana Hotel, Kuala Lumpur
- 19-21 **Pusat Islam** —*Retreat* Pegawai Pusat Islam (di Pulau Pangkor), Pulau Pangkor



SEMINAR, PERSIDANGAN, BENGKEL, KURSUS 2001

SEMINARS, CONFERENCES, WORKSHOPS, COURSES 2001

[Oktober • October]

- 20 **UPM** – Sukan Staf UPM Sempena Sambutan 70 Tahun UPM, Mini Stadium, UPM
- 20 **Fakulti Sains Makanan dan Bioteknologi** - Hari Keluarga
- 20-Nov 1 **Fakulti Sains Makanan dan Bioteknologi** - *Workshop on "Fermenter Design and Scale up"*
- 22-23 **Fakulti Bahasa Moden dan Komunikasi** – Persidangan Serantau Bahasa, Sastera dan Budaya Melayu, IDEAL
- 22-23 **Fakulti Sains Makanan dan Bioteknologi** - Bengkel Penasihat Akademik Peringkat UPM
- 22-25 **Fakulti Sains Komputer dan Teknologi Maklumat** – Persidangan Kebangsaan REDECS (*Research and Development in Computer Science*) 2001, Residence Hotel, Uniten
- 23-24 **Institut Multimedia dan Perisian** - Kursus Integrasi Laman Web
- 24 **Persatuan Pentadbir UPM** —Bengkel Sehari Pentadbir UPM, Hotel Seri Malaysia, Genting Highlands, Pahang
- 24-Nov 2 **Fakulti Pertanian** —'Benchmarking for Plantation Managers' kali ke 5
- 25 **Pusat Pembangunan Perniagaan/IPTA** – Majlis Perasmian Pameran Penyelidikan dan Pembangunan IPTA dan MOU : UPM-Diversatech Malaysia Sdn Bhd, UPM-Agartech, dan UPM-Pakar *Management Technology*, PWTC
- 25-26 **Pusat Pembangunan Perniagaan Universiti, Fakulti Sains Makanan dan Bioteknologi** - Persidangan Kebangsaan Penyelidikan dan Pembangunan (P&P) Institut Pengajian Tinggi Awam 2001, PWTC, Kuala Lumpur, Malaysia.
- 25-26 **Fakulti Ekonomi dan Pengurusan** – Kursus Membina Aplikasi Lotus Notes untuk pegawai-pegawai Fakulti Bahasa Moden Dan Komunikasi
- 26 **Perpustakaan** —Kursus Virtua Lanjuran Perpustakaan UPM
- 27 **Fakulti Perubatan Veterinar** – Syarahan Awam '70 Years of UPM : *Sharing and Focus for Malaysia Beyond Afta*'
- 27-28 **Institut Multimedia dan Perisian** - Kursus Web Komuniti SJ2005
- 29-Nov 2 **Fakulti Sains Makanan dan Bioteknologi** - *Advanced Training Course on Confocal Laser Scanning Microscopy*, Institut Biosains, UPM.
- 30 **Jabatan Pendaftar** – Majlis Pelancaran Piagam Pelanggan, Panggung Percubaan, UPM
- 30-31 **Perpustakaan** - Kursus Kesedaran ISO
- 31 **Fakulti Sains Makanan dan Bioteknologi** - Kursus Sehari Memproses Mee Kuning
- 31 **Canseleri** - Kursus Etiket Sosial dan Etiket Di Tempat Kerja Bagi Pegawai-pegawai Utama UPM di Residence Hotel, UNITEN, Bangi
- Oktober **Fakulti Sains Makanan dan Bioteknologi** - *Workshop on "Free Radicals and Health"*, SFRR (Malaysia)/COSTAM, Equatorial Hotel, Kuala Lumpur.
- Oktober **Fakulti Sains Makanan dan Bioteknologi** - *Seminar in Biotechnology Malaysia – MIT Biotechnology Programme*, di Palace of Golden Horses
- Oktober **Fakulti Sains dan Pengajian Alam Sekitar** - Kursus Perkhidmatan dan Perkhidmatan Kaunter
- Oktober **Fakulti Sains Makanan dan Bioteknologi** - *International Symposium on Functional Foods*, Paris.

[November • November]

- 1-31 **Perpustakaan** – Pameran Sejarah UPM
- 2 **Canseleri** : Majlis MOU antara UPM/Lembaga Pertubuhan Peladang
- 2 **Pusat Pengajian Siswazah** – Hari Q
- 2 **Fakulti Bahasa Moden dan Komunikasi** – Seminar–‘*Malaysian Literature in English*’
- 2-3 **Institut Teknologi Maju** - Kongres Profesional Muda Melayu Aeroangkasa di UIA, Gombak
- 3 **Pusat Islam** - Majlis Ikhtifal dan Penyampaian Sijil Tadika 2001
- 5 **Canseleri** – Majlis MOU antara UPM dengan Majlis Sukan Negara
- 5-6 **Pejabat Bendahari** - Bengkel Pengurusan Kewangan – Zon Kewangan C
- 5-9 **Institut Teknologi Maju** - Persidangan mengenai Pengesan Kawalan Jauh Asia Ke-22, “*Satellite Fish Forecasting in South China Sea*” di Singapura
- 5-9 **Fakulti Sains Makanan dan Bioteknologi** - Seminar/Bengkel “*Genetically Modified Organisms*” di UPM
- 7 **Fakulti Sains Komputer dan Teknologi Maklumat** - Program Kecemerlangan Akademik Pelajar oleh Prof. Dato’ Prof. Sheikh Omar Abdul Rahman.
- 7 **Pusat Kebudayaan dan Kesenian Sultan Salahuddin Abdul Aziz Shah** - Konsert *Rhythm of Rain Forest*
- 7-10 **Fakulti Sains Makanan dan Bioteknologi** - *BioThailand 2001: From Research to Market*, Bangkok, Thailand
- 8 **Fakulti Kejuruteraan** – Majlis Perasmian Bangunan Baru Fakulti dan Penyampaian Sijil ISO 9001
- 8 **Institut Teknologi Maju** – Seminar–“*Robotics Simulation Software*” di German-Malaysian Institute
- 8-11 **Kolej Keenam** – Sambutan 22 Tahun Kolej Keenam
- 9 **UPM** – Majlis Pelancaran Sambutan 70 Tahun UPM, PKKSSAAS
- 9 **Fakulti Reka Bentuk dan Seni Bina** - Bengkel ‘*Instant Tree Planting*’ Akademi Urbanisma & Senibina Malaysia Sdn. Bhd.
- 10 **Bahagian Komunikasi Korporat dan Perhubungan Antarabangsa** – Syarahan Inaugural Prof. Dr. Mohd. Ghazali bin Mohayiddin
- 10 **UPM** – Majlis ‘Sirih Pulang Ke Gagang’ Sempena Sambutan 70 Tahun UPM, PKKSSAAS
- 10 **Fakulti Bahasa Moden dan Komunikasi** – Perasmian Stesen Radio Fakulti
- 10-13 **Fakulti Sains Makanan dan Bioteknologi** —13th. *National Biotechnology Seminar. ‘Towards Commercialisation of Malaysian Biotechnology’, The Bay View Beach Resort, Penang, Malaysia.*
- 10-13 **Fakulti Sains Makanan dan Bioteknologi** —‘*National Biotechnology*’ Seminar pada, di Pulau Pinang (pembentang kertaskerja)
- 10-11 **Fakulti Perubatan dan Sains Kesihatan** - *Barker’s hypothesis on the fetal origins of chronic diseases in adulthood: Implications for developing countries. Plenary paper in; 1st National Conference on Health Lifestyles in Children*
- 10-13 **Fakulti Sains Makanan dan Bioteknologi** – Seminar Bioteknologi Kebangsaan ke-13, Pulau Pinang.
- 11 **Kolej Canselor** – Canselor Home Coming
- 11-13 **Fakulti Sains dan Pengajian Alam Sekitar** —*Malaysian Conference on Catalysis : Organised by Nanocatalyst Group, IDEAL, UPM*
- 12-13 **Institut Teknologi Maju** - Persidangan dan Pameran Geoinformasi 2001 “*Automatic Thresholding for Feature Extraction*” di Pulau Pinang
- 14 **Kolej Kedua** – Ehya UI-Ramadhan (Ehdhan IV)



SEMINAR, PERSIDANGAN, BENGKEL, KURSUS 2001

SEMINARS, CONFERENCES, WORKSHOPS, COURSES 2001

[November • November]

- 15 **Pejabat Bendahari** - Majlis Tahlil dan Doa Selamat
- 15-16 **Institut Multimedia dan Perisian** - Kursus *Macromedia Flash 5.0*
- 16 -6 Dis **Pusat Kebudayaan dan Kesenian SSAAS** – Pameran Lukisan
- 17 – Dis 17 **Pusat Islam** - Aktiviti Solat Tarawih dan Tadarus Al-Qur'an, Masjid, UPM
- 20-21 **Perpustakaan** - Kursus Virtua anjuran Perpustakaan UPM
- 21 **Fakulti Perubatan dan Sains Kesihatan** —*Continuing Medical Education : 'History of Medicine'*
- 21 **Pusat Kebudayaan dan Kesenian Sultan Salahuddin Abdul Aziz Shah** - Bengkel Penata Cahaya
- 24 **Pejabat Bendahari** - Tazkirah Ketiga – Mencari Keredhaan Ilahi
- 27-28 **Perpustakaan** - Kursus Virtua anjuran Perpustakaan UPM
- 28 **Fakulti Sains Komputer dan Teknologi Maklumat** - Seminar Teknik Mengajar oleh Prof. Madya Dr. Turiman Suandi.
- 29 **Fakulti Sains Makanan dan Bioteknologi** - Seminar Persatuan Fisiologi Tumbuhan Malaysia, *The Mine Resort and Convention Centre*
- November **Fakulti Ekonomi dan Pengurusan** – Sudut sejarah Fakulti
- November **Fakulti Sains Makanan dan Bioteknologi** —*Research Attachment, –Massachusetts Institute of Technology.*
- November **Kolej Keempat Belas** – Jamuan Hari Raya Kolej Ke-14

[Disember • December]

- 1 **Kolej Kesepuluh** – Majlis Berbuka Puasa Bersama Pemimpin Negara (Slot 1)
- 3 **Pusat Islam** - Program Qiamullail, Masjid, UPM
- 5-7 **Fakulti Sains Makanan dan Bioteknologi** - *EUROCAFT 2001 "European Conference on Advanced Technology for Safe and High Quality Foods"*, Berlin, Germany.
- 6 **Pusat Islam** - Malam Hol, Dewan Serbaguna
- 7 **Perpustakaan** - Kursus Virtua
- 8 **Pusat Islam** - Majlis Berbuka Puasa Bersama Pegawai Pusat Islam, Dewan Serbaguna
- 8 **Kolej Kesepuluh** – Majlis Berbuka Puasa Bersama Pemimpin Negara (Slot 2)
- 9-11 **Fakulti Sains Makanan dan Bioteknologi** - *"2nd Joint IFTIEFFoST Nonthermal Processing Workshop"*, Berlin, Germany.
- 10 **Jabatan Pendaftar** – Majlis Anugerah Khidmat Cemerlang 2000
- 11-12 **Institut Multimedia dan Perisian** - Kursus Aplikasi Kuliah *Online (sprint)*
- 11-12 **Institut Multimedia dan Perisian** - Kursus Aplikasi Kuliah Online (sprint)
- 12 **Fakulti Sains Makanan dan Bioteknologi** - *"Research Opportunities in Biotechnology and Bioinformatics: It's Relevance in K-Economy"*; *Multimedia Development Corporation Technology Forum, Cyber Lodge.*
- 12 **Pusat Islam** - Penyampaian Saguhati Kepada Pegawai UPM yang Berpendapatan Rendah, Dewan Serbaguna
- 27-28 **Perpustakaan** - Kursus Virtua anjuran Perpustakaan UPM
- 28 **Fakulti Sains dan Pengajian Alam Sekitar** – Majlis Anugerah Staf Sokongan FSAS 2000/2001
- 29 **Pusat Kebudayaan dan Kesenian Sultan Salahuddin Abdul Aziz Shah** - Bengkel Akustik

PRESTASI KEWANGAN 2001

FINANCIAL PERFORMANCE 2001

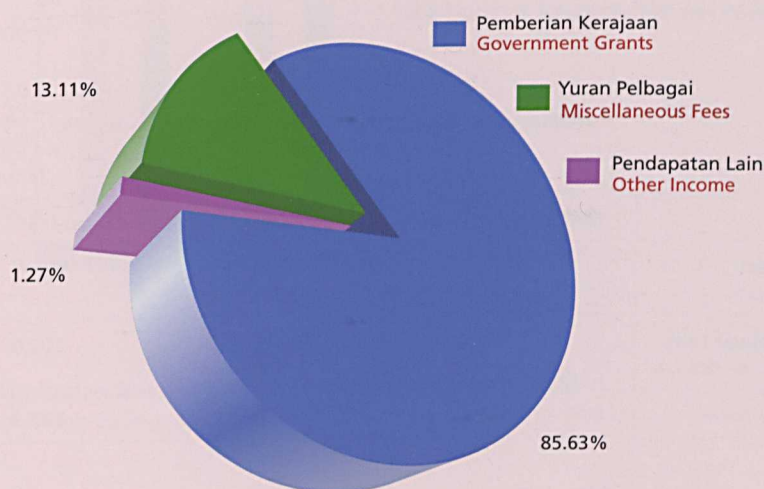
PERBELANJAAN MENGURUS

Pada tahun kewangan yang berakhir pada 31 Disember 2001, jumlah pendapatan mengurus Universiti ialah RM353.1 juta, meningkat sebanyak 25.12% dari tahun 2000 yang berjumlah RM282.2 juta.

OPERATING EXPENDITURE

For the financial year 31 December 2001, the total allocation for operating expenditure saw an increase of 25.12%, from RM282.2 million in 2000 to RM353.1 million for 2001.

Punca Pendapatan Mengurus (2001)
Sources of Operating Income (2001)



Daripada jumlah pendapatan ini, sebanyak RM302.3 juta atau 85.63% adalah pemberian Kerajaan dan bakinya, RM50.8 juta atau 14.38% adalah daripada sumber pelbagai seperti yuran pengajian, sewa dan pelbagai pendapatan lain.

Of this, RM302.3 million or 85.63% represented government grants while the balance of the RM50.8 million or 14.38% was from other sources such as tuition fees, rentals and other income sources.

Pendapatan Mengurus / Operating Income

	Tahun / Year 2001		Tahun / Year 2000	
	(RM juta) / (RM million)	(%)	(RM juta) / (RM million)	(%)
Pemberian Kerajaan <i>Government Grants</i>	302.3	85.63	236.4	83.78
Yuran Pelbagai <i>Miscellaneous Fees</i>	46.3	13.11	42.8	15.15
Pendapatan Lain <i>Others Income</i>	4.5	1.27	3.0	1.07
Jumlah / Total	353.1		282.2	

Perbelanjaan Mengurus

Perbelanjaan mengurus Universiti meningkat sebanyak 29.89% daripada RM252.5 juta pada tahun 2000, kepada RM328.0 juta pada tahun 2001. Pembayaran emolumen merupakan perbelanjaan yang paling tinggi iaitu pada kadar 48.32% dari keseluruhan perbelanjaan untuk tahun 2001. Perbelanjaan emolumen telah meningkat sebanyak 5.35% berbanding tahun 2000 dan bagi, pebelanjaan lain telah meningkat pada kadar 66.18%.

Operating Expenditure

Operating expenditure saw a 29.89% increase, that is from RM252.50 million in 2000 to RM328.0 million in 2001. Emolument disbursement constituted the largest component of operating expenditure constituting 48.32% of the total for the year 2000. These was only a 5.35% increase in emolument payments compared to 2000, while other expenditure showed a 66.18% increase.

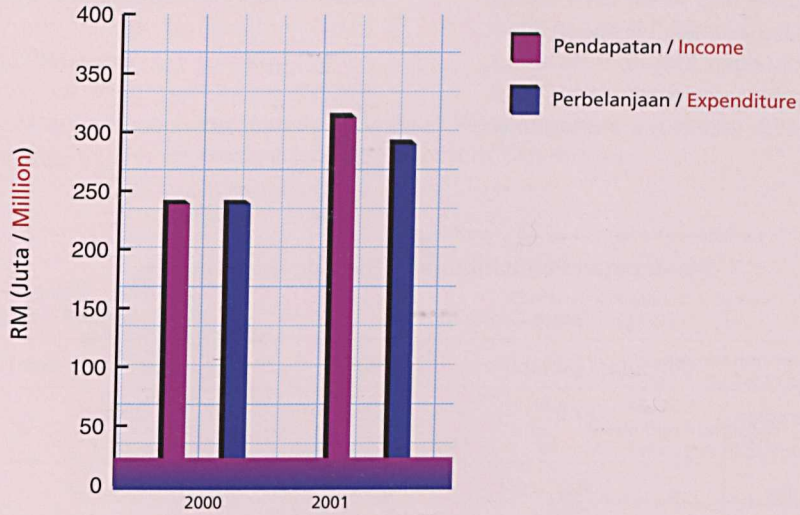
Perbelanjaan Mengurus / Operating Expenditure

	Tahun / Year 2001		Tahun / Year 2000	
	(RM juta) / (RM million)	(%)	(RM juta) / (RM million)	(%)
Emolumen Emolument	158.5	48.32	150.5	59.58
Perbelanjaan Lain Other Expenditures	169.5	51.68	102.0	40.42
Jumlah/ Total	328.0		252.5	

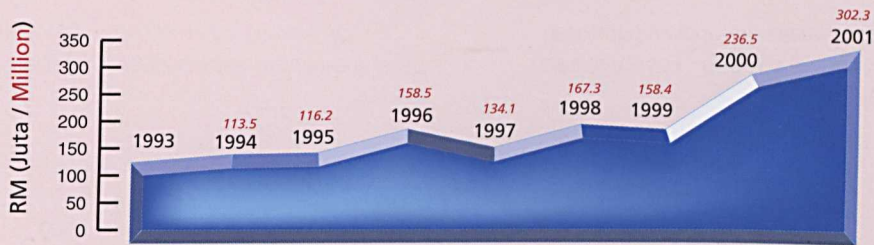
Pecahan Perbelanjaan Mengurus / Breakdown of Operating Expenditure

	Tahun / Year 2001		Tahun / Year 2000	
	(RM juta) / (RM million)	(%)	(RM juta) / (RM million)	(%)
Emolumen Emolument	158.5	48.32	150.5	59.58
Bekalan & Bahan-bahan Equipment & Supplies	48.6	14.82	36.0	14.27
Penyelenggaraan & Pembaikan Maintenance & Repairs	24.6	7.49	17.1	6.78
Perkhidmatan Iktisas & Lain-lain Professional & Other Services	26.5	8.08	21.4	8.49
Aset Tetap Fixed Assets	69.8	21.29	27.5	10.88
Jumlah/ Total	328.0		252.5	

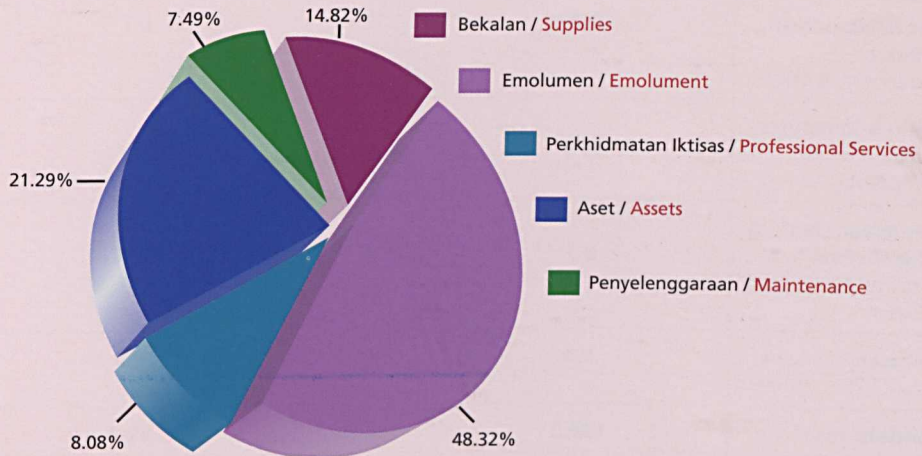
Perbandingan Pendapatan dan Perbelanjaan Mengurus
Comparison Between Income and Operating Expenditure



Pemberian Kerajaan Belanja Mengurus (1993 - 2001)
Government Grants for Operating Expenditure (1993 - 2001)



Pecahan Perbelanjaan Mengurus (2001)
Breakdown of Operating Expenditure (2001)



PERBELANJAAN PEMBANGUNAN

Jumlah yang diterima daripada kerajaan untuk perbelanjaan pembangunan bagi tahun 2001 adalah sebanyak RM92 juta dimana sejumlah 1% adalah untuk meneruskan projek sambungan RMK-6, 97% untuk meneruskan projek-projek sambungan RMK-7 dan sejumlah 2% adalah untuk membiayai projek-projek baru RMK-8.

DEVELOPMENT EXPENDITURE

In the year 2001, the total grant received from the government for development expenditure was RM92 million, of which 1% was for project continuation of the extended project under the 6th Malaysian Plan, 97% for continuation of the extended project under the 7th Malaysian Plan and a total of 2% was to finance new projects under the 8th Malaysian Plan.

Pendapatan Pembangunan / Development Income

	Tahun / Year 2001		Tahun / Year 2000	
	(RM juta) / (RM million)	(%)	(RM juta) / (RM million)	(%)
Pemberian Kerajaan Government Grants	92.0	99.04	24.1	96.86
Pendapatan Lain Other Income	0.8	0.96	0.8	3.14
Jumlah/ Total	92.8		24.9	

Pemberian daripada Kerajaan merupakan peratusan terbesar iaitu 99.04% daripada keseluruhan pendapatan untuk tahun 2001.

Government allocation for development expenditure constituted 99.04% of the grant received for 2001

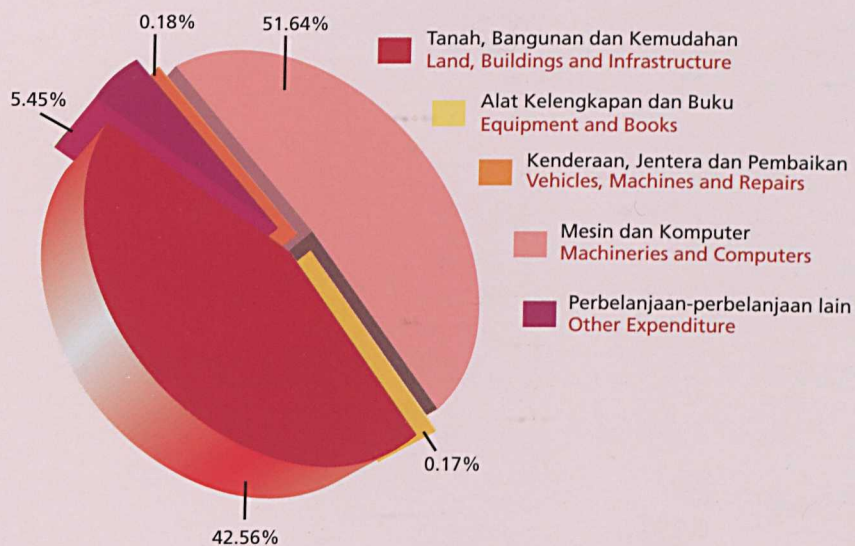
Perbelanjaan Pembangunan / Development Expenditure

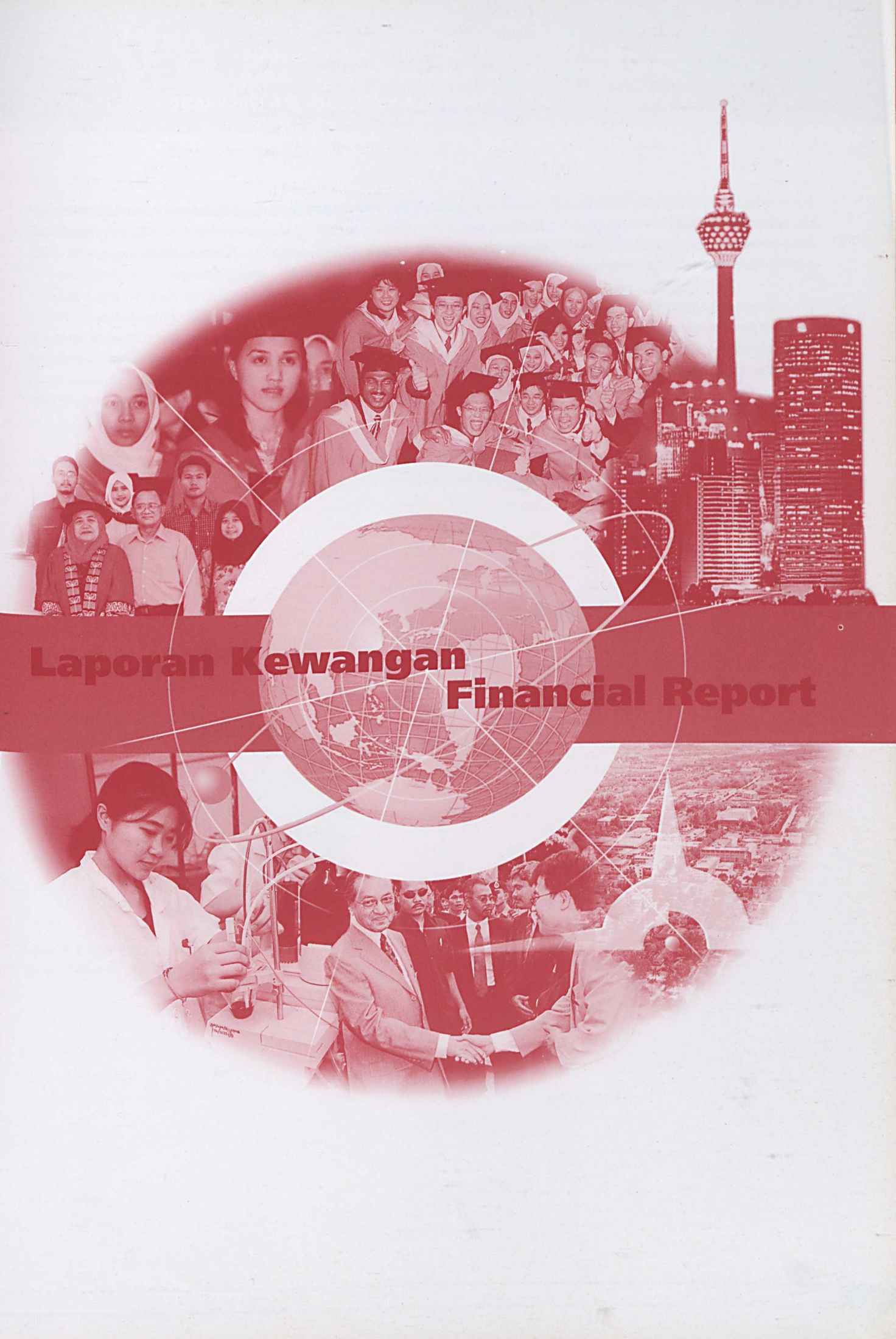
	Tahun / Year 2001		Tahun / Year 2000	
	(RM juta) / (RM million)	(%)	(RM juta) / (RM million)	(%)
Tanah, Bangunan & Kemudahan Land, Buildings & Infrastructure	45.3	42.56	36.2	69.51
Alat Kelengkapan & Buku Equipment & Books	0.2	0.17	0.1	0.20
Mesin & Komputer Machineries & Computers	55.0	51.64	9.8	18.78
Kenderaan, Jentera & Pembaikan Vehicles, Machinery & Repairs	0.2	0.18	0.00	0.00
Perbelanjaan Lain Other Expenditure	5.8	5.45	6.0	11.51
Jumlah/ Total	106.5		52.1	

Daripada jumlah perbelanjaan Pembangunan, perbelanjaan untuk mesin dan komputer merupakan perbelanjaan tertinggi iaitu sebanyak RM55.0 juta atau 51.64%.

Of the expenditure for development, the major expense items was machinery and computer expenditure for RM 55.0 million or 51.64%.

Pecahan Perbelanjaan Pembangunan Breakdown of Development Expenditure






Laporan Kewangan
Financial Report

SIJIL KETUA AUDIT NEGARA MENGENAI PENYATA KEWANGAN UNIVERSITI PUTRA MALAYSIA BAGI TAHUN BERAKHIR 31 DISEMBER 2001

Kunci kira-kira Universiti Putra Malaysia seperti pada 31 Disember 2001, penyata pendapatan dan perbelanjaan, penyata perubahan ekuiti dan penyata aliran tunai bagi tahun tersebut telah diperiksa oleh Tetuan Sahir & Co., Akauntan Bertauliah, di bawah arahan saya. Pihak pengurusan Universiti Putra Malaysia bertanggungjawab terhadap penyata kewangan ini. Tanggungjawab saya adalah untuk memberi pendapat terhadap penyata kewangan tersebut berdasarkan kepada pengauditan yang dijalankan.

2. Pengauditan telah dilaksanakan mengikut Akta Audit 1957 dan berpandukan Piawaian Pengauditan Antarabangsa. Piawaian-piawaian tersebut mengkehendaki pengauditan dirancang dan dilaksanakan untuk mendapat kepastian yang munasabah sama ada penyata kewangan Universiti Putra Malaysia adalah bebas daripada kesilapan atau ketinggalan yang ketara. Pengauditan itu termasuk memeriksa rekod-rekod secara semak uji, menyemak bukti-bukti yang menyokong angka-angka dan memastikan penzahiran yang mencukupi dalam penyata kewangan. Penilaian juga dibuat terhadap prinsip-prinsip perakaunan yang digunakan dan penyampaian penyata kewangan secara keseluruhan.

3. Pada pendapat saya, penyata kewangan ini memberi gambaran yang benar dan saksama terhadap kedudukan kewangan Universiti Putra Malaysia pada 31 Disember 2001, hasil operasi dan aliran tunainya untuk tahun tersebut.



(DATUK DR. HADENAN BIN ABDUL JALIL)
KETUA AUDIT NEGARA

PUTRAJAYA
29 OGOS 2002




PENYATA LEMBAGA PENGARAH

Board of Directors' Statement

Kami, **DATUK RAMLY BIN AHMAD** dan **PROFESOR DATO' DR. IR. MOHD. ZOHADIE BIN BARDAIE** yang merupakan Pengerusi dan salah seorang Ahli Lembaga Pengarah UNIVERSITI PUTRA MALAYSIA, dengan ini menyatakan bahawa, pada pendapat Lembaga Pengarah, Kunci Kira-Kira, Penyata Pendapatan dan Perbelanjaan dan Penyata Aliran Tunai yang berikut ini berserta dengan nota-nota yang mengiringinya adalah disediakan untuk menunjukkan pandangan yang benar dan saksama berkenaan kedudukan UNIVERSITI PUTRA MALAYSIA pada 31 Disember 2001 dan hasil kendaliannya serta aliran tunai bagi tahun berakhir pada tarikh tersebut.

We, **DATUK RAMLY BIN AHMAD** and **PROFESSOR DATO' DR. IR. MOHD. ZOHADIE BIN BARDAIE** as Chairman and a Member of the Board of Directors respectively, of UNIVERSITI PUTRA MALAYSIA, hereby state that in the view of the Board of Directors, the Balance Sheet, the Statement of Income and Expenditure and Statement of Cash Flow taken together with the Notes represent a true and fair view of the financial position of UNIVERSITI PUTRA MALAYSIA as at 31 December 2001 and reflect the changes in cash flow for the year ending on the date stated.

Bagi pihak Lembaga Pengarah /
On behalf of the Board of Directors



(DATUK RAMLY BIN AHMAD)
Pengerusi Lembaga Pengarah /
Chairman, Board of Directors



(PROF. DATO' MOHD. ZOHADIE BARDAIE, Ph.D., P.Eng.)
Naib Canselor / Vice-Chancellor

UPM Serdang
Tarikh / Date: 11 Mei 2002

AKUAN BERKANUN

Statutory Declaration

Saya, **NOORMAH BT. HAJI MOHAMED**, pegawai utama yang bertanggungjawab ke atas pengurusan kewangan UNIVERSITI PUTRA MALAYSIA, dengan ikhlasnya mengakui bahawa Kunci Kira-Kira, Penyata Pendapatan dan Perbelanjaan dan Penyata Aliran Tunai yang berikut ini berserta dengan nota-nota yang mengiringinya, mengikut sebaik-baik pengetahuan dan kepercayaan saya, adalah betul dan saya membuat ikrar ini dengan sebenarnya mempercayai bahawa ianya itu adalah benar dan atas kehendak-kehendak Akta Akuan Berkanun, 1960.

I, **NOORMAH BT. HAJI MOHAMED**, the principal officer responsible for the financial management of UNIVERSITI PUTRA MALAYSIA, sincerely declare that the Balance Sheet, Statement of Income and Expenditure and Cash Flow Statement that are presented here as well as the Notes included, to the best of my knowledge and belief, are accurate and I make this declaration in the belief that it is true and in accordance with the requirements of the Statutory Declaration Act 1960.

Sebenar dan sesungguhnya)
diakui oleh penama di atas)
di Bangi pada 11 Mei 2002)



NOORMAH BT. HAJI MOHAMED
Bendahari / Bursar

Truly and solemnly)
declared by the above)
mentioned person at Bangi)
on 11 May 2002)

Di hadapan saya: /
Before me:



KUNCI KIRA-KIRA PADA 31 DISEMBER 2001

Balance Sheet as at 31 December 2001

	Nota / Note	2001 RM	2000 RM
ASET TETAP / FIXED ASSETS	1(e),2	423,435,199	221,199,880
PEMBINAAN DALAM KEMAJUAN / WORK IN PROGRESS	1(f),3	40,644,564	62,821,861
PELABURAN / INVESTMENTS	1(g),4	12,342,401	11,414,234
ASET SEMASA / CURRENT ASSETS			
Pelbagai penghutang / Sundry Debtors	5	55,144,863	67,073,502
Simpanan tetap / Fixed Deposits	6	426,000,000	334,600,000
Wang di tangan dan di bank / Cash in hand and bank	7	24,272,565	30,323,660
		505,417,428	431,997,162
LIABILITI SEMASA / CURRENT LIABILITIES			
Pelbagai pemiutang / Sundry Creditors	8	77,664,222	49,418,990
		77,664,222	49,418,990
ASET SEMASA BERSIH / NET CURRENT ASSETS			
		427,753,206	382,578,172
		904,175,370	678,014,147
Dibiayai oleh: / Financed by:			
Kumpulanwang Am Terkumpul / General Accumulated Fund	9	222,375,339	304,045,123
Kumpulanwang Kolej Kediaman / Residential College Fund	10	18,987,739	17,692,826
Kumpulanwang Pembangunan / Development Fund	11	119,417,621	79,263,629
Kumpulanwang Tabung Penyelidikan / Research Fund	12	48,668,043	43,189,411
Kumpulanwang Tabung Pusingan / Revolving Fund	13	4,980,297	4,568,660
Kumpulanwang Amanah Lain / Other Trusts Fund	14	93,819,167	79,506,645
Kumpulanwang Penginapan & Rekreasi / Accommodation & Recreation Fund	15	5,411,256	2,448,860
Kumpulanwang Pelaburan / Investment Fund	16	73,074,203	84,571,247
Kumpulanwang Kursus, Seminar, Konferensi & Lawatan Sambil Belajar / Course, Seminar Conference and Study Visit Fund	17	64,338,366	41,804,971
Kumpulanwang Pinjaman Komputer dan Pinjaman Kenderaan / Computer and Vehicle Loan Fund	18	15,700,000	15,000,000
		666,772,031	672,091,372
Pemberian Modal / Capital Grants	1(h),19	237,403,339	5,922,775
		904,175,370	678,014,147

Sila lihat nota-nota yang mengiringi penyata kewangan ini /

The accounts are to be read with the accompanying notes

PENYATA PENDAPATAN DAN PERBELANJAAN BAGI TAHUN BERAKHIR 31 DISEMBER 2001

Statement of Income and Expenditure for the year ended 31 December 2001

	Nota / Note	2001 RM	2000 RM
PENDAPATAN / INCOME			
Pemberian kerajaan / Government grants	20	329,069,011	290,980,218
Yuran pelbagai / Miscellaneous fees		101,559,748	89,864,389
Sumbangan luar / External contributions		12,236,128	14,497,467
Pemberian Modal direalisasi / Realisation of Capital Grants	1(h),19	22,460,474	1,455,500
Faedah dan keuntungan saham / Interest & share proceeds		16,760,954	16,403,042
Jualan aset tetap / Sale of fixed assets		91,630	71,749
Pampasan tanah / Land compensations		0	20,306,976
Pengurangan peruntukan rosotnilai saham / Less provision for diminution of shares	4.1	1,146,101	0
Sewa pelbagai / Sundry rentals		1,532,469	1,001,697
Pendapatan lain / Other incomes	21	33,942,762	22,975,323
		518,799,277	457,556,361
Tolak: PERBELANJAAN / Less: EXPENDITURE			
Emolumen / Emoluments		158,591,974	150,580,751
Bekalan dan bahan-bahan / Supplies & materials		77,761,067	63,452,495
Penyelenggaraan dan pembaikan / Maintenance & repairs		33,916,444	24,400,286
Perkhidmatan iktis dan hospitaliti / Professional & hospitality services		79,665,194	75,860,585
Susutnilai / Depreciation	2	50,673,302	29,145,546
Pelunasan tanah / Amortization of land	2	87,498	87,498
Pelupusan aset tetap / Fixed assets written off		5,967	374,702
Hutang lapuk / Bad debts	5.1	6,260,371	12,481,492
Rosotnilai saham / Provision for diminution of shares		0	2,288,946
		406,961,817	358,672,301
LEBIHAN PENDAPATAN / SURPLUS INCOME			
KUMPULAN WANG TERKUMPUL DIBAWA KE HADAPAN /			
ACCUMULATED FUNDS BROUGHT FORWARD			
- Seperti yang dinyatakan terdahulu / As previously stated		672,091,372	577,594,227
- Pelarasan tahun lalu / Prior year adjustment	1(h),22	(117,156,801)	(4,386,915)
- Seperti yang dinyatakan semula / As restated		554,934,571	573,207,312
KUMPULAN WANG TERKUMPUL DIHANTAR KE HADAPAN /			
ACCUMULATED FUNDS CARRIED FORWARD			
		666,772,031	672,091,372

*Sila lihat nota-nota mengiringi penyata kewangan ini /
The Accounts are to be read with accompanying notes*

PENYATA PERUBAHAN EKUITI BAGI TAHUN BERAKHIR 31 DISEMBER 2001

Statement of Changes in Equity for the year ended 31 December 2001

AM / GENERAL RM	KOLEJ KEDIAMAN / RESIDENTIAL COLLEGE RM	PEMBANGUN- AN / DEVELOP- MENT RM	PENYELIDIKAN / RESEARCH RM	TABUNG PUSINGAN / REVOLVING FUND RM	AMANAH LAIN / OTHER TRUSTS RM	PENGINAPAN & REKREASI / ACCOMMODATION & RECREATION RM	PELABURAN / INVEST- MENT RM	KURSUS, SEMINAR, LSB / COURSE SEMINAR RM	PINJAMAN / LOAN RM	JUMLAH / TOTAL RM
304,045,123	17,692,826	79,263,629	43,189,411	4,568,660	79,506,645	2,448,860	84,571,247	41,804,971	15,000,000	672,091,372
0	0	(117,156,801)	0	0	0	0	0	0	0	(117,156,801)
(135,774,813)	0	135,774,813	0	0	0	0	0	0	0	0
(11,254,034)	0	0	11,254,034	0	0	0	0	0	0	0
(11,824,615)	0	0	0	338,595	3,653,148	3,644,292	1,180,080	3,008,500	0	0
145,191,661	17,692,826	97,881,641	54,443,445	4,907,255	83,159,793	6,093,152	85,751,327	44,813,471	15,000,000	554,934,571
69,167,678	1,294,913	227,980	(5,775,402)	73,042	12,369,374	(874,396)	16,829,376	18,524,895	0	111,837,460
214,359,339	18,987,739	98,109,621	48,668,043	4,980,297	95,529,167	5,218,756	102,580,703	63,338,366	15,000,000	666,772,031
10,351,000	0	0	0	0	0	0	(10,351,000)	0	0	0
0	0	17,963,000	0	0	0	0	(17,963,000)	0	0	0
0	0	0	0	0	0	192,500	(192,500)	0	0	0
0	0	0	0	0	0	0	(1,000,000)	1,000,000	0	0
(1,635,000)	0	1,635,000	0	0	0	0	0	0	0	0
(700,000)	0	0	0	0	0	0	0	0	700,000	0
0	0	1,710,000	0	0	(1,710,000)	0	0	0	0	0
222,375,339	18,987,739	119,417,621	48,668,043	4,980,297	93,819,167	5,411,256	73,074,203	64,338,366	15,700,000	666,772,031

2001

Pada 1 Januari / As at 1 Januari

Pelaras tahun lalu /

Prior year adjustments

Pindahan aset tetap (dari): /

Fixed assets transfer (from):

- Am ke Pembangunan /

General to Development

- Am ke Penyelidikan /

General to Research

- Am ke Kumpulanwang lain /

General to Other Trusts Fund

Seperti yang dinyatakan semula /

As restated

Lebihan/(kurangan) pendapatan /

Surplus/(deficit) income

Pindahan (dari): / Transfer (from):

Pelaburan ke Am /

Investment to General

Pelaburan ke Pembangunan /

Investment to Development

Pelaburan ke Penginapan

dan Rekreasi /

Investment to Accommodation

and Recreation

Pelaburan ke Kursus, Seminar

dan Lawatan sambil belajar /

Investment to Course, Seminar,

Conference and Study

Am ke Pembangunan /

General to Development

Am ke Pinjaman Kenderaan/

Komputer /

General to Vehicle /

Computer Loan

Amanah Lain ke

Pembangunan /

Other Trusts to Development

PENYATA PERUBAHAN EKUITI BAGI TAHUN BERAKHIR 31 DISEMBER 2001 (samb.)

Statement of Changes in Equity for the year ended 31 December 2001 (cont'd.)

	AM / GENERAL RM	KOLEJ KEDIAMAN / RESIDENTIAL COLLEGE RM	PEMBANGUN- AN / DEVELOP- MENT RM	PENYELIDIKAN / RESEARCH RM	TABUNG PUSINGAN / REVOLVING FUND RM	AMANAH LAIN / OTHER TRUSTS RM	PENGINAPAN & REKREASI / ACCOMMODATION & RECREATION RM	PELABUR- AN / INVEST- MENT RM	KURSUS, SEMINAR, LSB / COURSE SEMINAR RM	PINJAMAN / LOAN RM	JUMLAH / TOTAL RM
2000											
Pada 1 Januari / As at 1 January	248,762,698	18,918,136	67,807,837	39,372,329	5,161,623	58,600,157	5,539,203	81,899,551	36,532,693	15,000,000	577,594,227
Pelarasan tahun lalu / Prior year adjustment	(400,156)	0	(4,209,750)	144,993	0	59,431	520	0	18,047	0	(4,386,915)
- Seperti yang dinyatakan semula / As restated	248,362,542	18,918,136	63,598,087	39,517,322	5,161,623	58,659,588	5,539,723	81,899,551	36,550,740	15,000,000	573,207,312
Lebihan/(kurangan) pendapatan / Surplus/(deficit) income	25,145,656	(1,165,863)	18,926,967	6,897,630	(300,755)	28,392,816	54,807	13,119,553	7,813,249	0	98,884,060
	273,508,198	17,752,273	82,525,054	46,414,952	4,860,868	87,052,404	5,594,530	95,019,104	44,363,989	15,000,000	672,091,372
Pindahan aset tetap (dari): / Transfer of fixed assets (from):											
Kumpulanwang Lain ke Am / Other Trusts to Investment	28,986,621	0	(15,116,168)	(5,225,541)	(292,208)	(2,468,016)	(3,325,670)	0	(2,559,018)	0	0
Pindahan (dari): / Transfer (from):											
Pelaburan ke Am / Investment to General	2,784,557	0	0	0	0	0	0	(2,784,557)	0	0	0
Pelaburan ke Pembangunan / Investment to Development	0	0	5,408,300	0	0	0	0	(5,408,300)	0	0	0
Pelaburan ke Amanah Lain / Investment to Other Trusts	0	0	0	0	0	75,000	0	(75,000)	0	0	0
Pelaburan ke Penyelidikan / Investment to Research	0	0	0	2,000,000	0	0	0	(2,000,000)	0	0	0
Pelaburan ke Penginapan dan Rekreasi / Investment to Accommodation and Recreation	0	0	0	0	0	0	180,000	(180,000)	0	0	0
Am ke Pembangunan / General to Development	(1,293,700)	0	1,293,700	0	0	0	0	0	0	0	0
Amanah Lain ke Pembangunan / Other Trusts to Development	0	0	5,152,743	0	0	(5,152,743)	0	0	0	0	0
Kolej Kediaman ke Am / Residential College to General	59,447	(59,447)	0	0	0	0	0	0	0	0	0
	304,045,123	17,692,826	79,263,629	43,189,411	4,568,660	79,506,645	2,448,860	84,571,247	41,804,971	15,000,000	672,091,372

PENYATA ALIRAN TUNAI BAGI TAHUN BERAKHIR 31 DISEMBER 2001

Cash Flow Statement for the year ended 31 December 2001

	Nota / Note	2001 RM	2000 RM
TUNAI DARI AKTIVITI OPERASI / CASH GENERATED FROM OPERATING ACTIVITIES			
Lebihan pendapatan / Surplus income	m/s pg 4	111,837,460	98,884,060
Pelarasan ke atas: / Adjustments to:			
Susutnilai / Depreciation	2	50,673,302	29,145,546
Pelunasan tanah / Land amortisation	2	87,498	87,498
Untung atas jualan aset tetap / Profits incurred from sale of fixed assets		(85,663)	(11,277)
Pemberian modal direalisasi / Realisation of capital grants	1(h), 19	(22,460,474)	(1,455,500)
Untung atas pampasan tanah / Profits from land compensations		0	(19,992,746)
(Untung)/Rugi atas jualan saham / (Profit) / Loss incurred from sale of shares		627,568	(1,726,375)
Peruntukan rosotnilai saham / Adjustment from previous year	4.1	(1,146,101)	2,288,946
Pelarasan tahun lalu / Adjustment from previous year	1(h), 22	(117,156,801)	(4,386,915)
Pemberian modal / Capital grants	1(h), 19	253,941,038	7,378,275
Lebihan pendapatan sebelum perubahan modal kerja / Operating profits prior to working capital adjustments			
(Penambahan)/Pengurangan penghutang / (Increase) / Decrease in debtors		11,928,639	(14,774,620)
Penambahan/(Pengurangan) pemiutang / Increase / (Decrease) in creditors		28,245,232	10,917,154
Tunai bersih dihasilkan dari aktiviti operasi / Cash generated from operating activities			
		316,491,698	106,354,046
TUNAI DARI AKTIVITI PELABURAN / CASH GENERATED FROM INVESTMENT ACTIVITIES			
Pembelian aset tetap / Purchase of fixed assets	2	(253,002,086)	(60,107,685)
Pembinaan dalam kemajuan / Works in progress		22,177,297	(31,760,249)
Jualan aset tetap / Sale of fixed assets		91,630	71,749
Pampasan tanah / Land compensations		0	20,306,976
Jualan saham / Sale of shares		838,964	6,993,704
Pembelian saham / Purchase of shares		(1,328,585)	(7,350,166)
Simpanan dengan pengurus portfolio / Deposits with portfolio managers	4	79,987	(1,815,778)
Tunai bersih dihasilkan dari aktiviti pelaburan / Cash generated from investment activities			
		(231,142,793)	(73,661,449)
Penambahan bersih dalam jumlah tunai dan kesetaraan tunai / Net increase in cash and cash equivalents			
		85,348,905	32,692,597
Jumlah tunai dan kesetaraan pada awal tahun / Cash and cash equivalents at beginning of year			
		364,923,660	332,231,063
Jumlah tunai dan kesetaraan pada akhir tahun / Cash and cash equivalents at end of year			
		450,272,565	364,923,660
Tunai dan kesetaraan tunai diwakili oleh: / Cash and cash equivalents represented by:			
Simpanan tetap / Fixed deposits	6	426,000,000	334,600,000
Wang di tangan dan di bank / Cash in hand and bank	7	24,272,565	30,323,660
		450,272,565	364,923,660

*Sila lihat nota-nota yang mengiringi penyata kewangan ini /
The accounts are to be read with the accompanying notes*

NOTA-NOTA KEPADA PENYATA KEWANGAN PADA 31 DISEMBER 2001

Notes to Accounts 31 December 2001

1. DASAR-DASAR PERAKAUNAN PENTING / ACCOUNTING POLICY

(a) Am / General

Semua dasar perakaunan adalah bersamaan dengan dasar-dasar yang digunakan pada tahun lalu /
All accounting policies are similar to those used in previous years.

(b) Asas Perakaunan / Basis of Accounting

Penyediaan akaun-akaun adalah mengikut konvensyen kos sejarah /
The accounts were prepared according to the historical cost convention.

(c) Pengiktirafan Pendapatan / Recognition of Income

Pendapatan diiktiraf atas dasar akruan /
Income is recognised on an accrual basis.

(d) Hutang Lapuk dan Hutang Ragu / Bad Debts and Doubtful Debts

Peruntukan dibuat bagi hutang lapuk yang dikenali berdasarkan kepada penyemakan akhir tahun ke atas hutang yang belum dapat dipungut /
Provision is made for bad debts based on a year-end appraisal of debts that have not been recovered.

(e) Aset Tetap dan Susutnilai / Fixed Assets and Depreciation

Aset tetap dinyatakan pada kos setelah ditolak susutnilai dan didefinisikan sebagai barang-barang takluak yang mempunyai tempoh penggunaan ekonomik yang lebih daripada 12 bulan yang bernilai RM3,000 atau lebih setiap satu /

Fixed assets are stated at cost after deduction of depreciation and are defined as tangible assets that have an economic usage of more than 12 months, and are valued at or more than RM3,000 each.

Tanah dipermodalkan mulai tahun 1993. Susutnilai tidak diperuntukkan bagi tanah milik bebas manakala tanah pajakan dilunaskan mengikut jangkamasa pajakan /

Land has been capitalised from the year 1993. Depreciation is not allocated for freehold land whereas leasehold is amortized according to the mortgaged period.

Bagi kesemua aset yang lain, susutnilai dikira berasaskan kaedah garis lurus ke atas anggaran hayat kegunaan aset berkenaan. Kadar susutnilai tahunan utama adalah seperti berikut /

For all other assets, depreciation is calculated based on straight line method over their estimated useful lives. The annual depreciation rates are follows:

	(%)
Bangunan / Buildings	2
Bangunan tidak kekal / Temporary buildings	10
Infrastruktur dan kemudahan / Infrastructure and facilities	5
Kenderaan dan jentera / Vehicles & machinery	20
Perabot dan kelengkapan / Furnitures & fittings	20
Mesin dan komputer / Machinery & computers	20

Semua bangunan-bangunan yang dibina sebelum tahun 1984 telah dipermodalkan dalam tahun kewangan 2001 berdasarkan nilai buku atau nilai RM1 bagi bangunan yang tidak dapat dikesan kos binaannya /

All buildings constructed prior to 1984 have been capitalized in the financial year 2001 based on book value or a value of RM1 for buildings, the cost of which cannot be determined.

Buku-buku perpustakaan tidak dipermodalkan dan direkodkan di dalam Sistem Perpustakaan /

Library books have not been capitalized and recorded in the Library System.

NOTA-NOTA KEPADA PENYATA KEWANGAN PADA 31 DISEMBER 2001 (samb.)

Notes to Accounts 31 December 2001 (cont'd.)

(f) Pembinaan Dalam Kemajuan / Works in Progress

Pembinaan dalam kemajuan seperti bangunan yang sedang dibina dinilai mengikut kos dan susut nilai tidak diperuntukkan. Apabila siap, kos pembinaan dipindahkan ke aset tetap yang berkenaan /

In the case of buildings under construction, they are valued at cost and no provision is made for depreciation. On completion, the cost of construction is transferred to the relevant fixed assets.

(g) Pelaburan / Investment

Pelaburan dinyatakan pada kos ditolak rosotan nilai pelaburan berkenaan yang kekal /

Investment is stated at cost less the depreciation value of a permanent investment.

(h) Pemberian Kerajaan dan Sumbangan Luar / Government Grants and External Contributions

Sebelum tahun kewangan 2000, pemberian Kerajaan dan sumbangan luar diiktiraf sebagai pendapatan apabila pemberian dan sumbangan tersebut diterima /

Prior to year 2000, government grants and external contributions have been recognised as income or realisation of such grants and contributions.

Selaras dengan kehendak piawaian perakaunan yang diluluskan, pemberian dan sumbangan yang berbentuk modal dibawa ke hadapan dan direalisasikan sepanjang hayat ekonomi aset untuk dipadankan dengan susut nilai yang dikenakan sepanjang hayat ekonomi aset tersebut /

In compliance with approved accounting standards, grants and contributions in the form of capital are carried forward and realised throughout the economic life of the asset and is depreciated throughout the economic life of the said asset.

Polisi ini akan digunakan sepenuhnya mulai tahun kewangan 2001 /

This policy will be in force for the financial year beginning 2001.

(i) Pertukaran Matawang Asing / Foreign Currency Exchange

Urus niaga dalam mata wang asing sepanjang tahun ditukar kepada Ringgit Malaysia pada kadar pertukaran yang berkuat kuasa pada tarikh urusan tersebut /

Transactions in foreign currency throughout the year have been converted into Ringgit Malaysia at the exchange rate that prevailed in the date of the transaction.

**NOTA-NOTA KEPADA PENYATA KEWANGAN
PADA 31 DISEMBER 2001 (samb.)**

Notes to Accounts 31 December 2001 (cont'd.)

2. ASET TETAP / FIXED ASSETS
a. Kumpulanwang Mengurus / Managing Fund

2001	KOS / COST				SUSUTNILAI / DEPRECIATION				Nilai Buku Bersih / Net Book Value	
	1 Januari / 1 January	Tambahan / Addition	Pelupusan / Disposals	31 Disember / 31 December	1 Januari / 1 January	Tambahan / Addition	Pelupusan / Disposals	31 Disember / 31 December	31.12.01 RM	31.12.00 RM
	RM	RM	RM	RM	RM	RM	RM	RM	RM	RM
Tanah pajakan / Leased land	8,000,128	0	0	8,000,128	2,160,254	85,156	0	2,245,410	5,754,718	5,839,874
Tanah milik kekal / Freehold land	8,962,151	276,000	0	9,238,151	0	0	0	0	9,238,151	8,962,151
Bangunan / Building	7,835,304	7,085,994	0	14,921,298	2,010,804	459,430	0	2,470,234	12,451,064	5,797,680
Infrastruktur & kemudahan / Infrastructure & facilities	6,807,890	6,116,391	0	12,924,281	436,414	505,616	0	942,030	11,982,251	6,371,475
Kenderaan dan jentera / Vehicles and machinery	9,023,426	3,508,125	(776,456)	11,755,095	6,119,911	1,006,275	(776,451)	6,349,735	5,405,360	2,903,515
Perabot dan kelengkapan / Furniture & fittings	7,707,597	2,370,589	(4,800)	10,073,386	4,701,335	1,566,278	(4,799)	6,262,814	3,810,572	3,006,263
Mesin dan komputer / Machinery & computers	84,500,636	35,244,877	(110,777)	119,634,736	56,097,989	16,592,397	(107,911)	72,582,475	47,052,261	28,402,647
	132,837,132	54,601,976	(892,033)	186,547,075	71,526,707	20,215,152	(889,161)	90,852,698	95,694,377	61,283,605
b. Kumpulanwang Pembangunan / Development Fund										
Tanah pajakan / Leased land	231,887	0	0	231,887	16,396	2,342	0	18,738	213,149	215,491
Bangunan / Building	123,305,510	109,867,102	0	233,172,612	15,680,429	5,498,029	0	21,178,458	211,994,154	107,625,081
Infrastruktur & kemudahan / Infrastructure & facilities	21,636,203	24,425,170	0	46,061,373	4,924,599	2,328,612	0	7,253,211	38,808,162	16,711,604
Kenderaan dan jentera / Vehicles and machinery	2,767,414	192,390	0	2,959,804	2,748,790	17,226	0	2,766,016	193,788	18,624
Perabot dan kelengkapan / Furniture & fittings	1,547,289	179,000	0	1,726,289	1,375,122	92,156	0	1,467,278	259,011	172,167
Mesin dan komputer / Machinery & computers	83,459,196	55,003,055	(83,329)	138,378,922	72,427,349	14,586,632	(83,309)	86,930,672	51,448,250	11,031,846
	232,947,499	189,666,717	(83,329)	422,530,887	97,172,685	22,524,997	(83,309)	119,614,373	302,916,514	135,774,813
c. Kumpulanwang Penyelidikan / Education Fund										
Bangunan / Building	684,519	14,374	0	698,893	163,569	15,576	0	179,145	519,748	520,950
Infrastruktur & kemudahan / Infrastructure & facilities	1,636,625	0	0	1,636,625	974,789	324,831	0	1,299,620	337,005	661,837
Kenderaan dan jentera / Vehicles and machinery	179,765	0	0	179,765	125,674	19,164	0	144,838	34,927	54,091
Perabot & kelengkapan / Furniture & fittings	802,190	55,007	0	857,197	367,670	190,621	0	558,291	298,906	434,520
Mesin dan komputer / Machinery & computers	45,900,871	5,600,133	(49,396)	51,451,608	36,318,234	4,969,506	(46,334)	41,241,406	10,210,202	9,582,637
	49,203,970	5,669,514	(49,396)	54,824,088	37,949,936	5,519,698	(46,334)	43,423,300	11,400,788	11,254,035

NOTA-NOTA KEPADA PENYATA KEWANGAN PADA 31 DISEMBER 2001 (samb.)

Notes to Accounts 31 December 2001 (cont'd.)

2. ASET TETAP (SAMB.) / FIXED ASSETS (CONT'D.)

d. Kumpulanwang Amanah Lain / Other Trusts Fund

	KOS / COST				SUSUTNILAI / DEPRECIATION				Nilai Buku Bersih / Net Book Value	
	1 Januari / 1 January		31 Disember / 31 December		1 Januari / 1 January		31 Disember / 31 December		31.12.01	31.12.00
	RM	RM	RM	RM	RM	RM	RM	RM	RM	RM
Bangunan / Buildings	5,301,543	244,190	0	5,545,733	325,445	127,673	0	453,118	5,092,615	5,002,919
Infrastruktur & kemudahan / Infrastructure & facilities	4,020,070	89,759	0	4,109,829	367,766	230,694	0	598,460	3,511,369	3,652,304
Kenderaan dan jentera / Vehicles & machinery	1,335,973	343,467	0	1,679,440	1,068,136	181,087	0	1,249,223	430,217	267,836
Perabot & kelengkapan / Furniture & fittings	909,620	175,395	0	1,085,015	452,720	217,742	0	670,462	414,553	452,099
Mesin dan komputer / Machinery & computers	5,672,208	1,440,412	(5,980)	7,106,640	3,200,731	1,264,271	(5,979)	4,459,023	2,647,617	2,476,277
	17,239,414	2,293,223	(5,980)	19,526,657	5,414,798	2,021,467	(5,979)	7,430,286	12,096,371	11,851,435
e. Kumpulanwang Sarawak / Sarawak Fund										
Kenderaan dan jentera / Vehicles & machinery	340,387	0	(182,261)	158,126	340,360	0	(182,249)	158,111	15	27
Perabot dan kelengkapan / Furniture & fittings	242,270	0	0	242,270	242,248	0	0	242,248	22	22
Mesin dan komputer / Machinery & computers	1,135,655	95,050	0	1,230,705	1,135,580	19,010	0	1,154,590	76,115	75
	1,718,312	95,050	(182,261)	1,631,101	1,718,188	19,010	(182,249)	1,554,949	76,152	124
f. Kumpulanwang Kolej Kediaman / Residential College Fund										
Bangunan / Buildings	379,040	19,950	0	398,990	351,365	1,151	0	352,516	46,474	27,676
Infrastruktur & kemudahan / Infrastructure & facilities	207,207	131,915	0	339,122	118,366	26,894	0	145,260	193,862	88,841
Kenderaan dan jentera / Vehicles & machinery	212,859	0	0	212,859	129,649	25,010	0	154,659	58,200	83,211
Perabot & kelengkapan / Furniture & fittings	692,926	128,567	0	821,493	432,361	120,914	0	553,275	268,218	260,564
Mesin dan komputer / Machinery & computers	1,552,360	395,174	0	1,947,534	976,784	286,507	0	1,263,291	684,243	575,576
	3,044,392	675,606	0	3,719,998	2,008,525	460,476	0	2,469,001	1,250,997	1,035,868
	436,990,719	253,002,086	(1,212,999)	688,779,806	215,790,839	50,760,800	(1,207,032)	265,344,607	423,435,199	221,199,880

Termasuk di dalam tambahan harta tetap adalah sejumlah RM95,813,326 (2000 : RM21,800,231) adalah pindahan dari pembinaan dalam kemajuan yang telah siap dalam tahun semasa. /
Incorporated in additions to fixed assets is a total of RM95,813,326 (2000 : RM21,800,231), transferred from construction work in progress completed in the current year.

NOTA-NOTA KEPADA PENYATA KEWANGAN PADA 31 DISEMBER 2001 (samb.)

Notes to Accounts 31 December 2001 (cont'd.)

3. PEMBINAAN DALAM KEMAJUAN / WORK IN PROGRESS

	Pada awal tahun /		Pindahan ke	Pindahan ke	Pada akhir tahun /
	Beginning of the year	Tambahan / Increase	inventori / penyelenggaraan Transfers to inventory / Maintenance	Aset Tetap / Transfer of Fixed Assets	
	RM	RM	RM	RM	RM
2001					
Bangunan / Buildings	47,405,334	34,246,498	189,620	65,880,441	15,581,771
Kemudahan Riadah / Recreation Facilities	14,579,789	35,799,317	1,933,449	29,509,295	18,936,362
Perabot dan Kelengkapan Lain / Other Furniture & Fittings	836,738	6,279,684	566,401	423,590	6,126,431
	62,821,861	76,325,499	2,689,470	95,813,326	40,644,564
2000					
Bangunan / Buildings	15,888,967	36,049,653	0	4,533,286	47,405,334
Kemudahan Riadah / Recreation Facilities	12,716,131	15,912,122	0	14,048,464	14,579,789
Perabot dan Kelengkapan Lain / Other Furniture & Fittings	2,456,514	1,598,705	0	3,218,481	836,738
	31,061,612	53,560,480	0	21,800,231	62,821,861

Pada tahun semasa pembinaan dalam kemajuan sebanyak RM95,813,326 (2000: RM21,800,231) telah dipindahkan ke aset tetap. / During the present financial year, work in progress totalling of RM95,813,326 (2000: RM21,800,231) has been transferred to fixed assets.

4. PELABURAN / INVESTMENTS

	2001 RM	2000 RM
Pelaburan tersiarharga – di Malaysia, pada kos / Quoted price of investment – in Malaysia, at cost	12,687,879	12,825,826
Tolak: Peruntukan rosotnilai pelaburan / Less: Provision for diminution of investments	(2,581,269)	(3,727,370)
Nilai pasaran pelaburan tersiarharga – di Malaysia / Market value of quoted price of investment – in Malaysia	10,106,610	9,098,456
Campur: Pelaburan tidak tersiarharga – di Malaysia / Plus: Non-quoted price of investment in Malaysia	500,000	500,000
Simpanan dengan Pengurus Portfolio / Deposits with Portfolio Manager	1,735,791	1,815,778
	12,342,401	11,414,234

4.1 Peruntukan Rosotnilai Pelaburan / Provision for Diminution of Investment

	2001 RM	2000 RM
Baki awal tahun / Balance beginning of year	3,727,370	1,438,424
(Kurangan)/ tambahan dalam tahun / (Decrease) / Increase in the year	(1,146,101)	2,288,946
Pada 31 Disember / At 31 December 2001	2,581,269	3,727,370

**NOTA-NOTA KEPADA PENYATA KEWANGAN
PADA 31 DISEMBER 2001 (samb.)**

Notes to Accounts 31 December 2001 (cont'd.)

5. PENGHUTANG PELBAGAI / SUNDRY DEBTORS

PERKARA / ITEM	AM / GENERAL (RM)	KOMPUTER / COMPUTERS (RM)	KENDERAAN / VEHICLES (RM)	PELABURAN / INVESTMENT (RM)	P'NGUNAN DEVELOPMENT (RM)	TABUNG PUSINGAN / REVOLVING FUND (RM)	AMANAHAH LAIN / OTHER TRUSTS (RM)	PROJEK / PROJECT (RM)	P'NGINAPAN & REKREASI / ACCOM. & RECREATION (RM)	KURSUS/ SEMINAR / COURSE/ SEMINAR (RM)	KOLEJ KEDIAMAN / RESIDENTIAL COLLEGE (RM)	JUMLAH / TOTAL	
												2001 (RM)	2000 (RM)
Siberhutang / Debtors	14,061,471	1,129,442	11,762,360	0	0	0	0	0	0	0	536,097	27,489,370	19,547,466
Yuran Tertunggak / Arrears Fee	9,798,993	0	0	0	0	0	2,540,560	0	0	32,602,243	1,566,894	46,508,690	32,276,252
Faedah S/Tetap Terakru / Interest on Fixed Deposits	5,447,789	0	0	21,480	0	0	0	0	0	0	273,028	5,742,297	5,708,657
Accrued Pel.Pendapatan Terakru / Misc. Accrued Income	92,750	0	0	0	0	0	0	0	0	0	0	92,750	31,261,050
Bantuan Pendahuluan Projek (Pembangunan) / Advances to Project (Development)	0	0	0	0	737,269	0	0	0	0	0	0	737,269	656,439
Pengurus Portfolio / Portfolio Manager	0	0	0	7,960	0	0	0	0	0	0	0	7,960	7,405
Pendahuluan Pegawai UPM / Advances to UPM Officers	394,213	0	0	0	0	722,741	158,094	315,547	24,899	84,921	6,034	1,706,449	1,179,994
Cagaran / Deposits	389,171	0	0	0	20,000	0	1,000	29,448	0	0	104,580	544,199	446,399
Pelbagai / Miscellaneous	152,138	0	0	0	0	0	0	0	0	0	0	152,138	219,418
Jumlah / Total	30,336,525	1,129,442	11,762,360	29,440	757,269	722,741	2,699,654	344,995	24,899	32,687,164	2,486,633	82,981,122	91,303,080
Tolak: / Less:													
Peruntukan Hutang Lapuk / Provision for Bad Debts	9,914,090	0	0	0	0	0	845,983	0	0	16,433,788	642,398	27,836,259	24,229,578
	20,422,435	1,129,442	11,762,360	29,440	757,269	722,741	1,853,671	344,995	24,899	16,253,376	1,844,235	55,144,863	67,073,502

Jumlah pelbagai penghutang tidak termasuk hutang denda pecah kontrak perkhidmatan UPM. Sehingga 31 Disember 2001, jumlah denda tersebut adalah RM1,755,507 (2000: RM1,662,539) /

Total sundry debts does not include fines imposed on breach of contracts. For year ending 31 December 2001, such fines totalled RM1,755,507 (2000: RM1,662,539)

Angka-angka pelbagai penghutang adalah nilai bersih setelah diselaraskan dalam proses penyatuan item-item kontra antara akaun-akaun penghutang dan pemiutang / Figures for sundry debtors represent net values adjusted for reconciliation of contra items between creditor and debtor accounts.

NOTA-NOTA KEPADA PENYATA KEWANGAN PADA 31 DISEMBER 2001 (samb.)

Notes to Accounts 31 December 2001 (cont'd.)

5. PELBAGAI PENGHUTANG (Samb.) / SUNDRY DEBTORS (Cont'd.)

5.1 HUTANG LAPUK / BAD DEBTS

Tambahan dalam tahun / Addition in year

Tolak: Pengurangan dalam tahun / **Less:** Decrease in year

Peruntukan dalam tahun / Provision in year

Campur: Baki awal tahun / **Plus:** Balance beginning of year

2001 RM	2000 RM
6,260,371	12,481,492
(2,653,690)	0
3,606,681	12,481,492
24,229,578	11,748,086
27,836,259	24,229,578

Pengurangan peruntukan hutang lapuk sebanyak RM2,653,690 telah diambil kira sebagai pendapatan. /
A decrease of RM2,653,690 in provision for bad debts was accounted as income.

6. SIMPANAN TETAP / FIXED DEPOSITS

Simpanan dengan institusi kewangan berlesen /

Deposits with licensed financial institutions:

Bank / Banks

Syarikat Kewangan / Financial Institutions

2001 RM	2000 RM
321,500,000	261,600,000
104,500,000	73,000,000
426,000,000	334,600,000

7. WANG DI TANGAN, DI BANK DAN DALAM PERJALANAN / CASH IN HAND, BANK & TRANSIT

Wang di tangan / Cash in hand:

Kumpulanwang Am / General Fund

Kumpulanwang Kolej Kediaman / Residential College Fund

2001 RM	2000 RM
58,534	63,319
6,213	5,034
64,747	68,353

NOTA-NOTA KEPADA PENYATA KEWANGAN PADA 31 DISEMBER 2001 (samb.)

Notes to Accounts 31 December 2001 (cont'd.)

7. WANG DI TANGAN, DI BANK DAN DALAM PERJALANAN (samb.) / CASH IN HAND, BANK & TRANSIT (cont'd)

Wang di bank / Cash at Bank

Kumpulanwang Am / General Fund
Kumpulanwang Kolej Kediaman / Residential College Fund

2001 RM	2000 RM
20,325,793	26,821,440
1,035,469	2,932,285
21,361,262	29,753,725

Wang dalam perjalanan / Cash in transit:

Kumpulanwang Am / General Fund
Kumpulanwang Kolej Kediaman / Residential College Fund

1,773,423	169,357
1,073,133	332,225
2,846,556	501,582

Jumlah wang di tangan dan di bank / Cash in hand and bank

24,272,565	30,323,660
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8. PEMIUTANG PELBAGAI / SUNDRY CREDITORS

Kumpulanwang Am / General Fund
Kumpulanwang Kolej Kediaman / Residential College Fund

2001 RM	2000 RM
76,800,944	46,175,099
863,278	3,243,891
77,664,222	49,418,990

Angka-angka pemiutang pelbagai adalah nilai bersih setelah diselaraskan dalam proses penyatuan item-item kontra antara akaun-akaun penghutang dan pemiutang /

The amount in sundry creditors represents the net value less adjustments to the contra items of the debtors and creditors accounts.

**NOTA-NOTA KEPADA PENYATA KEWANGAN
PADA 31 DISEMBER 2001 (samb.)**

Notes to Accounts 31 December 2001 (cont'd.)

9. KUMPULANWANG AM / GENERAL FUND

PENDAPATAN / INCOME

	2001 RM	2000 RM
Pemberian kerajaan / Government grants	302,333,200	236,479,200
Sumbangan luar / External contributions	0	11,950
Pemberian modal direalisasi / Realised capital grants	598,272	1,196,544
Yuran pelbagai / Other fees	46,276,286	42,771,315
Sewa pelbagai / Sundry rentals	579,204	242,566
Faedah dan dividen / Interests and dividends	0	24,145
Jualan aset tetap / Sales of fixed assets	91,630	71,316
Pendapatan lain / Other incomes	3,204,999	1,452,382

353,083,591 282,249,418

Tolak: PERBELANJAAN / Less: EXPENDITURE

Emolumen / Emoluments	158,525,647	150,470,782
Bekalan dan bahan-bahan / Supplies & materials	48,605,817	36,038,679
Penyelenggaraan dan pembaikan / Maintenance & repairs	24,559,434	17,132,563
Perkhidmatan iktis dan perbelanjaan lain / Professional services & other expenses	26,521,122	21,430,560
Susutnilai / Depreciation	20,149,006	28,776,615
Pelunasan tanah / Land Amortization	85,156	87,498
Hutang lapuk / Bad debts	5,466,847	3,106,593
Pelupusan aset tetap / Fixed assets written-off	2,884	60,472

283,915,913 257,103,762

LEBIHAN PENDAPATAN / SURPLUS INCOME

69,167,678 25,145,656

BAKI KUMPULANWANG DIBAWA KE HADAPAN / BALANCE BROUGHT FORWARD

– Seperti yang dinyatakan terdahulu / As previously stated	304,045,123	248,762,698
– Pelarasan tahun lalu / Prior year adjustment	0	(400,156)
– Pindahan aset tetap / Fixed assets transfer	(158,853,462)	0

145,191,661 248,362,542

Pindahan dari/(ke) / Transfers from/(to):

Kumpulanwang Pembangunan / Development Fund	(1,635,000)	13,822,468
Kumpulanwang Penyelidikan / Research Fund	0	5,225,541
Kumpulanwang Tabung Pusingan / Revolving Fund	0	292,208
Kumpulanwang Amanah Lain / Other Trusts Fund	0	2,468,016
Kumpulanwang Penginapan dan Rekreasi / Accommodation & Recreation Funds	0	3,325,670
Kumpulanwang Kursus, Seminar, Konferensi / Course, Seminar & Conference Fund	0	2,559,018
Kumpulanwang Pelaburan / Investment Fund	10,351,000	2,784,557
Kumpulanwang Kenderaan & Komputer / Vehicles & Computer Funds	(700,000)	0
Kumpulanwang Kolej Kediaman / Residential College Fund	0	59,447

BAKI KUMPULANWANG DIHANTAR KEHADAPAN / BALANCE CARRIED FORWARD

222,375,339 304,045,123

**NOTA-NOTA KEPADA PENYATA KEWANGAN
PADA 31 DISEMBER 2001 (samb.)**

Notes to Accounts 31 December 2001 (cont'd.)

10. KUMPULANWANG KOLEJ KEDIAMAN / RESIDENTIAL COLLEGE FUND

	2001 RM	2000 RM
PENDAPATAN / INCOME		
Yuran Kolej Kediaman / Residential fees	11,863,243	9,259,024
Yuran-yuran lain / Other fees	1,295,816	2,526,350
Faedah / Interests	581,700	523,086
Sewa / Rentals	116,466	107,239
Pendapatan lain / Other incomes	1,594,312	544,636
	15,451,537	12,960,335
Tolak: PERBELANJAAN / Less: EXPENDITURE		
Bekalan dan bahan-bahan / Supplies & materials	7,159,713	6,169,121
Penyelenggaraan dan pembaikan / Maintenance & repairs	3,358,534	4,661,852
Perkhidmatan iktisas dan hospitaliti / Professional services & hospitality	3,029,936	2,720,762
Susutnilai / Depreciation	460,476	368,931
Hutang lapuk / Bad debts	147,965	205,532
	14,156,624	14,126,198
	1,294,913	(1,165,863)
LEBIHAN/(KURANGAN) PENDAPATAN / (DEFICIT) / SURPLUS INCOME		
BAKI KUMPULANWANG DIBAWA KE HADAPAN / BALANCE BROUGHT FORWARD		
– Seperti yang dinyatakan terdahulu / As previous stated	17,692,826	18,918,136
– Pelarasan tahun lalu / Prior year adjustment	0	0
– Seperti yang dinyatakan semula / As restated	17,692,826	18,918,136
Pindahan dari/(ke) / Transfers from/(to):		
Kumpulanwang Am / General Fund	0	(59,447)
BAKI KUMPULANWANG DIHANTAR KE HADAPAN / BALANCE CARRIED FORWARD	18,987,739	17,692,826

NOTA-NOTA KEPADA PENYATA KEWANGAN PADA 31 DISEMBER 2001 (samb.)

Notes to Accounts 31 December 2001 (cont'd.)

11. KUMPULANWANG PEMBANGUNAN / DEVELOPMENT FUND

PENDAPATAN / INCOME

	2001 RM	2000 RM
Pemberian kerajaan / Government grants	5,804,994	24,131,800
Pemberian modal direalisasi / Realised capital grants	21,862,202	258,956
Sumbangan luar / External contributions	0	16,513
Pendapatan lain / Other incomes	890,794	507,975
	28,557,990	24,915,244

Tolak: PERBELANJAAN / Less: EXPENDITURE

Emolumen / Emoluments	0	183,698
Bekalan dan bahan-bahan / Supplies & materials	2,037,502	2,965,379
Penyelenggaraan dan pembaikan / Maintenance & repairs	3,514,703	276,691
Perkhidmatan iktisas dan perbelanjaan lain / Professional services & other expenses	252,789	2,562,509
Susutnilai / Depreciation	22,522,654	0
Pelunasan tanah / Land Amortization	2,342	0
Pelupusan aset tetap / Fixed assets written-off	20	0
	28,330,010	5,988,277

LEBIHAN PENDAPATAN / SURPLUS INCOME

BAKI KUMPULANWANG DIBAWA KE HADAPAN / BALANCE BROUGHT FORWARD

– Seperti yang dinyatakan terdahulu / As previously stated	79,263,629	67,807,837
– Pelarasan tahun lalu / Prior year adjustment	(117,156,801)	(4,209,750)
– Pindahan aset tetap / Transfer of fixed assets	135,774,813	0
– Seperti yang dinyatakan semula / As restated	97,881,641	63,598,087

Pindahan dari/(ke) / Transfers from/(to):

Kumpulanwang Am / General Fund	1,635,000	(13,822,468)
Kumpulanwang Amanah Lain / Other Trusts Fund	1,710,000	5,152,743
Kumpulanwang Pelaburan / Investment Fund	17,963,000	5,408,300

BAKI KUMPULANWANG DIHANTAR KE HADAPAN / BALANCE CARRIED FORWARD

	119,417,621	79,263,629
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**NOTA-NOTA KEPADA PENYATA KEWANGAN
PADA 31 DISEMBER 2001 (samb.)**

Notes to Accounts 31 December 2001 (cont'd.)

12. KUMPULANWANG TABUNG PENYELIDIKAN / RESEARCH FUND

	2001 RM	2000 RM
PENDAPATAN / INCOME		
Pemberian kerajaan / Government grants	15,757,743	25,619,218
Yuran pelbagai / Miscellaneous fees	222,083	434,394
Sumbangan luar / External contributions	5,593,135	6,242,080
Sumbangan Universiti / University contributions	140,000	140,000
Faedah simpanan tetap / Interest from fixed deposits	3,357	3,564
Sewa pelbagai / Sundry rentals	537,560	46,181
Pendapatan lain / Other incomes	2,522,114	3,557,377
	24,775,992	36,042,814
Tolak: PERBELANJAAN / Less: EXPENDITURE		
Emolumen / Emoluments	3,170	8,520
Bekalan dan bahan-bahan / Supplies & materials	10,494,816	11,644,282
Penyelenggaraan dan pembaikan / Maintenance & repairs	836,557	1,195,343
Perkhidmatan iktisas dan hospitaliti / Professional services & hospitality	13,694,091	16,297,039
Susutnilai / Depreciation	5,519,698	0
Pelupusan aset tetap / Fixed assets written-off	3,062	0
	30,551,394	29,145,184
(KURANGAN)/LEBIHAN PENDAPATAN / (DEFICIT) / SURPLUS INCOME	(5,775,402)	6,897,630
BAKI KUMPULANWANG DIBAWA KE HADAPAN / BALANCE BROUGHT FORWARD		
– Seperti yang dinyatakan terdahulu / As previously stated	43,189,411	39,372,329
– Pelarasan tahun lalu / Prior year adjustment	0	144,993
– Seperti yang dinyatakan semula / As restated	43,189,411	39,517,322
Pindahan dari/(ke) / Transfers from / (to):		
Pindahan aset / Transfer of assets		
– Kumpulanwang Am / – General Fund	11,254,034	(5,225,541)
Kumpulanwang Pelaburan / Investment Fund	0	2,000,000
Kumpulanwang Amanah Lain / Other Trusts Fund	0	0
Kumpulanwang Seminar & Konferensi / Seminar & Conference Fund	0	0
BAKI KUMPULANWANG DIHANTAR KE HADAPAN / BALANCE CARRIED FORWARD	48,668,043	43,189,411

**NOTA-NOTA KEPADA PENYATA KEWANGAN
PADA 31 DISEMBER 2001 (samb.)**

Notes to Accounts 31 December 2001 (cont'd.)

13. KUMPULANWANG TABUNG PUSINGAN / REVOLVING FUND

	2001 RM	2000 RM
PENDAPATAN / INCOME		
Yuran pelbagai / Miscellaneous fees	32,030	124,317
Sumbangan luar / External contributions	67,000	123,128
Sumbangan Universiti / University contributions	94,010	30,000
Faedah simpanan tetap / Interest from fixed deposits	142,005	152,467
Sewa pelbagai / Sundry rentals	39,747	4,461
Pendapatan lain / Other incomes	102,314	194,831
	477,106	629,204
Tolak: PERBELANJAAN / Less: EXPENDITURE		
Bekalan dan bahan-bahan / Supplies & materials	151,583	150,375
Penyelenggaraan dan pembaikan / Maintenance & repairs	32,973	61,618
Perkhidmatan iktisas dan hospitaliti / Professional services & hospitality	85,289	717,966
Perbelanjaan lain / Other expenditures	2,489	0
Susutnilai / Depreciation	131,730	0
	404,064	929,959
LEBIHAN/(KURANGAN) PENDAPATAN / SURPLUS / (DEFICIT) INCOMES	73,042	(300,755)
BAKI KUMPULANWANG DIBAWA KE HADAPAN / BALANCE BROUGHT FORWARD	4,568,660	5,161,623
Pindah dari/(ke) / Transfers from / (to):		
Kumpulanwang Am / General Fund	338,595	(292,208)
Kumpulanwang Pelaburan / Investment Fund	0	0
BAKI KUMPULANWANG DIHANTAR KE HADAPAN / BALANCE CARRIED FORWARD	4,980,297	4,568,660

NOTA-NOTA KEPADA PENYATA KEWANGAN PADA 31 DISEMBER 2001 (samb.)

Notes to Accounts 31 December 2001 (cont'd.)

14. KUMPULANWANG AMANAH LAIN / OTHER TRUSTS FUND

	2001 RM	2000 RM
PENDAPATAN / INCOME		
Pemberian kerajaan / Government grants	5,065,234	4,750,000
Yuran pelbagai / Miscellaneous grants	12,280,767	9,844,606
Sumbangan luar/ External contributions	4,474,057	6,671,451
Faedah simpanan tetap / Interest from fixed deposits	111,291	107,432
Sewa pelbagai / Sundry rentals	117,282	31,553
Pampasan tanah / Land compensations	0	20,306,976
Pendapatan lain / Other incomes	18,859,072	11,874,503
	40,907,703	53,586,521
Tolak: PERBELANJAAN / Less: EXPENDITURE		
Emolumen / Emoluments	2,400	800
Bekalan dan bahan-bahan / Supplies & materials	4,270,265	2,986,493
Penyelenggaraan dan pembaikan / Maintenance & repairs	289,986	311,606
Perkhidmatan iktisas dan hospitaliti / Professional & hospitality services	22,405,237	21,259,631
Susutnilai / Depreciation	961,602	0
Hutang lapuk / Bad debts	608,839	320,945
Pelunusan tanah / Land Amortization	0	314,230
Pindahan peruntukan antara kumpulanwang / Transfers between funds	0	0
	28,538,329	25,193,705
	12,369,374	28,392,816
LEBIHAN PENDAPATAN / SURPLUS INCOME		
BAKI KUMPULANWANG DIBAWA KE HADAPAN / BALANCE BROUGHT FORWARD		
- Seperti yang dinyatakan terdahulu / As previously stated	79,506,645	58,600,157
- Pelarasan tahun lalu / Prior year adjustment	0	59,431
	79,506,645	58,659,588
Pindahan dari/(ke) / Transfers from/(to):		
Pindahan aset / Transfer of assets		
- Kumpulanwang Am / - General Fund	3,653,148	(2,468,016)
Kumpulanwang Penyelidikan / Research Fund	0	0
Kumpulanwang Pelaburan / Investment Fund	0	75,000
Kumpulanwang Pembangunan / Development Fund	(1,710,000)	(5,152,743)
Kumpulanwang Kenderaan & Komputer / Vehicles & Computers Fund	0	0
	93,819,167	79,506,645
BAKI KUMPULANWANG DIHANTAR KE HADAPAN / BALANCE CARRIED FORWARD		

**NOTA-NOTA KEPADA PENYATA KEWANGAN
PADA 31 DISEMBER 2001 (samb.)**

Notes to Accounts 31 December 2001 (cont'd.)

15. KUMPULANWANG PENGINAPAN DAN REKREASI / ACCOMMODATING & RECREATION FUND

	2001 RM	2000 RM
PENDAPATAN / INCOME		
Sumbangan luar / External contributions	9,309	5,725
Sumbangan Universiti / University contributions	50,000	0
Sewa pelbagai / Sundry rentals	36,274	60,364
Pendapatan lain / Other incomes	1,080,376	1,075,426
	1,175,959	1,141,515
Tolak: PERBELANJAAN / Less: EXPENDITURE		
Emolumen / Emoluments	11,234	(395)
Bekalan dan bahan-bahan / Supplies & materials	566,428	488,432
Penyelenggaraan dan pembaikan / Maintenance & repairs	985,792	423,939
Perkhidmatan iktisas dan hospitaliti / Professional services & hospitality	155,005	174,732
Susutnilai / Depreciation	331,896	0
	2,050,355	1,086,708
(KURANGAN)/LEBIHAN PENDAPATAN / (DEFICIT) / SURPLUS INCOME	(874,396)	54,807
BAKI KUMPULANWANG DIBAWA KE HADAPAN / BALANCE BROUGHT FORWARD		
- Seperti yang dinyatakan terdahulu / As previously stated	2,448,860	5,539,203
- Pelarasan tahun lalu / Prior year adjustment	0	520
- Seperti yang dinyatakan semula / As restated	2,448,860	5,539,723
Pindahan dari/(ke) / Transfers from/(to):		
Kumpulanwang Am / General Fund	3,644,292	(3,325,670)
Kumpulanwang Pelaburan / Investment Fund	192,500	180,000
BAKI KUMPULANWANG DIHANTAR KE HADAPAN / BALANCE CARRIED FORWARD	5,411,256	2,448,860

**NOTA-NOTA KEPADA PENYATA KEWANGAN
PADA 31 DISEMBER 2001 (samb.)**

Notes to Accounts 31 December 2001 (cont'd.)

16. KUMPULANWANG PELABURAN / INVESTMENT FUND

PENDAPATAN / INCOME

Faedah, dividen dan keuntungan saham / Interest, dividends and profits from shares	15,726,327	15,212,348
Pengurangan peruntukan rosotnilai saham / Less provision for diminution in value of shares	1,146,101	0
Pendapatan lain / Other incomes	15,276	222,754

2001	2000
RM	RM

16,887,704	15,435,102
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Tolak: PERBELANJAAN / Less: EXPENDITURE

Perkhidmatan iktisas dan hospitaliti / Professional services & hospitality	18,610	13,439
Perbelanjaan lain / Other expenditures	12,898	13,164
Susutnilai / Depreciation	26,820	0
Rosotnilai saham / Provision for diminution in value of shares	0	2,288,946

58,328	2,315,549
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LEBIHAN PENDAPATAN / SURPLUS INCOME

BAKI KUMPULANWANG DIBAWA KE HADAPAN / BALANCE BROUGHT FORWARD

– Seperti yang dinyatakan terdahulu / As previously stated	84,571,247	81,899,551
– Pelarasan tahun lalu / Prior year adjustment	0	0
– Seperti yang dinyatakan semula / As re-stated	84,571,247	81,899,551

Pindah dari/(ke) / Transfers from / to:

Pindahan aset tetap / Transfers of fixed assets	1,180,080	0
Kumpulanwang Am / General Fund	(10,351,000)	(2,784,557)
Kumpulanwang Pembangunan / Development Fund	(17,963,000)	(5,408,300)
Kumpulanwang Penyelidikan / Research Fund	0	(2,000,000)
Kumpulanwang Penginapan & Rekreasi / Recreation Funds	(192,500)	(180,000)
Kumpulanwang Seminar dan Konferensi / Seminar & Conference Fund	(1,000,000)	0
Kumpulanwang Amanah Lain / Other Trusts Fund	0	(75,000)
Kumpulanwang Tabung Pusingan / Revolving Fund	0	0

BAKI KUMPULANWANG DIHANTAR KE HADAPAN / BALANCE CARRIED FORWARD

73,074,203	84,571,247
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**NOTA-NOTA KEPADA PENYATA KEWANGAN
PADA 31 DISEMBER 2001 (samb.)**

Notes to Accounts 31 December 2001 (cont'd.)

**17. KUMPULANWANG KURSUS, SEMINAR, KONFERENSI DAN LAWATAN SAMBIL BELAJAR /
COURSE, SEMINAR, CONFERENCE & STUDY VISIT FUNDS**

	2001 RM	2000 RM
PENDAPATAN / INCOME		
Pemberian Kerajaan / Government Grants	107,840	0
Yuran pelbagai / Miscellaneous fees	29,589,523	24,904,383
Sumbangan luar / External contributions	2,092,627	1,426,620
Sumbangan Universiti / University contributions	100	50,000
Faedah simpanan tetap / Interest from fixed deposits	196,274	380,000
Sewa pelbagai / Sundry rentals	105,936	509,333
Jualan aset tetap / Sale of fixed assets	0	433
Pendapatan lain / Other incomes	5,389,395	3,325,439
	37,481,695	30,596,208
Tolak: PERBELANJAAN / Less: EXPENDITURE		
Emolumen / Emoluments	49,523	(82,654)
Bekalan dan bahan-bahan / Supplies & materials	4,474,943	3,009,734
Penyelenggaraan dan pembaikan / Maintenance & repairs	338,465	336,674
Perkhidmatan iktisas dan hospitaliti / Professional services & hospitality	13,487,728	10,670,783
Hutang lapuk / Bad debts	36,720	8,848,422
Susutnilai / Depreciation	569,420	0
Pelupusan aset tetap / Fixed assets written-off	1	0
	18,956,800	22,782,959
LEBIHAN PENDAPATAN / SURPLUS INCOME	18,524,895	7,813,249
BAKI KUMPULANWANG DIBAWA KE HADAPAN / BALANCE BROUGHT FORWARD		
– Seperti yang dinyatakan terdahulu / As previously stated	41,804,971	36,532,693
– Pelarasan tahun lalu / Prior year adjustment	0	18,047
– Seperti yang dinyatakan semula / As restated	41,804,971	36,550,740
Pindahan dari/(ke) / As restated:		
Pindahan aset / Transfer of assets		
– Kumpulanwang Am / – General Fund	3,008,500	(2,559,018)
Kumpulanwang Pelaburan / Investment Account	1,000,000	0
BAKI KUMPULANWANG DIHANTAR KE HADAPAN / BALANCE CARRIED FORWARD	64,338,366	41,804,971

**NOTA-NOTA KEPADA PENYATA KEWANGAN
PADA 31 DISEMBER 2001 (samb.)**

Notes to Accounts 31 December 2001 (cont'd.)

**18. KUMPULANWANG PINJAMAN KENDERAAN DAN PINJAMAN KOMPUTER /
VEHICLE & COMPUTER LOAN FUNDS**

Kumpulanwang Pinjaman Kenderaan / Vehicle Loan Funds

Baki awal tahun / Balance at beginning of year

Campur: Pindahan dari Kumpulanwang Am /

Add: Transferred from General Fund

Baki akhir tahun / Balance at year-end

Kumpulanwang Pinjaman Komputer / Computer Loan Fund

BAKI KUMPULANWANG DIBAWA DAN DIHANTAR KE HADAPAN /
BALANCE OF FUNDS BROUGHT AND CARRIED FORWARD

2001 RM	2000 RM
13,000,000	13,000,000
700,000	0
13,700,000	13,000,000
2,000,000	2,000,000
15,700,000	15,000,000

19. PEMBERIAN MODAL / CAPITAL GRANTS

Terimaan pemberian dari kerajaan tahun semasa untuk projek Pembangunan /
Receipt of grant from the government in current year for Development projects

Tolak: Belanja operasi projek yang tidak dimodalkan /

Less: Project operational expenditure not capitalized

Campur: / Add:

– Pelarasan pemberian kerajaan yang telah dibelanjakan
untuk projek yang dimodalkan dalam tahun 1984
hingga tahun 2000 berdasarkan nilai bersih aset /
Adjustment for government grant spent for projects
capitalized in 1984 to 2000 based upon net value on assets

– Aset bagi tahun sebelum 1984 dipermodalkan /
Assets prior to 1984 been capitalized

Baki awal tahun / Balance at beginning of year

Tolak : Pemberian modal yang dilunaskan / **Less:** Capital grant amortized

– Belanja susutnilai / Depreciation

Baki akhir tahun / Balance year end

2001 RM	2000 RM
92,000,000	7,378,275
(5,804,994)	0
86,195,006	7,378,275
117,156,801	0
50,589,231	0
253,941,038	7,378,275
5,922,775	0
259,863,813	7,378,275
(22,460,474)	(1,455,500)
237,403,339	5,922,775

**NOTA-NOTA KEPADA PENYATA KEWANGAN
PADA 31 DISEMBER 2001 (samb.)**

Notes to Accounts 31 December 2001 (cont'd.)

20. PEMBERIAN KERAJAAN / GOVERNMENT GRANTS

Pemberian adalah untuk belanja berikut / Grants were for the following expenses:-

	2001 RM	2000 RM
Pembangunan / Development	5,804,994	24,131,800
Mengurus – Sedia Ada / Operating – Existing	196,543,200	132,552,300
Mengurus – Dasar Baru / Operating – New Policy	36,260,000	53,262,900
Mengurus – One-off / Operating – One-off	69,530,000	50,664,000
Skim Latihan Akademik dan Biasiswa / Academic Training & Scholarship Scheme	2,579,074	2,750,000
Skim Pasca Siswazah / Postgraduate Scheme	0	2,000,000
IRPA/Penyelidikan / IRPA Research	15,757,743	25,619,218
Pembangunan Sumber Manusia (HRD) / Human Resources Development (HRD)	1,067,840	0
Biasiswa National Science Fellowship / National Science Fellowship Scholarship	1,526,160	0
	329,069,011	290,980,218

21. PENDAPATAN LAIN / OTHER INCOME

	2001 RM	2000 RM
Sumbangan Universiti / University contributions	284,110	220,000
Rawatan Haiwan / Animal Clinic	681,622	612,115
Pusat Kesihatan / Health Centre	334,005	203,825
Penerbit / Press	1,337,444	1,279,958
Jualan borang permohonan kemasukan pelajar / Sale of application forms for student intake	119,768	226,235
Tabung Kebajikan & Aktiviti Pelajar / Welfare & Student Activity Fund	352,027	259,805
Hasil Ladang / Income from estate	306,651	499,320
Pendapatan mengikut klasifikasi kumpulanwang: / Income as per funding classification		
(i) Tabung Pusingan / Revolving Fund	102,314	194,831
(ii) Amanah Lain / Other Trusts	16,034,206	9,292,565
(iii) Penyelidikan / Research	2,522,114	3,557,377
(iv) Kursus, Seminar, Konferensi & Lawatan / Courses, Seminar, Conference & Study Visit Account	5,389,395	2,826,119
(v) Pelaburan dan Pembangunan / Investment and Development	906,070	730,729
(vi) Penginapan dan Rekreasi / Accomodation & Recreation	1,080,376	1,075,426
(vii) Am / General	2,898,348	1,452,382
(viii) Kolej Kediaman / Residential College	1,594,312	544,636
	33,942,762	22,975,323

NOTA-NOTA KEPADA PENYATA KEWANGAN PADA 31 DISEMBER 2001 (samb.)

Notes to Accounts 31 December 2001 (cont'd.)

22. PELARASAN TAHUN LALU / PRIOR YEAR ADJUSTMENT

Pelarasan Pemberian Modal bagi Aset Tetap tahun 1984 hingga tahun 2000 pada nilai bersih /
Adjustment of Capital grants of Fixed Assets between 1984 and 2000 at net value

Sumbangan Majlis Sukan Negara untuk pembinaan Asrama Atlit diakaunkan semula ke akaun pemberian modal /
Contribution from the National Sports Council for the construction of Athletes' Hostel recounted to capital grant.

2001 RM	2000 RM
117,156,801	0
0	4,386,915
117,156,801	4,386,915

23. PENGLIBATAN MODAL / CAPITAL INVOLVEMENT

Perbelanjaan modal diluluskan tetapi tidak diperuntukkan di dalam akaun /
Capital expenditure approved but not provided in the accounts:

- dikontrakkan / contracted
- belum dikontrakkan / uncontracted

2001 RM	2000 RM
11,600,881	69,504,418
395,626,702	139,100,000
407,227,583	208,604,418

Jumlah penglibatan modal telah meningkat dari RM208,604,418 kepada RM407,227,583 disebabkan oleh pertambahan kelulusan bagi projek-projek Fasa 2 seperti Kompleks Kejuruteraan & Teknologi, Kompleks Akademik, Bangunan Fak. Rekabentuk & Senibina, dan projek-projek baru seperti Makmal Penyelidikan Pusat, Kompleks Teknologi Pertanian, Kompleks Fakulti Perubatan Veterinar, Bangunan Perpustakaan, E-Universiti, Institut Teknologi Maju dan beberapa projek lain /

The total capital involvement rose from RM208,604,418 to RM407,227,583 as a result of increased approvals of Phase 2 projects such as Engineering & Technology Complex, Academic Complex, Faculty of Design & Architecture Building and new projects such as Central Research Laboratory, Agriculture Technology Complex, Faculty of Veterinary Medicine Complex, Library Building, E-University, Institute for Advanced Technology as well as other projects.

NOTA-NOTA KEPADA PENYATA KEWANGAN PADA 31 DISEMBER 2001 (samb.)

Notes to Accounts 31 December 2001 (cont'd.)

24. LIABILITI KONTINGENSI / CONTINGENCY LIABILITIES

	2001 RM	2000 RM
(i) Tindakan undang-undang diambil oleh Syarikat Juta Yakin terhadap UPM dengan mengemukakan tuntutan saman berkaitan Projek Membina dan Menyiapkan Bangunan Markas PALAPES / Legal action taken by Syarikat Juta Yakin against UPM with a Summon Claim related to the construction of Palapes Headquarters.	240,000	240,000
(ii) Letter of Demand IBM melalui peguam, menuntut bayaran bagi projek Satu Pelajar Satu Komputer, bayaran telah dibuat dalam tahun 2002 / Legal Letter of Demand by IBM for the payment of the 'One-Student One Computer Project', payment made in the year of 2002.	2,000,000	2,178,899
(iii) Bayaran terakhir Projek Pembinaan Lubang Kedua Padang Golf, UPM tertangguh sehingga mendapat keputusan mahkamah tinggi / Final payment for construction of Second Nine-Hole of UPM Golf Course referred pending High Court decision.	631,679	631,679
(iv) Star Fleet Sdn. Bhd. telah mengemukakan saman berkaitan penginapan pelajar di Padang Hiliran, Kuala Terengganu / A summon by Star Fleet Sdn. Bhd. pertaining to student accommodation in Padang Hiliran, Kuala Terengganu.	522,900	0
	3,394,579	3,050,578

25. PERISTIWA TAHUNAN SEMASA / EVENT OF THE YEAR

Pembukaan semula Universiti Putra Malaysia Kampus Bintulu Sarawak dengan pengambilan pelajar mulai semester November 2001/2002 /

Reopening of Universiti Putra Malaysia's Campus at Bintulu, Sarawak with an intake commencing November 2001/2002 semester.

26. PERISTIWA SELEPAS TARIKH KUNCI KIRA-KIRA / EVENT AFTER BALANCE SHEET

Perpisahan Universiti Putra Malaysia dan Kolej Universiti Sains Teknologi Malaysia adalah pada 1 Januari 2002 sepertimana yang telah dimaklumkan oleh Kementerian Pendidikan /

The separation of Universiti Putra Malaysia dan Kolej Universiti Sains Teknologi Malaysia took place on 1st January 2002 as notified by the Ministry of Education.

27. ANGKA-ANGKA PERBANDINGAN / COMPARATIVE FIGURES

Sebahagian dari angka-angka bandingan tahun lalu telah dipinda untuk disesuaikan dengan persembahan tahun ini /

Part of last-year's comparative figures have been amended so as to suit this year's presentation.

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