THE INSTITUTE OF
ELECTRICAL AND
ELECTRONICS
ENGINEERS INC

IEEE

NEWSLETTER
IEEE NO. 15

NETWORKING THE WORLD

IEEE PAKISTAN SECTION
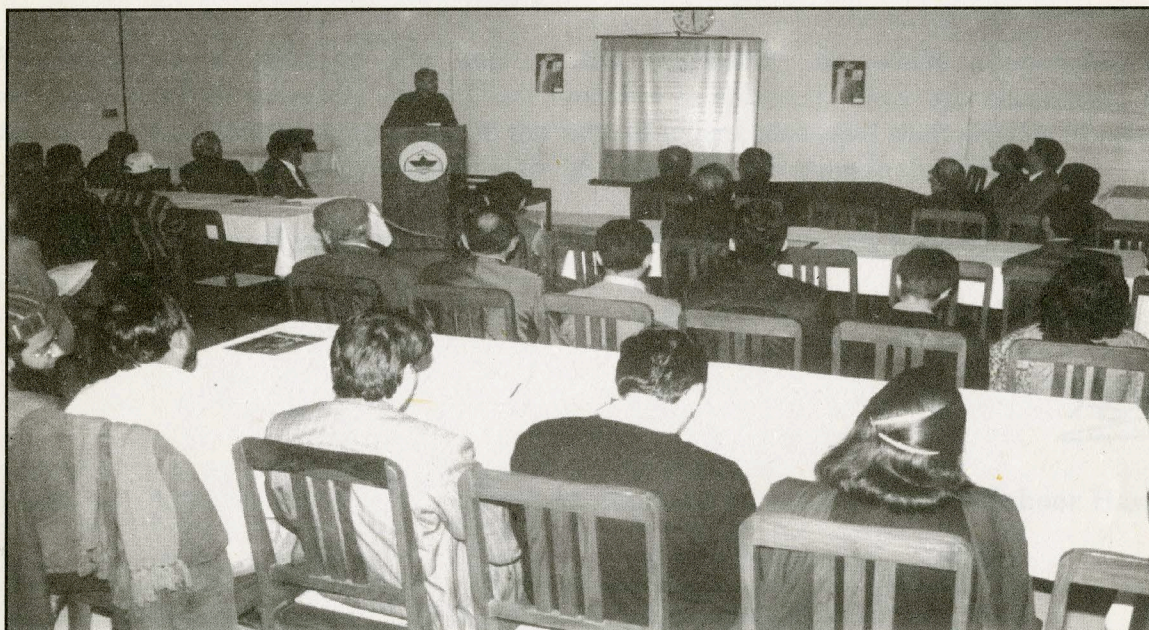
Established since September, 1968
E-mail: ieeesecr@lums.edu.pk
http://www.lums.edu.pk/ieee

OCTOBER 2000 – JUNE 2001

FOR CIRCULATION AMONGST MEMBERS ONLY

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EDITOR'S NOTE

Dear Members,

Since the last issue of the Newsletter, we have had a number of developments which have been reported in this issue. Some of these are, holding of AGM 2000 with an interesting and thought provoking paper read by the Chief Guest.

Other activities include holding of Student branches at FAST, and OPSTeC and technical lectures at LUMS.

The members are reminded that IEEE-LUMS INMIC 2001 is being held at LUMS in December 2001. Many quality papers have been received including some from abroad. Members are requested to take full part in these proceedings. Programme details will be announced later.

We are trying to redesign and improve the Newsletter, for which cooperation and participation of all members and student branches is solicited. They are encouraged and requested to send in their suggestions in the form of letters, ideas and short articles of interest to the engineering community and public to the Editor, for inclusion in the Newsletter.

We are proud to announce the establishment of a website (http://www.lums.edu.pk/ieee.), for the Pakistan Section.

Best wishes

Dr S Zahoor Hassan

Contents

LETTERS TO EDITOR

Power Scenario in Pakistan

Power production, demand and growth in the country is stagnant and is indicative of a standstill national economy without the humming trade, business and commercial activities so necessary for a developing country. It is not a moment of satisfaction and rejoicing that there is no load shedding (except in Karachi) in the country for quite sometime, nor can WAPDA be given credit for it. On the one hand this is due to far less power demand connected with the deplorable national, economic and industrial situation, while on the other load shedding has been avoided thanks to IPPs, irrespective of the fact that these are costly sources of power generation.

The government and WAPDA need not be complacent. They need to realise that the current slowdown in power demand is temporary. They need to add cheaper sources of power in the grid system as soon as possible to face the present and future challenges. They also need to strengthen the existing transmission network to Karachi besides adding more local power there.

The present set up in WAPDA may have achieved better results in the administrative and financial matters, but a lot is required on the technical side. More stress has to be given to the maintenance and service sectors. The continuity and quality of supply to the consumers is still marred by poor house service connections (wrapping of conductors instead of using standard clamps), use of rora fuses on pole mounted distribution transformers and hanging energy meters outdoors. Also the transformers are not changed until they break down or cause colossal loss to the consumers due to severe voltage surges. No matter how good your Generation and High Voltage Transmission is, in the end it is the quality of service to the end consumers, which gauges a utility's performance. It is estimated that a sizeable amount of energy is lost due to non-standard engineering practices.

Therefore, WAPDA (and also KESC) need to give more attention to the neglected sector of Distribution, i.e. consumer services. This can be achieved by adhering to standard engineering practices and their enforcement. Besides, there is a need to encourage and reward good, competitive engineers and workforce working in the Distribution department of the power sector. Finally, caution is necessary to the electricity utilities and the government. They need to learn from the frequent blackouts taking place in California (US). This has been the result of Power Deregulation & Restructuring, which is being pursued in this country as well as on the advice of others. While I am not totally against such a policy, studying and analysing is

required, in order to avoid the pitfalls and shortcomings others failed to address in time.

Raising Mangla

Raising the height of Mangla Dam was built in, in the original Dam design for providing more storage and power production. The decision to go ahead with this project is feasible. However, in the light of bitter experience of otherwise feasible Kalabagh Dam Project, it is prudent to have political feasibility carried out of Raising Mangla Project in addition to its technical and economic feasibility. This should be done at the earliest (if not already carried out) in order to save millions for the Consultancy cost that will go in for the studies, if the project is not built. It is hoped the government moves swiftly for appropriate action to save the nation the agony that may be caused if the project does not get through. In my opinion, it has become necessary for this nation to have the political feasibility done as well, for any project in future, along with technical and economic feasibility.

We should take credit to introduce the necessity of political feasibility of a project, otherwise unknown in the world of international engineering and funding practices!

The Electricity Syndrome

As with other commodities and utilities, electricity tariffs are being raised now and then inspite of hue and cry expressed in the local press. In my opinion, under the present circumstances with overall economic decline continuing for the last several years, there is no remedy or relief to the consumers in sight. The spiralling energy prices cannot be checked and we all better be prepared for perpetual increases in the power tariffs, unless, off course, some miracle happens. The question is, why should power rates not increase? Have we built cheaper hydro-power or have we switched to unconventional sources of power including Solar, Wind, and so many others? Have we checked leakage and loss of electricity? The answer is No. The maximum power demand of mere 9000 or 10000 MW, in 2000, for the entire grid speaks volumes of national tragedies. The electricity demand is an indicator of economic health of the nation. We have done nothing to revive the economic slowdown over the years. We are going down the hill in matters of good governance overall.

We entered the 21st century with our heads down (in economic terms). I recall the statements of earlier politicians that we would enter the 21st century with our heads high! As if, they had a switch which would have been put on, on the Ist of January 2000, to make our heads high.

Now, we are approaching the end of year 2001, and still there is no light at the end of the tunnel. So gentlemen, be prepared to live in dark, because the rates of energy tariffs will force you towards it. You can only avoid it if some miracle happens! Or you manage to become and survive as a power thief.

Engr Riaz A Bhutta

ACTIVITIES OF IEEE STUDENT BRANCHES

STUDENT BRANCH UET, LAHORE

- During the month of October 2000, our Counsellor Mr Masood Ahmad conducted a lecture series on MATLAB.
- Annual dinner of our branch was held, the venue was Four Seasons, Gulberg. It was quite well attended by members as well as guests from the faculty and the industry.
- A workshop on Micro-controller interfacing by Mr Naeem Ud Din, Research Assistant, Communication Lab, Research Centre.
- A lecture on the Application of Neural networks in Energy Saving by Dr Khalid Mahmood Hassan.
- A lecture on the Implementation of Frame Relay by Mr Qamar MD National Engineers.
- With the start of the New Year i.e. 2001 new students were admitted in the University, to acquaint the new comers with the benefits that IEEE offers for them a stall was arranged.
- Annual Book fair of IEEE was held during the second week of January. Book fair provided the students of 1st, 2nd and 3rd year all the books of their need at discounted rates.
- In the last week of January and the month proceeding, three lectures were delivered under the title of IEEE Career Counselling.
- A PhD student of Massachusetts Institute & Technology delivered one of the lectures. The main theme of this lecture was to guide the students who intend to seek Masters degree from a foreign University. Our Chairman from 93 session Mr Zaurayze Tariq who is currently working with Schlumberger International delivered the other lecture. In his lecture he gave guidelines about taking up a career and job opportunities for engineers.
- A seminar was arranged in which Annual Training Program was launched. National Engineers collaborated with us. This training programme offered members of IEEE various computer courses (e.g. CCNA, CCNP, Linux configuration and various other) at significantly reduced rates.
- Annual Quiz for the first year classes is held on the 30th of March.
- In the second week of April an educational trip to SUPARCO was arranged. The trip gave an insight about the achievements of the organisation and the current projects undertaken by the SUPARCO. The audience also had a chance to see the control centre of the satellite Badar–B2, (Badar B2 is an indigenously made satellite yet to be launched into space).
- Two weeks later an educational trip to Syed Bhais Factory (manufacturers of Electric Energy Meters) was arranged. The trip provided an opportunity for the students to understand all the processes included in designing, manufacturing, testing and installation of energy meters.
- A lecture delivered by a Professor of an Australian University. The professor discussed the research being

carried out by his university in developing hearing aids for the deaf

- A scholarship program is launched from the platform of IEEE to give financial support to needy students of UET.
- Our counsellor Prof. Masood Ahmad conducted a comprehensive lecture series on the "CHAOS THEORY".
- A lecture delivered by Bilal Farooq on advanced tools of Java specifically Remote Method Invocation (RMI). Rizwan Ahmad conducted a lecture series titled "WIRE LESS JAVA –THE ROAD AHEAD". Rizwan gave an insight about : The basis of wireless and mobile computing, Java in embedded and mobile devices, Programming limited memory devices, Foundations of Java 2 Micro Edition,

Upcoming Events

UET reopens after the summer break on 20th of August. After the summer break we have plans for arranging:

- An educational Trip to Mobilink
- A workshop on Matlab
- Annual Dinner of IEEE UET Branch
- A workshop on Parallel Port Interfacing

STUDENT BRANCH KINNAIRD COLLEGE

UET branch took the initiative to launch other branches in various other reputable institutes of Lahore, which offer courses in Physics and Computer Science. In this regard, UET student branch held an Orientation Seminar at Kinnaird College. The response has been excellent and they will soon be filing a petition for the opening of their branch.

Presence in the Cyber World

UET branch launched its website; www.ieeeuet.8K.com. This site is developed and maintained by Saad Omer of our advertisement committee.

STUDENT BRANCH FAST-NU, LAHORE

The NUCES – IEEE chapter has been totally restructured recently. The new members have brought a breath of fresh air and activities have commenced with renewed vigour and vitality. The administration has been revamped from top to bottom.

The New Team :

Dr Amjad Hussain	(Faculty Advisor)
Yasir Akhter	Chairman
Malik Ali Hisham	Vice-Chairman
Ayesha Ilyas	General Secretary
Khurram Butt	Treasurer
Aqeel Saifi	Webmaster

Now on to the general structure of our chapter, in order to ensure that the work is properly distributed and efficiently handled. A series of meetings have been arranged, and several departments have been created. These include the

Documentation and Design; Web page Development, Organisation, and Marketing Departments respectively.

Web page Development team is dedicatedly working hard on developing the official NUCES-IEEE web-site who's design is near to finalisation and hopefully it will be uploaded by the end of the current month. It is assumed that the web-site will serve as a platform for various IT related individuals to communicate their thoughts to other individuals connected directly or indirectly to the computer world. We intend to entertain papers and reports contributed by NUCES Faculty, students and guests on computer related topics.

Now we come to the NUCES – IEEE chapter's aims and objectives, our main aims are :

- To follow the rules and guidelines as set down by the IEEE.
- To promote cooperation in technical knowledge and Research.
- To promote an environment of professionalism among Computer Science undergraduates.
- To provide a forum where various seminars and conferences can be held for the benefit of the students.
- To foster a sense of community at NUCES.

Finally, coming to the current and future activities of the NUCES – IEEE chapter. NUCES – IEEE is planning to arrange its first event after its restructuring on 9th June 2001. The event is a seminar on "Current Market Trends in the IT industry". The IT industry has had some major collapses in the recent months and the time is ripe to find out the pros and cons of the IT industry. Moreover, the Pakistan Government is emphasising heavily on the IT industry and plans to make it comparable to the emerging South Asian software giant, India. Thus the time for such a seminar is highly favourable. NUCES – IEEE further plans to announce its resolution to organise FISC' 2002 in Spring' 2002.

NUCES-IEEE Activities for the year 2001-2002
The objective of NUCES-IEEE is to promote learning and increase student awareness about the latest technologies, current standards being followed and different trends in the IT Industry. The chapter held a series of workshops last year on J2EE, neural networks, design patterns and XML where IT professionals from the industry came and imparted their knowledge about these technologies.

As our institute gained the status of University last year, we hope to accelerate our efforts. We plan to hold seminars and workshops at regular intervals.

NUCES-IEEE society has started its activities for the year 2001. The planned activities for this year are stated below:

- *Seminar on Current Trends In IT Industry*
- *Redesigning of Website*
- *Workshop on H323*
- *FISC 2002*

Seminar "Current Market Trends in IT Industry"
This first activity of NUCES -IEEE has already seen its success. The IT industry has received major collapses in recent months and the time is ripe to find out the pros and cons of the IT industry. Moreover, the Pakistan Government is emphasising heavily on the IT industry but it faces a lot of competition from its neighbours. Thus the timing for such a seminar were highly favourable.

Although organised in a short time but yet proved to be quite successful. The basic goal for this seminar was to activate the members of NUCES-IEEE and prepare them for the preparation of FISC 2002. In this regard it proved to be quite a success, also another reason to hold this event was to create the awareness about this topic in our students and we are glad to say that it was also quite successful. The seminar consisted of four speakers and its duration was four hours including the tea break.

Redesigning of Website
The present website of NUCES-IEEE has become outdated and is currently being redesigned. The society is in the final phases of completing its design for its web site and will soon be publishing it over the internet.

Workshop on H323 Standards
The student chapter also plans to hold a series of workshops on H323 standards by mid August. Like the seminar we hope that this workshop will also be a good learning experience. Moreover it will strengthen our abilities to hold the FISC 2002.

FISC 2002
The main objective of this year's Student Chapter of NUCES-IEEE is to revive FISC i.e. FAST IEEE Student Conference that was last held in 1998. We plan to hold this mega event by mid February.

The analysis of FISC 98 has already started so that NUCES-IEEE. Other major issues like structuring of a well-organised team, budget, scope are also being studied. The student chapter hopes to complete its study by end of June and present it to IEEE Lahore Section for final approval

STUDENT BRANCH LUMS

IEEE-LUMS has been actively involved in initiating and planning seminars, keeping in mind the academic and career-driven needs of students. The initiatives are described below.

Lectures on Digital Signal Processing
The world is fast becoming digital, and Digital Signal Processors (DSP) are the heart of this digital revolution. These real-time processors make up the fastest-growing segment of the semiconductor market and are particularly well suited to handle the demands of processing information, whether as the engine of communications applications, by providing the processing platform for the convergence of the internet and wireless applications, or by enabling breakthroughs in medical imaging or performance audio.
IEEE - LUMS Chapter has organised a complete course on DSP and its Applications, comprised of 13, 100 minutes

sessions every week. The sessions that have been hitherto conducted have been very popular with LUMS students, attracting a large audience in every session. Moreover, students from other Universities with IEEE chapters, e.g., FAST and UET, were also invited to attend, free of charge, and have participated in great numbers and with great interest.

This course covers all the basics of DSP, as well as its applications. It is being taught by our highly esteemed Professor, Dr Mohammad Ali Maud.

A brief description of the course is as follows:

- Introduction to Complex Numbers
- Introduction to Laplace Transforms
- Fourier Series and transforms
- Sampling Theory
- Discrete Time Systems, Z Transforms
- Discrete Fourier Transforms
- Fast Fourier Transforms
- Introduction to Digital Filter Design

Career Session for Computer Science Majors
A session was organised by IEEE-LUMS in the Winter quarter of the year 2000, to facilitate dialogue between
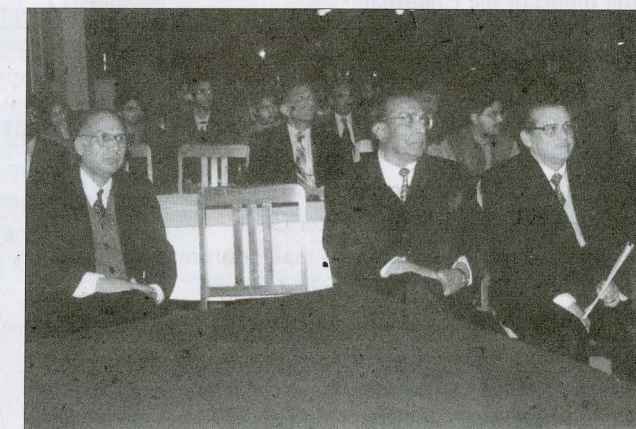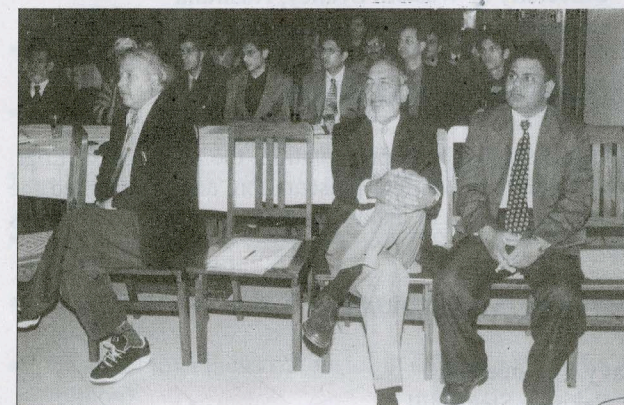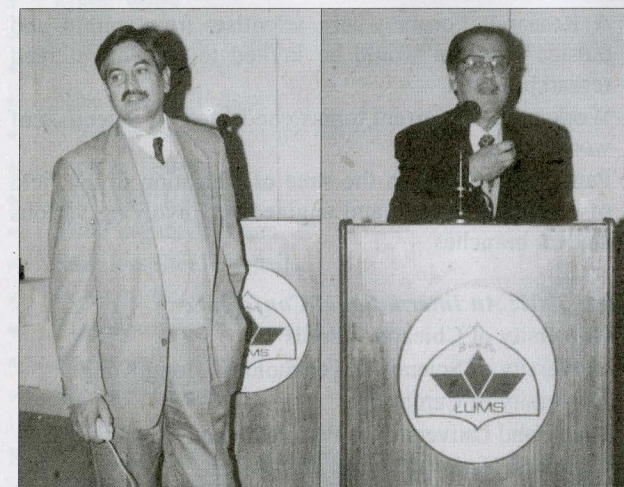
students and ex-Luminites on a variety of issues related to post-graduation opportunities for students. Former LUMS students who conducted the session included Syed Umair Ahmed Shah, Rafay Khwaja and Fareed Zafar amongst others. All these lecturers are either doing a Masters/PhD Programme at a recognised University abroad, or working in the computer science field. Their feedback on issues such as the GRE test, Senior Projects, and Masters/PhD programmes was extremely helpful for students.

Networks Session for Computer Science Majors
LUMS faculty member, Syed Ijlal Shah, conducted a session on computer networks, with particular emphasis on networks-related senior projects. He discussed the networks projects done in the past by LUMS students, and enlightened students about the emerging areas of interest and innovation in computer networks.

Preparations for IEEE-INMIC 2001, December 28 – 30, 2001
INMIC 2001 aims to provide a forum for academic and industrial researchers, in the technology areas of electrical, electronics and computer systems, to exchange ideas and experience. For further details, visit the site http://www.lums.edu.pk/INMIC2001/

AGM 2000-held on January 20, 2001

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NEWS & EVENTS

AGM 2000

The Annual General Meeting 2000 was held on 20 January 2001 at LUMS. The meeting started with the recitation from the Holy Quran. The Chairman welcomed all the guests at the meeting, and presented his section report. Following is the report of the Chairman:

Section Report 2000

- The Islamabad Subsection Elevated to full Section
- 16 Meetings, 7 Technical and 9 Administrative Meetings
- Inmic-2000 was successfully held on Sept. 10-11th
- Visit by Malaysian Chapter Chair
- Samieee Volunteer and e-mail coordinator
- Comprehensive Conference Manual
- Student branch at UET Jamshoro
- Section office at LUMS
- Finalisation of bylaws
- Formation of Pakistan Council
- By December 31, 2000 - 1008 active members
- Students Membership

Membership Status till 31st December 2000

GRADE	QUANTITY
A –Associates	119
AF -Affiliate of an IEEE Society	26
F - Fellow	02
LM -Life Member	03
LS - Life Senior Member	04
M –Member	85
PM -Pending Member	16
S –Student	550
SM -Senior Member	18
General (New Record in Process)	35
TOTAL	858

Plans for 2001

- Membership Enhancement
- Help Islamabad Section to Stand on Its Feet.

- It Education Quality Workshop.
- Formation of Pakistan Council.
- Inmic-2001 (International Conference)
- Fisc-2001.
- Increase In Technical Lectures.
- Regular Issuance of newsletter.
- After Chairman's presentation, the Secretary/Treasurer, Riaz A Bhutta also presented the section's financial report.

TREASURER'S REPORT

Treasurer/Secretary, Mr Riaz Ahmed Bhutta presented the financial statement of the section for the year 1999-2000, which was approved by the AGM. The financial statement is appended as Annexure 1.

ROLE OF IEEE, ACM, etc. - Presentation by Dr Ashraf Iqbal

Providing of Forum where technical issues can be handled in a rational atmosphere A Forum where various student branches can express and share their problems, and where IEEE Pakistan Section can provide help on a regular basis Identify various technical problems facing the Country - problems that require an in depth study and research

INMIC 2001

- A Research Forum where scientists from within and outside Pakistan would be invited to present refereed research papers
- Workshops on current topics conducted by Scientists of world repute
- Panel discussions on the state of education in the field of computer science and engineering involving various student branches

INMIC 2001: An International Conference

- University of Chicago, Illinois
- University of Science & Technology, Hong Kong
- University of Cambridge
- King Fahd University of Petroleum and Minerals
- Kangwon National University, Korea
- University of Western Sydney, Australia
- University of Southern California, Los Angles

CHIEF GUEST'S SPEECH

After Dr Ashraf Iqbal's presentation, the chief guest, Engr. Almas Haider, delivered a presentation, and highlighted the engineering sector in Pakistan. His main focused points were:

ENGINEERING SECTORS

Heavy Engineering

- Pakistan Steel Mill
- Peoples Steel Mill
- Karachi Shipyard
- Heavy Foundry and Forge
- Heavy Mechanical Complex
- Heavy Electrical Complex
- HIT, Taxila

- Railway Locomotive & Wagons

Light Engineering

- Surgical Instruments
- Auto Parts
- Bicycle
- Electrical Fans
- Knives & Cutlery
- Consumer Durables
- Air Conditioners
- Deep Freezers & Refrigerators
- Air Coolers & Water Geysers
- Stoves / Cooking Ranges

Sanitary Fittings

- Ball Pens
- Nuts, Bolts, Screw & Nails
- Plastic Products
- Auto Assembly
- Motorcycle
- Bus & Trucks
- Light Vehicle / Cars
- Rickshaws & Scooters
- Small Tugboats
- TV & Radio
- Small Arms
- Metal Work
- Tool Kits
- Sewing Machines
- Non-Ferrous Industry
- Stainless Steel Pressure Vessel
- Pipe & Tubes
- Steel Fabrication
- Tube Lights & Bulbs
- Stainless Steel Utensils
- Pressure Cookers
- Transformers & Electrical
- Hardware
- Wires & Cables

Engineering Sector Overview

- Global Market Size of Engineering goods in 1999 was US$ 2.6 trillion
- Pakistan's Engineering Exports in 1999 were US$ 200 million
- 30% of Pakistan's Imports consist of Engineering Goods (US$ 2 billion)
- Imports are declining at a compounded rate of 8% over past 5 years
- 2.5% of Pakistan's Exports consist of Engineering items (US$ 0.2 billion)
- Exports are growing at compounded a rate of 18% over past 3 years
- Share of total industrial sector in GDP is 18% * (Rs 558 billion)
- Total number of registered Units are 2000*
- Total output in Engineering sector is 62 billion rupees *
- Total Value of Fixed Assets is 100 billion rupees *
- 0.6 million people employed in Engineering sector*

- 25% of total domestic demand (Rs 248 billion) catered by local Engineering sector; Rest by imports or smuggling *
- 95% of all Engineering entities fall in the Small and Medium Enterprise category (employing less than 100 people)
- Overall capacity utilisation in Engineering sector is 25%-30% *
- Value addition in Engineering sector is 16% - 80%
- In 1997-98, local Engineering Industry grew by 2.4%

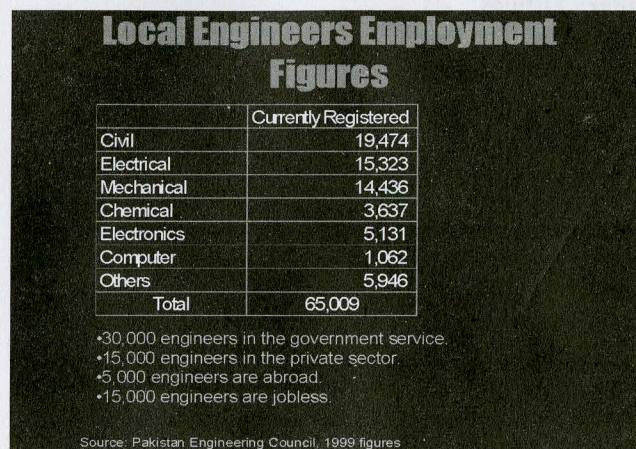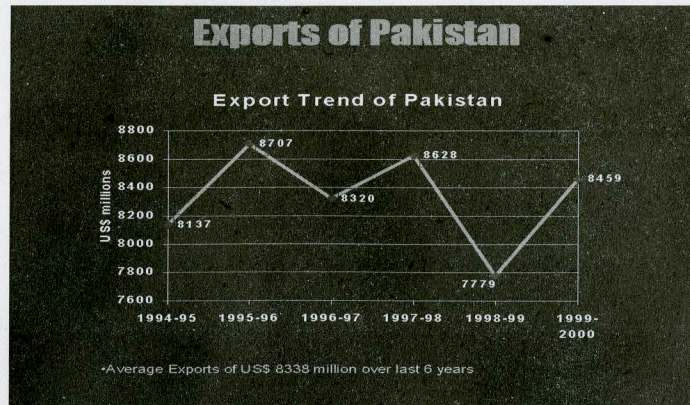| 1999	US $ billion	
World Market	2,600	
Pakistan's share in World Market		0.008%
Pakistan Export of Engg Products	0,2	Rs 10 bn
Share of Engg goods in Pakistan's Exports		2.48%
No. of Engg Registered Firms	2,000	
Total persons Employed (million)	0.6	
Estimated Size - Domestic Engg Market	4.8	Rs 248 bn
Documented Sales	1.2	Rs 62 bn
Supply through Local production		25%
Supply through Imports		42%
Supply through Smuggling		33%
Capacity Utilisation In Engg. Industry		25-30%

Present Status of Engineering Industry

Capacity Utilisation		Employ-ment	Exports	Contribution to GDP	Sales Tax
		Million	US $ million		
Current	25%	0.6	200	1,200	180
In Rs million		10,400	62,400	9,360	

Total Sales Tax collected through Domestic Industry was Rs 28 billion in 1998-99.

Product	US $ in million					
	1994-95	1995-96	1996-97	1997-98	1998-99	
Power generating machinery	504.8	742.1	995.6	462.3	235.1	Aver-age import s over 5 years period
Office machinery	76.0	67.4	48.5	73.4	125.6	
Textile machinery	294.4	187.7	129.7	212.0	164.0	
Construction and mining machinery	202.2	166.9	155.0	168.0	93.7	
Electrical machinery & apparatus	277.3	441.2	424.9	309.4	147.9	
Agriculture machinery and implements	68.8	52.9	36.1	27.0	43.7	
Other machinery	864.1	904.9	945.7	666.6	721.4	
Transport equipments	616.9	553.7	560.0	483.2	541.3	
Total	2904.5	3116.8	3295.5	2401.9	2072.7	

Source: FBS

Exports of Pakistan

Export Trend of Pakistan

(US$ millions, 1994-95 to 1999-2000): 8137, 8707, 8320, 8628, 7779, 8459

Average Exports of US$ 8338 million over last 6 years

Exports of Engineering Goods

Share of Engineering Industry in Total Exports

(%, 1996-97, 1997-98, 1998-99): 2.22, 2.38, 2.48

1998-99 Exports

Source: FBS/ITC

Category Wise Exports of Pakistan

1998-99 Pakistan Exports - US$ 7.78 billion

Others 98% — Surgical 1.4% — Engineering 1%

Local Engineers Employment Figures

	Currently Registered
Civil	19,474
Electrical	15,323
Mechanical	14,436
Chemical	3,637
Electronics	5,131
Computer	1,062
Others	5,946
Total	65,009

- 30,000 engineers in the government service.
- 15,000 engineers in the private sector.
- 5,000 engineers are abroad.
- 15,000 engineers are jobless.

Source: Pakistan Engineering Council, 1999 figures

Exports of Engineering Goods

	1996-97	1997-98	1998-99
		US$ 000	
Engineering Group	51,852	65,327	71,929
Engg Electrical Goods	23,793	37,047	44,506
Non Electrical Goods	17,490	23,658	28,557
Electrical Goods	3,042	5,737	8,308
Transport Eqpt	3,261	7,652	7,641
Pig Iron	0	0	0
Cutlery	19,914	17,558	18,044
Metal Manufacturing	8,145	10,719	9,379
Rubber Goods	841	1,045	816
Surgical Instruments	125,758	125,292	111,565
Plastics Manufacture	6,070	13,856	8,830
Total	184,521	205,520	193,140

indicating that exports of Engineering group has been growing by 18% over the past 3 years but overall engineering industry has grown by 2%

World Scenario

1998 Engineering Exports of Other Countries (US$ bn, 1998-1999)

China 59, Korea 54, Malaysia 32, Turkey 6, India 4, Pakistan 0.2
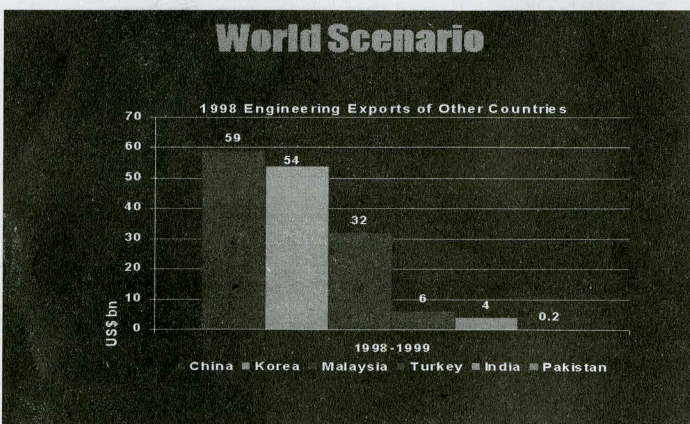
PROBLEMS

- *Identification*
- *Export Related*
- *Negative Protection*

Engineering Industry has been Rendered Uncompetitive **Even in Pakistan** due to

- High Raw Material Prices
  - *25% above international prices*
  - *Negative Protection to the Engineering Industry*
- Smuggling
- Government Regulations

Problems Concerning Exports

- Price Competitiveness
  - Raw material prices
  - Utility prices
- Assurance of Quality
  - Manpower training
  - ISO certification
  - Common Facility centers
- Delivery on time, every time
  - Paperwork involved

- Government rules and regulations
- Free availability of raw material

Problems of Pakistan Steel Mills

Current Pakistan Steel Mill capacity is 1.1 million ton per annum.

1999-2000 Production, 000 ton	HR Sheets	CR Sheets	Galvanized Sheets	Total
	498	184	61	723

Current Pakistan Steel Mill and Internation Prices are:

	China	S Korea	Russia	Ukraine	Pakistan
CR Sheet under 3 mm. $ per ton	375	375	326	314	400
HR Sheet 2.5-3. mm. $ per ton	278		230	224	335

Hence Pakistan Steel Mill will require a direct subsidy of Rs 6.2 billion per annum to maintain prices at international level and to rejuvenate the local Engineering industry.

Difference in Price *Installed Capacity
=(335-230)*1100000*54
6,237,000,000

Negative Protection to Engineering Industry

Pakistan Steel Mill Prices 25% high than International Prices

1999 Data	China	S Korea	Russia	Ukraine	Pakistan
CR Sheet under 3 m. $ per ton	375	375	326	314	400
HR Sheet 2.5-3 m m. $ per ton	278		230	224	335

- **Custom Duty on Raw Material for Engineering Sector**
  - Steelsheets @ 35%
  - others from 10% - 35%

Customs duty for finshed consumer goods range from 0% - 35%

SOLUTIONS

- *Local Market*
- *Export Market*
- *Immediate*
- *Long Term*

Capacity Utilisation Increased through Increased Consumption in Local Market Tapping the Export Market

Increase Consumption in Local Market

1. Decrease customs duty on raw material to 0%-10%
2. Check smuggling; currently accounting for 20%-80% of different engineering goods in domestic market
3. Maximize local Purchases of Government departments e.g. Defence, WAPDA, Railways etc.
4. Indigenous development of national projects

Tapping the Export Market

- Restructure policies on Sectoral basis through teams formed from Public and Private sector experts
- Decrease in prices of local made consumer goods through decrease in raw material prices
- Identify sectors for Growth e.g Surgical, Cutlery
- Export facilities given to Direct and Indirect exporters through Export houses

Immediate Solutions

- Availability of steel sheets material should be at the international prices through lowering of Customs duty from current level of 35%. Current steel prices are 25% higher than International price.
- Smuggling should be curbed as 40% of the engineering goods are being smuggled into the country
- Establishment and modernizing of Engineering universities and colleges
- Skill enhancement and training through revamping of PITAC, TEVTA etc
- Establishment and revamping of Testing and Quality laboratories e.g. MIRDC, CTL, PSI etc.

Long-Term Solutions

- Raw Material
  - Investment in Pakistan Steel Mill to make it competitive and feasible by increasing capacity and manufacturing of products of better quality
  - Allow free import for Steel Mills and lessen duty on raw material for engineering industry
- Government
  - Consistency in government policies for 5 years and formulate the policies through committee of experts from private and government sectors
  - Revision of tariff structure of utilities
  - Restructuring of state owned engineering concerns and allied organisations
  - One window operation for tax and duties
- Financing
  - Sub sector specific directed credit for capital investments
  - Policy for revival of sick units
  - Cash flow based lending
  - Credit evaluation system for formal sources of financing
- Quality
  - Revamp Pakistan Standard Institute and establish Pakistan Standards Quality Control Authority
  - Encouragement for establishing of Quality agencies in private sector
  - PSI should be run on commercial basis jointly with private sector
  - Strengthen existing incentive program for quality standards implementation
  - Structured R&D to bring in process improvement and new product development
- Vendor Development
  - Indigenous development of national projects
  - Discourage imports of turnkey projects
- Foreign Investment & Technology

- Policies to promote JVs and licensing arrangements
- Patent, Intellectual property right agreements
- Proactive role of Pakistani foreign missions

Proposed Benefits Without Any Further Investments

Capacity Utilization	Employment million	Exports	Contribution to GDP US$ million	Sales Tax
Current	25%	0.6	200	1,200	180
Expected	50%	1.2	400	2,400	360
	70%	1.6	600	3,600	540

Case Study of Television Industry
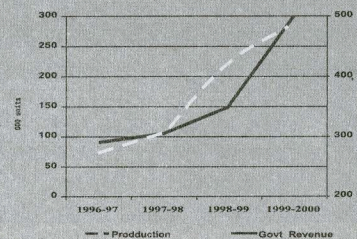
- **1997-98:**
  - Government withdrew the regulatory duty
  - Waived off excise duty
  - Cut in import duty of components to 5%
  - 35% import duty on CBU sets in 2000-2001
  - local sets are Rs 1000 to 4000 chaper than imported sets

Distribution of Awards at AGM 2000.

- Increase in Capacity Utilisation will have Snowball effect on:
  - Employment Generation
  - Investment in Assets
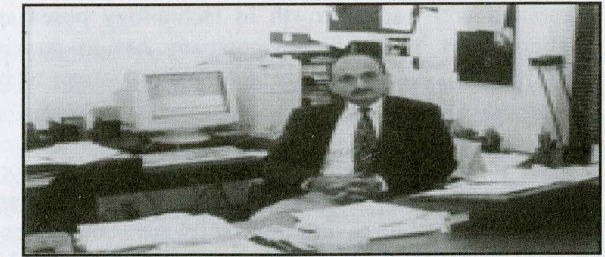 - Buying Power
  - Increase in Spending
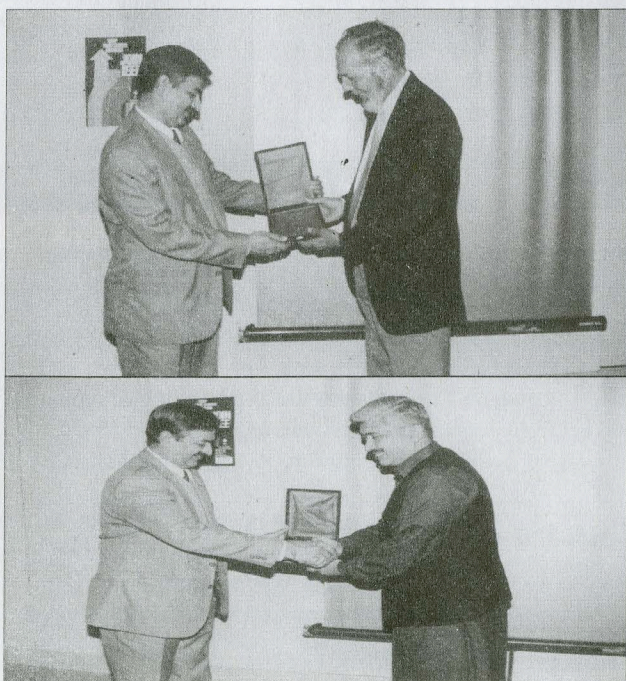
INDUSTRY NEWS

Software Industry
Evolution in a Developing country: Case of Pakistan

By Dr S Zahoor Hassan

The present age has identified the Software industry as vital for the development of any economy, especially that of the developing countries, as it has the capacity to provide the essential export earnings and support in the evolution of all industries. Moreover, access to quality software based systems plays a pivotal role in improving governance.

Software (SW) industry has grown at a phenomenal rate over the last decade. A number of developing countries have emerged as key players in the global software business, while others are striving for a positive growth in this field. Successful expansion of this industry has varied across the globe. It would be interesting to understand the factors that influence its evolution in a third world country. In countries like India and Singapore, software industry ha assumed a significant position in the overall economy of the country and many companies have established themselves as key players globally. Several countries like Philippines, Pakistan, and Malaysia have also seen significant growth in this area, but not all countries have shown similar growth patterns.

As the SW also offers the potential of very attractive margins and high rates of growth, it has attracted the attention of many investors and entrepreneurs. For example, in Pakistan there were only a handful of established software companies in 1990, but by early 1999 the membership of Pakistan Software House Association (PASHA) was drawing near a 100. Since Pakistan's software industry emerged in the last 5-10 years, its study provides an excellent opportunity to capture the dynamics of the SW industry's evolution from the time of its inception.

Pakistan's first software company, Systems (Pvt) Ltd was formed in 1977, yet till 1984 only a few other software companies came forth. These companies worked primarily for the multinational firms operating in Pakistan or for some of the larger local corporate clients. The easing of import restrictions on computer hardware in 1984 and the widespread use of personal computers led to the use of computer based systems by increasing number of smaller companies. Most of these companies were only small partnerships comprising of a handful of people, who mainly focused on application sin areas like Payroll, Accounting and Inventory Management. It was not untill 1994, when the more established software companies formed an industry association called Pakistan Software Houses Association (PASHA), which actively lobbied with the government for support in helping the industry launch its export efforts. Consequently, Pakistan Software Export Board (PSEB) was created in 1995 to promote software exports from Pakistan. PSEB has played an important role in co-ordinating and subsidising the participation of Pakistani software companies in international exhibitions.

A major breakthrough for Pakistan's software industry came in 1994 when one of the companies, CresSoft, obtained a major software development project from Time Warner in USA. This encouraged other companies that were focusing on the local market to consider exports. Moreover, when Pakistan's economy went into recession in 1996, opportunities for local projects diminished significantly forcing software companies to look for work in Europe and US. Around the same time, some companies began focusing on the opportunities provided by the Y2K problem related opportunities. Therefore, the major thrust of the established WE companies has been towards export work since 1996.

Special Challenges for SW companies. A number of special factors distinguish the software industry from other industries, especially in the context of a developing country like Pakistan. Some of the key factors are:

People are the key asset. In the words of one entrepreneur, "In this business all of your assets (the people) leave the physical company premises at the end of every day and then return the next day. You have no concrete immovable assets to hold on to." Unlike manufacturing and other service industries like banking, software does not require a very large investment in equipment and/or real estate. The capacity of a software development company to generate revenues is primarily determined by the number and quality of its technical staff.

Long set-up and gestation times. Unlike other businesses, in case of software companies the evolution path is more tedious and usually takes years before a company attains significant revenue levels. There is need for both the design and development of the processes that fit the specific business focus and the technology the software company is concentrating on.

Rapid changes in technology and market dynamics. The target markets and their needs for various software based solutions may not change very rapidly but the technology options available for fulfilling these needs keep changing at a fast pace. For example, the growth of internet and the associated developments in various Electronic Commerce technologies has transformed the ways in which a company has to develop and provide software solutions for various businesses.

Importance of product quality and customer trust. Since most businesses rely very heavily on computer based systems for managing their operations, and software related problem could affect the organisation adversely. Hence, the client organisation needs to be assured of product quality and reliability of the service provider. The success of any software project is subject to the extent to which trust exists between the company and the client. The question of trust

combined with rapid growth in technology poses special challenges when a software company has to convince a client to adopt its systems or give it the contract to built a customised system.

These fundamental attributes of software development provide a unique set of challenges for senior managers and entrepreneurs. Moreover, for software companies that operate in developing countries but cater to the markets of the developed world, there exists an additional set of challenges. These include:

Relative focus on the local and export markets. Although, the local market projects are needed for the enhancement of skills, processes, establishing credibility and sustaining the organisation in times of crisis, they do not offer the required margins and advanced technological work.

- Marketing to clients that are thousands of miles away. Need for maintaining close links with them and understanding their businesses.
- Gaining and retaining trust of clients.
- Staying abreast with the latest technologies and anticipated trends.
- Retaining staff that has international marketability, especially as they gain more experience.
- Operating in an environment that does not provide all the needed support mechanisms.

Software companies confront a series of daunting challenges. The issues faced by software companies range from marketing, project management, human resource development and operations to formulation and execution of strategies that are in line with the overall mission and vision of the company. Hence, in order to understand how the software industry develops and evolves in a specific country, one would need to study the specific approaches adopted by the different companies in these areas.
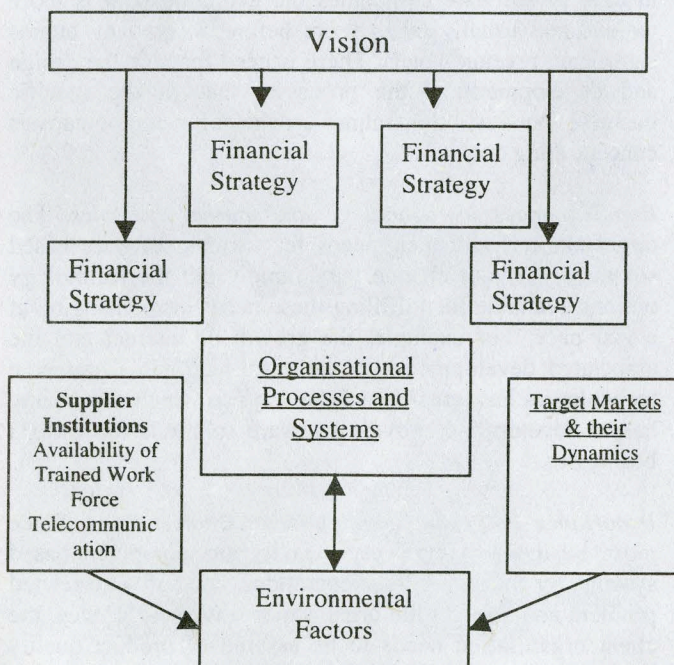
A study of eight major software houses in the country has revealed the significance of some internal as well as external

factors in their evolution. As a specific organisation evolves, one needs to study the specific changes in the above internal and external dimensions. The internal factors playing a key role here are:

Vision, Business Strategy and its Evolution. Most companies, under study, started with a broad set of objectives and goals. With greater exposure to markets and realisation of constraints, they gradually began to concentrate on some of the specific areas. In general, companies can be broadly divided into two categories: 'conservative' and 'aggressive.' Conservative companies have shown steady growth, primarily in their initial areas of focus. Also, these companies have not aggressively pursued new technology options.

On the other hand, the aggressive companies allocated resources for acquiring skills in the new areas of technology and then used these skills to procure increased high-end and greater value-added projects. The evolution to a more international market orientation has also occurred in most companies, primarily due to the attraction of higher profit margins.

Financial Strategy. Companies that started before the recent surge in the software business mostly relied on the resources of the founder, especially at the time of inception. The first major institutional investment came when one of the leading business groups in Pakistan decided to invest in a software company. The success of this venture encouraged other business groups to invest in SW companies. On the contrary entrepreneurs who launched companies with their personal resources have completely relied on company profits or equity finances by additional partners. In some cases such partners brought additional technical skills and expertise to the company, thus helping its growth.

Lack of a well-developed stock market where companies could offer their shares for the general public has been a serious impediment in enhancing the financial resource base of SW companies. Most recently, some companies have floated their subsidiaries in the US with the objective of tapping into the US stock market and harvesting their gains at a later stage.

Marketing Strategy. Most companies focused initially on the local market in Pakistan. This helped the companies train their engineers and develop the processes. Due to the downturn in economy, the opportunities for undertaking large and more lucrative assignments in the local market diminished and so the companies shifted their attention almost exclusively to foreign markets, primarily in Europe and the US. Although, a few companies had to initially undertake projects in the local market so as to establish credibility with the foreign clients before focusing completely on the export market.

All companies that started before 1998 focused primarily on customised software development. It is only in the last couple of years that companies have started to concentrate on developing standard products. The knowledge gained by working on customised software development projects in a given domain enabled companies to undertake product development projects as well. Also, increased financial

resources and access to a more diversified customer base encouraged them to attempt the more risky product development route. In the beginning, the companies accepted whatever work came their way, but gradually their focus shifted to only a few specialised areas of technology and application domains. This trend eventually led to the development of a general-purpose product.

During the initial phase of export work, most companies relied on third party intermediaries for securing projects, primarily as subcontractors. Companies that had the financial resources to set up a front office in the US were able to obtain work directly, but the investment required for maintaining a marketing office there was beyond the financial means of most firms. Marketing has been primarily the responsibility of the top management with almost no company investing in an independent marketing function. Also, joint ventures and partnerships with established US companies have been pursued.

Technology Strategy. Most companies started by focusing on known technologies and then shifted to newer areas, as the need was felt, but with the passage of time they began relying on the latest tools and areas of study to ensure they stay competitive. For some firms the key advantage has been their ability to allocate resources to do R&D and skills development in contemporary areas. Some of the more established companies now allocate in access of 20% of their people to the acquisition of latest skills. They have also begun to invest in implementing quality initiatives (ISO and CMM certification projects have been initiated by several organisations). Now, an increase number of companies rely on their technological strengths as the main source of competitive advantage. Access to high quality professionals in larger numbers, at more competitive salary levels, could give greater boost to this strategy.

Human Resource Strategy. Human resource management area has posed the greatest challenge to software companies here. On one hand the lower cost of highly qualified professionals has an edge over those in developed countries, while on the other, the market for SW skills has become global (especially the H-1 phenomenon in the US and the increase in Canadian immigrations) and so, companies have to worry about retaining their highly experienced professionals. A number of steps have been taken to address this situation:

- Devising stock option schemes for employees along the lines of the US model.
- Providing the option to work in the US on company projects.
- Accelerating the rate of promotions, given managerial responsibilities and higher designations.
- Introducing productivity and time-based financial rewards.
- Providing support for pursuing education in local educational institutions.
- Hiring and training relative numbers of non-computing graduates for backup resource.

The principle approach has been to make employees feel important by providing them opportunities for professional advancement and financial rewards.

Organisational Structure and Processes. Most companies initially followed ad-hoc procedures utilising an informal organisational structure. As they grew and began focusing on export markets, they not only had to formulate formal procedures, but also introduce special functional areas. Some of the newer entrants started with a relatively more formal set of agendum, and organisational structure. In early 1999, a majority of companies launched initiatives to formalise their development processes and evolve reliable marketing mechanisms.

There are various external dimensions that influence the software industry as well, they are:

Target markets and their dynamics. The shortage of high-end technology work, lower profit margins, and the drying-up of large government projects due to funding shortages, led the companies to concentrate excessively on the export markets where, especially with regards to the US, telecommunication and e-commerce sectors have been the main areas of focus. Apart from this, most of these firms got the opportunity to get export work based on their previous knowledge from the local market, while for others local client contacts meant access to foreign clientele willing to give them work on trial basis.

Comparing the state of the local arena with the immense scope of the export market, most organisations that got export opportunities left the local markets completely. But now, interest in this domain is gradually taking a positive turn primarily in the e-commerce and Internet based product areas. In order to diversify the risk factor, mostly organisations are keen to undertake a varied number of smaller projects from different clients than one or two large projects from a single one. Also, lack of comprehensive project management skills is another reason why companies generally rely on smaller projects. Although, acquisition of sophisticated project management skills is now gradually enabling them to take on large-scale projects confidently.

Supplier institution related issues. The software industry in Pakistan has been constrained by the availability of required inputs. Relatively small base of suitably qualified computer professionals educated in local institutions, lack of access to funds from the local banks and infra-structural issues like, electricity shut downs and unreliable communication system are some of the major constraints in the development of the SW industry.

Environmental Factors. SW companies have to operate in a number of specific environmental issues that effect their activities significantly. These include:

- Cost and quality of communication facilities.
- Government policy regarding tax, trade and infrastructure.
- Overall socio-economic conditions.

One can easily relate the down turn in the local economy in 1996-97 timeframe to the shift of software companies towards export markets. Also, the Government's decision to set up a Software Export Board in 1995 and pursue other related activities enabling Pakistani software companies to

explore foreign markets led to excessive concentration on the export of software. In 1998, following the nuclear explosions, the government imposed restrictions on foreign exchange accounts. This decision had adverse affect on the growth of the software industry.

Software industry provides an opportunity to the third world countries to improve governance, enhance competitiveness of their industries, generate high value jobs, and generate export revenues. In such countries, specific environmental issues, predominance of government policies, initiatives and its involvement in the education and telecommunication sectors all play a crucial role in shaping the evolution of software industry.

It has been observed that different factors determine the growth path at various stages of evolution. As the companies in the industry begin to focus on export markets, government support in co-ordination of effort and tax incentives encourages the individual companies to put more efforts into marketing. As the companies begin to grow and obtain more export work, access to quality professionals becomes a dominant issue. Software companies in developing countries have access to lower cost technical work force. The sustained development of SW industry requires continued supply of world-class professionals and project management skills. With the current shortage of IT skills in developing countries, IT professional are moving to developed countries in increasing numbers. This situation is posing serious human resource management challenges to SW companies in developing countries.

Another important aspect to keep in view is that development of a world-class SW industry in a developing country requires sustained efforts over a long period. Pakistan's software industry has grown positively due to Herculean efforts over the last decade. A number of both internal and external factors influence the manner in which a software company evolves, therefore, it would be unwise to focus on one or two factors only for promoting development

SEMINARS/WORKSHOPS

Seminar held at FAST on "Current Market Trends in IT Industry"

The student chapter of IEEE at the National University of Computers & Emerging Sciences held a seminar on *Current Market Trends in IT Industry*. The seminar provided a forum for the leaders in the IT Industry to come up and present their views, and also get to know about the views of others in the industry. Also, it gave opportunity to the faculty which breeds IT enthusiasts, to gain knowledge as to what exactly the industry requires from them. Although the seminar focuses on the market trends in the IT Industry, the seminar also delivered the required knowledge to the enthusiastic students by which they can clear their confusion and misconceptions about this Industry and find solid footings for themselves in it.

The seminar was attended by IT professionals as well as teachers and students from different IT institutes. The major representation of students and teachers was from P'MCS,

of software industry. Yet, it must be admitted that the educational institutions play the single most important role in the development of SW industry, as availability of quality IT professionals is directly dependent on the quality of the institutions.

Ability to react to new opportunities is another important determinant of growth. Those companies that not only availed opportunities but also geared themselves to offer services and products to meet the newly emerging needs in the areas of Y2K, the fluid telecommunication business, Internet, and e-commerce applications, have grown tremendously. By focusing on these areas, some software companies were able to establish a foothold in Fortune-500 companies for out-sourced projects. Others who have stayed in the more traditional application areas have not seen much growth.

Growth of software industry in developing countries requires concentrated and coordinated efforts of the government policy makers, educational institutions, and industry entrepreneurs, but as an industry, software can only play a significant role in the development of country if all the relevant players fulfill their roles. Governments have access to the largest resource-base and capacity to influence the environmental factors, supply institutions (telecommunication companies and educational institutions being the most important), and local markets (state owned or controlled organisations form a major part of the economy) in the developing countries. Hence, governments probably have the most significant role to perform in the growth of the software industry, as its actions and policies can both help and hinder. Focus on short-term goals at the expense of the developing institutions for long-term sustained enhancement can adversely affect the ability of the software industry to grow.

APIIT, Kinnaird College, PICS, LUMS, OPSTeC, ILM, NUCES and Premier College. Whereas IT professionals from software houses were mostly from Netsol, Cressoft, FCW, Systems (Pvt) Ltd and Techlogix.

Report on Seminar Proceeding

The seminar began with the recitation of Holy Quran. After the recitation, a welcome note was given by Malik Ali Hisham, Vice Chairman, NUCES-IEEE Student Branch. He also gave an overview of the work being done by the student chapter and its future plans to arrange similar seminars and workshops at regular intervals. He stressed that the major objective of this year's student chapter is to arrange FAST IEEE Student Conference (FISC) which was last held in 1998. He said until and unless we are up-to-date with this fast moving IT industry, we cannot survive.

Mr Hisham also thanked all the speakers and the audience for coming and supporting the IEEE cause. He also thanked Mr Hasnain Mirza, Chairman, IEEE, Pakistan Section, Dr Qaiser Durrani, Director, NUCES, Dr Amjad Hussain, Faculty Advisor, NUCES-IEEE Student Branch and Mr

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Nadeem Akhtar, LUMS for providing support and guidance for the seminar.

His welcome note was followed by a speech of Dr Amjad Hussain. He gave an overview of the workings of IEEE and the history of the student chapter at NUCES. He said that after the institute has been given the status of National University, he hoped that the student chapter here will also be strengthened and would contribute towards promoting learning and increasing student awareness about the latest technologies, current standards being followed and different trends in the IT Industry which is the basic objective of IEEE. He hoped that more collaboration will be brought about between student chapters of IEEE at different institutes. He said that the FISC-2002 is scheduled for February 2002 and the detailed programme will be announced by the end June 2002.

After his speech, Mr Shoaeb Shams, Business Analyst, Netsol came and gave his presentation on *Growth & Limitation of the IT Industry in Pakistan*. He discussed the current support being provided by the government to flourish the IT Industry in Pakistan such as Tax Freedom for five years, and the assistance provided by EPB. Yet he compared it with the neighbouring IT industries and stressed on the need for improvement. He also highlighted the market requirements for the IT enthusiasts and the job opportunities available for them. But emphasised on the need of quality control. A call for question was given after his presentation.

Next, Dr Humayun Mian, CEO, Systems (Pvt) Ltd was called on to give his presentation on *CTI: Computer Telephony Integration, a Software Business Opportunity*. He discussed the integration as a major development in the evolution of Communications, IT and Business Automation He also highlighted the Interfacing / Bridging between PSTN, ATM and the TCP/IP Paradigms which brings together the power of computers, with the benefits of telecommunications. He said CTI technology can transform the way we do business, specifically in the area of customer service. It integrates Real Time Voice (phone call), Asynchronous Voice (mail) messages, Corporate Databases, Electronic mail, Real Time (Video) & Asynchronous Images (facsimiles). He also gave an overview of a typical CTI environment and discussed the software challenges in CTI. A series of questions from the audience were also answered.

A tea break followed Dr Humayun Mian's presentation.

After the tea break, Mr Nevil Patel, Centre Manager, Cressoft came to deliver his presentation on *Development Experiences and Lesson Learnt*. He discussed the goals for the software companies such as Marketing, Software Development and Development of Resources. He focused on many marketing issues and the practices currently being followed. He discussed the Cressoft's customer care, airline staffing, B2B and telecom. He stressed on the need to develop project management such as client handling, negotiation, interpersonal and documentation. Audience raised many questions, which were answered by him.

Next came Dr Altaf Khan, and delivered his presentation on IT-Enabled Remote Services: Pakistan's Irresistible Value Proposition. He said that the offshore development model has worked quite well for a number of Pakistani software companies. The same model can be employed to enable non-IT professionals to provide services to clients in the global markets. The value proposition in this case is the same as in software development: The significant difference between the cost of hiring professionals overseas and here in Pakistan. He discussed a number of opportunities for enabling non-IT professionals to serve global markets through the Internet. These opportunities included contact centres, accounting and financial services, insurance claim processing, transcription services, HR services, animation development, and GIS. He profiled some of them in terms of their marketing difficulty, market size, HR availability, competition, scalability, initial investment, returns, and payback period. He also outlined some of the key challenges that need to be met to succeed in this lucrative business.

A call for an open discussion session was given after Dr Altaf's presentation. After that Dr Amjad Hussain on behalf of NUCES-IEEE thanked the audience and the speakers. The seminar was declared ended.

"Current Energy Research Direction in MALAYSIA" By DR Norman Mariun From IEEE MALAYSIA

A lecture was delivered by the visiting IEEE executive member and Chapter Chair of Power Engineering Society, Malaysia on the 10th of November 2000 at LUMS. His topic of talk was "Current Energy Research Direction in Malaysia" in the fields of coal, gas, petroleum, hydro and renewable energy. DrNorman also touched upon the role of private power in Malaysia, which was not without problems. The audience took keen interest in the development and trends in the power sector in Malaysia and discussed the local problems in the energy sector with Dr Norman. The lecture was followed by interesting and illuminating Q & A session. Refreshment were served after the lecture, courtesy LUMS.

"Total Quality Management and its Relevance for Engineering" By Dr Jamshed H Khan

A lecture was delivered by Dr Jamshed H Khan, on June 12, 2001 at LUMS on "TQM and its relevance for Engineering". Total Quality Management (TQM) is a people focused management system that aims at continual increase of customer delight at continually lower real cost. TQM is a total systems approach (not a separate area or programme), and an integral part of high level strategy; it works horizontally across functions and departments, involves all employees, top to bottom, and extends backwards and forward to include the supply chain and the customer chain. TQM stresses learning and adaptation to achieve continues improvement as key to organisational success. The foundation of Total Quality Management is philosophical - a set of beliefs. TQM also includes systems, methods and tools. The systems permit change; the philosophy stays the same. TQM is anchored in values that stress the importance of customer delight, the dignity of the individual and the power of community action. The engineers have traditionally been very strong in systems, methods and tools,

but find the philosophical aspect of TQM difficult to integrate in the comprehensive model. This talk will present an integrated model of TQM which is as relevant to engineering as any other field in order to succeed in a competitive world.

"Neural Networks" By Dr Haroon A Babri

A lecture was delivered by Dr Haroon A Babri on June 29, 2001 at LUMS on "Newral Networks". An artificial neural networks (ANN) is an information processing paradigm inspired by the densely interconnected, parallel structure of neurones in the mammalian brain. Neural networks can learn to solve problems. Learning usually occurs by teaching networks from examples of specific problems. As a result of learning, the connections that exist between neurones are modified.

There are many different types of neural networks. Over the last two decades neural networks have increasingly been applied to a large variety of problems, including automatic recognition of hand written characters and images as well as controlling advanced aircraft. This talk will provide an overview of the above mentioned aspects of neural networks.

New Student Branch(es)

IEEE Student Chapter at OPSTeC

The IEEE (Institute of Electrical and Electronics Engineering) Pakistan Section launched the IEEE Students Branch at OPSTeC College of Computer Science. The IEEE is a prestigious and the world's largest technical society that connects more than 35,000 professionals and students to the solutions of tomorrow.

The launch of OPSTeC Students Branch was carried out during the Executive Committee meeting of IEEE Pakistan Section that was held at OPSTeC today. Engr. Hasnain Raza Mirza, Chairman IEEE Pakistan, introduced IEEE to students of OPSTeC and explained what IEEE stands for. Followed by his lecture, Dr M. Ali Maud introduced the students about IEEE student branches.

In the executive committee meeting of IEEE Pakistan Section, the committee reviewed progress of the previous agenda as well as discussed strategies of membership development.

About 25 members straight away took the IEEE membership after the inauguration seminar. Since OPSTeC is in its embryonic stage, it is expected that membership will increase at a rapid rate as it grows.

Right now 28 students have taken IEEE membership, and this number is surely expected to rise.

Activities at OPSTeC, under IEEE banner have already started. We have already arranged two technical lecture series for IEEE members at OPSTeC. One was on Digital Logic Design and the other on Basic Electronics, helping students to understand and visualise the two subjects in a better manner.

INMIC 2001

Institute of Electrical and Electronics Engineers (IEEE), Inc., USA, Multi-Topic Conference (INMIC) is an annual feature since 1995, and is arranged by one of IEEE Pakistan's Sections. This year Lahore University of Management Sciences (LUMS) is hosting this conference under the auspices of IEEE Lahore Section. The unique feature of this conference is that it is the first international conference and has been renamed as IEEE International Multi-Topic Conference 2001 (IEEE-INMIC 2001).

IEEE-INMIC 2001 aims to provide an international forum for academic and industrial researchers to exchange ideas and share experiences in the technology areas of telecommunication, information technology, electrical, electronics and computer systems. Research papers have been invited from all over the world. Nearly 300 academicians and researchers are expected to participate in this conference including foreign participants from countries such as Germany, Australia, Canada, Singapore, North America, etc. This event will hopefully prove to be a premier event in the Electrical Engineering/IT area.

A special feature of this conference is that students have been invited to present their projects and research papers in the poster session of this conference. In addition, first day of the conference has been dedicated to tutorial sessions. These sessions have been planned in diverse and current areas such as Wireless Communication, Intelligent Drive Systems for Motion Control, Parallel and Distributed Systems, Ubiquitous Systems: Computing Next Generation. and Automated Validation Techniques in Computer system Design.

Pakistan Section Website (http://www.lums.edu.pk/ieee)

Pakistan Section website was prepared and launched in June 2001. It was prepared by Mr Arsalan, BSc student LUMS. All the activities will be posted to the website in future.

Education Programme

Introduction to Digital Signal Processing

Instructor
Dr Mohammad Ali Maud, Professor of Computer Science, Lahore University of Management Sciences, Lahore, Pakistan

Course Description:
Basic signal and system concepts. Laplace Transform and its use in continuous systems. Fourier series and its use in analysing continuous time (CT) signals. Fourier transform and its use in CT signal and system analysis. Properties of the Fourier transform. Sampling theorem. Basic discrete time (DT) signal and system concepts. Z-Transform and its use in the analysis of DT systems. Implementation of DT systems. Discrete Fourier Transform and the Fast Fourier

Transform algorithm. Design of analog and digital Butterworth and Chebychev Filters.

Goals:
The goal of this course is to teach the foundations of analog and discrete time signals, analysis of such signals and retrieval of information from time domain signals.

Module Titles:
- Signals and Systems
- Laplace Transform and its Applications
- Fourier Series and Fourier Transform
- Sampling Theorem and Discrete Systems
- Z-transform
- DFT and FFT
- Filter Design: analog and digital

Participation:
100 to 150 students from University of Engineering and Technology Lahore, Kinnaird College Lahore, National University of Computers and Emerging Sciences Lahore, and Government College Lahore.

Region 10 Meeting held at Singapore on April 6-7 2001

The meeting was conducted by Prof. Dr Teck Low, Director Region 10, and was attended by 83 delegates and officials from Asia, Pacific and IEEE HQ. IEEE President-Elect 2002, Mr Findlay, R 10 Director-Elect 2002, Mr Jung-Uck Seo (from Korea), Ms Cecelia Jankowski, Managing Director Regional Activity Board also attended.

Following is the summary of the proceedings containing main points of the meeting.

1. Membership Development And Retention - Pakistan was at the bottom of the table, for the year 2000, with a negative growth of 28%. I informed the house about some steps being taken for MD & Retention, including acceptance of dues in local currency to save the members the cost and time for renewals etc. I also pointed out the gross devaluation of Rupee against the Dollar, as one of the reasons of dropouts in the membership. Delegates from Malaysia and some other countries shared this concern. The organisers decided to form an affinity group at the regional level to see what can be done in this regard.

2. Student Branches - It was stressed to give greater importance to student branches and MD. The Sections were asked to at least invite the Student Chairs in their Exec. Committee meetings and efforts should be made to utilise the students energy and vitality for IEEE

Book Fair at UET, Lahore

REPCOM

An education programme in Pakistan Section was decided to start. In this regard, Dr Ashraf Chughtai was nominated the Chair of Education programme. A committee will also be formed for this purpose.

voluntary work more effectively. GOLD programme needs to be pursued more vigorously, for maximum retention after graduation.

3. Councils and Sections need to make use of publicity and media coverage for effective communication. (Reports of major events and activities be faxed or e-mailed to the Region and HQ).

4. Reactivate and associate in technical activities, as far as possible, with National societies. (We already have a mutual agreement with IEP).

5. There should be greater IEEE -Industry interaction.

6. Design a uniform pattern of the newsletter comprising standard headings (a hint can be taken from the "INSTITUTE"). Region News can be downloaded for inclusion in the newsletter.

7. Insurance cover has been provided to the IEEE volunteers attending conferences and meetings against travel, accident and illness, effective January 2001. A sum of $5000.00 has also been allocated in case of death of a delegate to send his remains home.

8. Section support via Regions (SSVR) is available for special funds, after approval by IEEE.

9. Educational Activities Educational programs are available on line.

10. Awards - Sections should liaise with the Region, for nomination of candidates. Delhi Section was declared the Best Section for 2000. Best volunteer award for 1999-2000 went to Mr Fasih of Karachi Section.

11. TENCON 2003/4 - Pakistan, Bangalore and Thailand Sections showed interest for holding Tencon 2003 & 2004. They were asked to send in proposals for the consideration and decision by the Region.

12. Council Formation - Pakistan and Karachi Sections advanced their interest to form a Council, as there are three sections now in Pakistan. Dr Low asked the delegates to go ahead by individually making requests in writing to the Region.

13. I held discussions with the President-Elect, Mr Findlay, to elect office bearers of the section in advance, say 3-5 months, in order to ensure a smooth changeover and for better running of the section. He had no objection to this idea. Necessary modifications will be required in the bylaws.
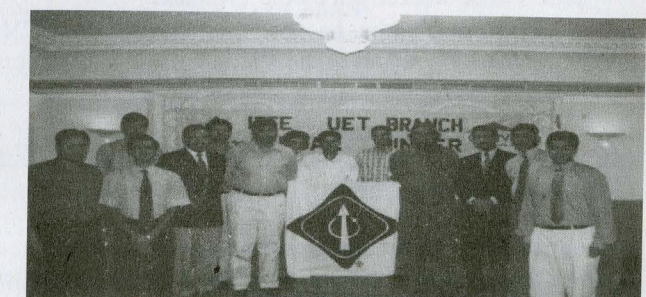
MEETING CORNER

MINUTES OF EXECUTIVE COMMITTEE MEETING HELD ON OCT. 25, 2000

Region – 10 AGM, Chairman's Report
The Section Chairman, Mr Hasnain briefed the members about the salient features of the AGM recently held in Malaysia.

Amendment in Section's Bylaws
In order to facilitate the election process, it was decided by the committee that the present bylaws relating to officer's terms be modified in the light of recommendations from IEEE HQ. A resolution was prepared, discussed and unanimously approved as follows:
It was resolved that Section 2 of Article V, officers & members of the executive committee be substituted with the following:
"The term of office for all officers shall normally be one year, but may continue until a successor has been duly elected and takes office. The consecutive period of service in any one office shall not exceed two years. There shall be no extensions beyond this two year term."

Any other Point
- Dr Zahoor's proposal to hold Inmic 2001 at LUMS was agreed upon.
- Dr Zahoor informed to organise a technical lecture in the next 10 days or so.
- The house was informed by the Vice Chair that the draft of the newsletter (January – September) was almost ready. Inputs from the PES/IAS Chapter and Student branches are awaited. The Secretary will contact them to send the same ASAP.
- The Chairman informed that the proposed meeting of the Chairs of the three Sections (Karachi, Lahore & Islamabad) could not be held due to absence of Chair and other officers of the Karachi Section. The new name of the Pakistan Section will be finalised as soon as the proposed meeting is held.
- Due to departure of Mr Amjad Javed, it was decided to ask the HQ to mail the necessary correspondence to the Secretary till a new Chair Membership Development is appointed.
- The Vice Chair suggested to accept the annual membership/renewal fee from the intending members in Pak Rupees, for the convenience of the members. It was decided, in principal, to accept the payment in Pak Rupees at the prevailing market rate of exchange (Rs to $) plus handling charges. Any shortcoming in these transactions, if any, will be borne by the Section. The details to be worked out by the Treasurer.
- A central secretariat has been established at LUMS under the supervision of the Vice Chair. E-mail address is as follows: nakhtar@lums.edu.pk

MINUTES OF EXECUTIVE COMMITTEE MEETING HELD ON DEC. 20, 2000

Announcement of Election Results
A few correspondences were received from the members endorsing the Nominations. No alternative proposals were received. Therefore, the committee announced and confirmed the names of the nominated and executive members (already circulated) for the year 2001.

Finalisation of AGM date
It was proposed to hold the AGM on 20th January 2001 at 5:00 p.m. at LUMS. It was further resolved to invite Syed Babar Ali (as first choices) as Guest Speaker to honour the occasion. Besides, a few other guests (list to be formulated) important for the projection and membership development of IEEE will be invited. Efforts would be made for maximum participation of Section and PES/IAS Chapter members to facilitate acquaintance, socialisation and to freely exchange ideas for furtherance of the professional activities of IEEE and membership development. It was also decided in the meeting to hold a get-together social-cum discussion dinner for all the members after the AGM. No subscription is sought from the members for the dinner, which will be hosted by the PES/IAS Chapter. In order to give sufficient time to the members to plan and attend the AGM and the dinner, the date of AGM could be enhanced.

INMIC 2001
Mr Sajid Aziz was requested to liase with Dr Ashraf Iqbal in planning and presentation of INMIC 2001 at LUMS.

Organising Committee to finalise IT Education Quality Workshop
A committee consisting of Mr Hasnain Reza Mirza, Mr Sajid Aziz, Dr Ashraf Iqbal, and Dr Javed Ghani was formed to plan and hold the proposed workshop on IT Education Quality.

Bylaws
The draft of Section Bylaws was distributed for discussion and comments. Minor changes were suggested and it was decided that the Bylaws committee shall once again scrutinise the draft for grammatical and typographical mistakes and also incorporate the new suggestions/comments in the final draft. The Bylaws committee shall then send the final draft to IEEE HQ and Region 10 under their signatures only instead of signatures of whole Executive Committee.

MINUTES OF 1ST MEETING OF THE EXECUTIVE COMMITTEE OF IEEE PAKISTAN COUNCIL HELD ON JANUARY 20, 2001

The meeting was held at LUMS, and started with the introduction of Office Bearers of Pakistan Section and Karachi Section. The Chairman of Pakistan Section, Hasnain Reza Mirza, introduced the members to each other. The following items were discussed:
- The Secretary of Karachi Section, Fasih Ahmed Masood, presented the draft of the proposal for the establishment of Pakistan Council covering the issues like the renaming of sections, geographical boundaries etc. of each section. It was decided to rename the Pakistan Section to Lahore Section. The Council will make efforts to establish section sin Quetta, Peshawar, Multan, and Faisalabad etc. to increase the votes in Region 10. The geographical boundaries will also be redefined for the Sections. It will be based on provinces.

Section	Area
Lahore	Punjab
Karachi	Sindh & Quetta
Islamabad	Federal Capital, NWFP & Kashmir

- The establishment of Pakistan Council will enable the Chair to be a member of the Region 10 Committee. Therefore, the Chairman of the Council can hold either the responsibility of Chair of the Section or Council. The travel expenses of the Council Chair and the Section Chairman to the Region 10 meeting will be beard by the Region 10.
- It was resolved to form a Council Committee, which shall consist of the Council Chair, the Council Vice Chair, the Council Secretary, the Council Treasurer, and other Committee Chair, if such Committee exists, and one representative of each Section in the Council appointed by the Section Executive Committee. The proposed council 2001-2 will comprise of the Chairman & Secretary or any other 2 Office Bearers of each Section, Section Representative (Past Chairman) as decided by the Executive Committees of the Section and the Chapter Chairs from each Section. The duties of the Council Committee shall include the annual election of all Council officers. Pakistan Council shall establish a Council Nominating Committee comprised of the Past Chairs of each section, which will prepare a slate of candidates, recommended for the offices of Council Chair, and such other members of the Council elected at large in accordance with the Council Bylaws, to be submitted for approval by the Council Committee. The slate shall include not less than two or more than three candidates recommended for each office. The committee will have 1 representative from each section. The Council officers will be the Council Chair, Vice Chair, Secretary and Treasurer. All officers shall be elected annually as provided in the Council Bylaws. The three Sections will be given responsibilities on a rotating basis. In case of Council Officer or member moving abroad, the Section Executive Committee will decide about the replacement. It will be binding on the Council to accept it.

2001	
Chair	Lahore Section
Vice Chair	Islamabad
Secretary	Karachi
Treasurer	Lahore
2002	
Chair	Karachi
Vice Chair	Lahore
Secretary	Islamabad
Treasurer	Karachi
2003	
Chair	Islamabad
Vice Chair	Karachi
Secretary	Lahore
Treasurer	Islamabad

- Pending installation of the first Chair of the Pakistan Council, the Sections may appoint a Chair pro term of the Council Committee, and the Chair pro term may appoint a Secretary and Treasurer pro term. The Executive Committee appointed Hasnain Reza Mirza, Chairman of Pakistan Section, as Chair pro. The Chair pro, Hasnain Reza Mirza, appointed Fasih Ahmed Masood, Secretary of Karachi Section. The term of office for all officers shall normally be one year, but may continue until a successor has been duly elected and take office. The term of office will date from 1 January through 31 December. The consecutive period of service in any one office shall not exceed one year. There shall be no extensions beyond this one-year term.
- It was agreed to hold at least three Council Committee meetings each year at Lahore, Islamabad, and Karachi. A quorum for a Council Committee meeting shall consist of a majority of the members of the Committee and shall include representatives from all the Sections of the Council. The travelling expenses of Section Officers and Representative will be beard by the respective Sections for meetings and the host Section will handle the boarding and lodging expenses. The meetings will be rotated among the Sections.
- It was decided to prepare a draft of the joint activities among the sections. The Secretary of Karachi Section, Fasih Ahmed Masood, will submit it to the Pakistan Council Executive Committee.
- It was resolved to declare as the 1st meeting of the Pakistan Council (proposed). The 2nd meeting will be held in mid-March 2001 in Karachi at the AGM of IEEE Karachi Section.

MINUTES OF EXECUTIVE COMMITTEE MEETING HELD ON FEB. 21, 2001

A meeting of the executive committee was held on February 21, 2001 at LUMS. The proceedings started with the recitation from the Holly Quran.

Introduction of New Executive Members
Vice Chair Engr. Riaz Bhutta welcomed and introduced all new executive committee members.

Finalisation of Accounts
Vice Chair informed that the Section Accounts (Financial Statement) for the year 2000 has been compiled for submission to IEEE HQ by 23rd Feb in the prescribed format. The statement was shown to the members. (The official confirmation of its receipt has since been received, along with new officers confirmation report, and the Section is declared eligible for annual rebate plus 10% Bonus earned for timely submittals). A statement of Receipts and Payments from 1.1.2001 to 20.2.2001 was circulated among the participants.

Finalisation of IEEE's of Council
In principle, the formation of IEEE Council has been agreed upon by the three Sections, namely, Lahore, Karachi and Islamabad Sections. Further action will be taken by the Chairman Lahore Section, Mr Hasnain Reza Mirza, to put the petition to HQ and also to formulate the procedure for convening Council Meetings etc. including future strategies.

Presentation on INMIC 2001
The details of INMIC 2001, to be organised jointly by IEEE Lahore (Pakistan) Section & LUMS on December 28-30,

2001, were presented including Call for Papers, Topics, Tutorials, Student Projects, Awards and the Schedule of activities.

Finalisation of Section Bylaws

Dr Syed Zahoor Hassan and Mr Sajid Aziz (Bylaws Committee Members) informed that the Section Bylaws have been updated and are ready for submittal to HQ for approval.

Any other point

Key Responsibilities

The following appointments (Volunteers) were finalised during the meeting with the consent of the individuals concerned.

Chair Student Activities	Dr M Maud
Chair Awards	Mr W Khan
Newsletter Editor	Mr M Afzal
Chair Edu. Activities	Dr Chughtai
Chair Membership Dev.	Mr J Ikram
Chair Prof. Activities	Dr A Iqbal

The Committee hoped that the new Volunteers will work with new zeal and cooperation to achieve better results overall for their Section.

Discussion on Further Energising the Student Groups

The discussion led to identification of a number of new ideas. The new Student Activities Chair, Dr Muhammad Ali Maud was requested to formulate a plan in the light of these ideas and in consultation with the student branch offices.

Bank Resolutions and Signatories

The usual Bank Resolutions were passed as a consequence of new elections and Executive Committee. Following members were approved for signing the cheques, in addition to the Section Chair and the Secretary/Treasurer, in accordance with established practice and procedure:

- Dr Muhammad Ali Maud
- Mr Waseem M Khan

The Secretary/Treasurer should take necessary action in this regard including forwarding of the Resolutions to the concerned Banks.

MINUTES OF EXECUTIVE COMMITTEE MEETING HELD ON APRIL 02, 2001

A meeting of the executive committee was held on April 02, 2001 at LUMS. The proceedings started with the recitation from the Holly Quran.

Confirmation of MOM of previous Meeting

MOM held on February 21, 2001 were confirmed.

Bylaws

Mr M Waseem Khan, and Engr. Abdul Aziz gave their comments specifically on Item 2 of by-laws through a hard copy, and e-mail respectively. The Executive Committee decided that Mr Sajid Aziz will be requested to consider the comments and revise the draft. It was also decided that effective dates of the new by-laws will be changed to January 2001.

IEEE Region 10 Meeting in Singapore

The committee decided that Mr Riaz Ahmed Bhutta will attend the upcoming Region 10 meeting on April 6-7 in Singapore, to represent the Pakistan Section.

Gold Affinity Group

The Executive Committee nominated Mr Abid Latif for the Gold Affinity Group activities.

Letter to inactive IEEE Members

The committee decided that a letter will be sent to all inactive members informing them about the facility of paying IEEE dues in Pakistan Rupees.

Student Branches Activities

Dr Ashraf will coordinate the student branches activities jointly with Dr Muhammad Ali Maud to make them more efficient, and effective in future.

Website for Pakistan Section

The committee approved Rs 10,000 for proper development of IEEE Pakistan Section website. Dr Zahoor will coordinate this project.

Section Promotion and Publicity

It was decided that the Section should project its activities more effectively in the media. In this connection an advertisement will be placed about the student workshops being organised by the section.

MINUTES OF EXECUTIVE COMMITTEE MEETING HELD ON APRIL 27, 2001

A meeting of the executive committee was held on April 27, 2001 at LUMS. The agenda was discussed itemwise as follows:

Confirmation of MOM of previous Meeting

MOM held on April 02, 2001 were confirmed.

Region 10 Meeting Report

Mr Riaz Ahmed Bhutta, Vice Chair, briefed the members of the deliberations of the Region 10 Meeting held in Singapore on 6-7 April 2001. Section Chair asked him to prepare a report for circulation amongst the members. The report is given in NEWS and EVENTS Section.

Review of sub-committees Activities

The Chairs of Membership Development, Educational Activities and Student Activities were requested by the Section Chair to expedite preparation and submission of their plans of activities in the next meeting positively.

INMIC 2001

The INMIC 2001 organisers should update the members about the status and progress in the next meeting.

Accounts for February and March 2001

The office manager, Mr Nadeem, stated that the Section's Accounts could not be compiled, as the necessary record was not shifted to LUMS, from the office of Mirza Associates. The committee took a serious notice of the delays caused in routine office formalities, and advised the office manager and the Accountant to take immediate steps. It was also reported that the usual Bank Resolutions required to be sent to the Banks, as a result of change of office bearers, have not been done yet. The Secretary/Treasurer is requested to take action in this regard soon.

Any other point

Publicity of Section Activities - It was decided to pay more attention to publicity and media coverage of the Section activities for public awareness and for membership development, as also advocated in the R 10 meeting.

Elections - Mr Bhutta discussed the subject of Section elections with the President-elect 2002 during the R10 meeting in Singapore, so as to elect the office bearers of the Section 3-4 months in advance of the current term, for smooth change over and to give enough time to the incoming officers for familiarisation. The idea was endorsed. In case it is agreed, Bylaws will need to be modified.

Lectures of Dr Maud - Dr Ashraf Iqbal said that there was a very healthy response from the students in attending Dr Maud's lectures at LUMS, and it is becoming very difficult to manage the increasing number of students. It was suggested that registration of the students should be done on every lecture, and efforts should be made to encourage them to get IEEE membership. It was also pointed out to activate the GOLD program as well, in order to have the maximum retention after students graduation, in keeping with IEEE objectives.

REPCOM - It was decided that Dr Ashraf Chughtai will prepare a working paper on REPCOM, and Dr Ashraf Iqbal, and Dr Maud will coordinate with him.

Executive Committee Member's Attendance - It was observed that Executive Committee Member's attendance has been declining. It was suggested that the Section Chair and the Secretary will talk to each member personally apprising them of their voluntary obligations agreed upon by them.

Technical Lecture/Talk - The Section has not arranged any Technical Lecture/Talk for some time. It was decided that the Chair Professional Activities (Dr Ashraf) will prepare a plan and put it into practice ASAP. It was suggested to have a lecture once every two months at least.

Website for Pakistan Section - The first draft of website was reported ready. Section Chair desired that its hard copy should be circulated to Members for their comments and input. The Secretary was requested to take necessary action.

Reporting to Region & Head Quarter - It was decided that all the main activities of the Section will be reported to the Region and RAB via e-mail, fax or post, as appropriate, at the earliest.

MINUTES OF EXECUTIVE COMMITTEE MEETING HELD ON MAY 16, 2001

A meeting of the executive committee was held on May 16, 2001 at OPSTeC. The agenda was discussed itemwise as follows:

Presentation on IEEE to Student Branch at OPSTeC

The ceremony started with the recitation from the Holy Qur'an. Dr M Ashraf Chughtai, Dean OPSTeC gave a brief introduction about OPSTeC. Mr Hasnain Raza, Chairman, introduced IEEE to the students and highlighted the benefits and advantages of joining IEEE. Dr Maud, in his presentation to the students highlighted the importance of IEEE for the professionals and the students. He also informed that IEEE Pakistan Section has started a series of lectures at LUMS for the students. He also informed that other professionals available in the market will be requested to teach courses at the IEEE platform to the students. Nearly 30 students, present on the occasion, participated actively during the question/answer session.

Confirmation of MOM of previous meeting

MOM held on April 27, 2001 were confirmed.

INMIC 2001

Dr Maud briefed the committee that several scholars from abroad including Australia, Canada, Singapore have shown their interest and sent abstracts for the conference. Till May 15, 2001, there were around 40 papers, and about 14 are from abroad. He informed that around 70-100 papers are expected for consideration. Dr Zahoor, Secretary/Treasurer, informed the committee efforts are underway to sign up sponsors for the upcoming INMIC 2001. Mr Riaz Bhutta asked Dr Maud to also extend the invitation to other countries in Region 10 whose delegates attended the recent Regional meeting held in Singapore.

Pakistan Section Website (http://www.lums.edu.pk/ieee)

A presentation on Pakistan section website was given by Mr Arsalan to the executive committee members and students. They were requested to give their inputs for making the site more useful. All the members appreciated the effort.

Membership Development & REPCOM

Membership development - Mr Jamil Ikram distributed a draft proposal for membership development to the members of the committee. He highlighted key factors that can help increase the membership. Following suggestions were made in this regard:

- Small-scale seminars/discussions may be organised on specific topics.
- Discussion forum/chat channel or a platform where people can post questions related to some technical problems be organised, where experts can reply to these queries.
- Complementary copies of spectrum along with membership applications and promotion materials may be sent to different education and technical institutions, and also be displayed at all the IEEE functions.

He also informed that a letter be sent to all non-active members and they be involved in different IEEE activities. It was also suggested that faculty at educational institutions should be encouraged to take IEEE membership. In this connection, a number of faculty members from LUMS have already joined IEEE, and FAST, UET, NUST, and OPSTeC faculty members will be pursued to take IEEE membership.

REPCOM - Dr Ashraf Chughtai circulated a draft proposal for the implementation of the REPCOM project. He also informed the members that a committee be formed for this purpose. First meeting of the committee will be held before the next executive committee meeting.

Bylaws

It was decided in the meeting that the Officers-Elect for the next term would be announced early for smooth change of responsibilities. This will also facilitate the new office bearers to understand the procedures and the responsibilities before officially taking charge. In this regard, Advisor bylaws, Mr Sajid Aziz, will incorporate necessary changes in the bylaws.

Formation of Pakistan Council

Section Chair informed that he will take further necessary action in this regard.

Any other point

- The Secretary/Treasurer presented the expenditures statement for the period January 01, 2001 to April 30, 2001. The house approved the outstanding payment of Rs 10,389 to M/s ICC on account of fax/telephone and miscellaneous charges incurred by them. The committee asked the Secretary/Treasurer to write a letter to the Auditors, M/s S.A. Salman, asking them to explain the claim of Rs 5.000/- as fee demanded by them for the audit of Accounts for the year 1999-2000.
- It was decided that the Secretary/Treasurer should forward a list of all the activities of the Section promptly to the Region and HQ to keep them posted of the section activities.
- The committee regretted that the Newsletter for the last two quarters had not been issued yet, and it was observed that the Chair Newsletter neither attended the meetings nor he could be contacted. The importance of issuing the Newsletter on time was stressed. Dr Zahoor volunteered that LUMS would take care of the matter.
- The committee agreed that all events be reported in the press and media for greater publicity, awareness and interest of the public. This will enhance membership development also. Dr Ashraf Chughtai promised to send a news item covering the function held at OPSTeC. It was also suggested that notice of technical lectures/seminars/symposium be given in the newspapers and a brief report of the event be also published.
- Dr Zahoor promised to hold the technical lectures on a relevant subject as soon as possible. He also made a list of possible important topics.
- In response to the message received from IEEE Karachi Section Chair, the committee decided to inform Mr Shahid, Section Chair Karachi, that we have no objection if they want to organise TENCON 2003/04 at Karachi. It was also decided to provide full support to Karachi section in this effort

MINUTES OF EXECUTIVE COMMITTEE MEETING HELD ON JUNE 20, 2001

A meeting of the executive committee was held on June 20, 2001 at LUMS. The Meeting started with the recitation from the Holy Qu'ran. The agenda was discussed itemwise as follows:

Confirmation of MOM of previous meeting

MOM held on May 16, 2001 at OPSTeC were confirmed.

Finalisation of Bylaws

The Secretary/Treasurer presented the bylaws before the executive committee members for approval. Mr Riaz A Bhutta, Vice Chair pointed out that election results need to be announced earlier than AGM, which was agreed. Mr Sajid Aziz was requested to incorporate the necessary changes pointed out, and send the final version to the Secretary/Treasure for posting to the Region, and IEEE headquarter by Friday June 22, 2001. The committee acknowledged the efforts and commitment of Mr Sajid Aziz towards finalisation of the Section bylaws.

Update on Formation of Pakistan Council

Section Chair informed that a letter has been sent to the other two sections, their response is awaited.

INMIC 2001 – Update and progress report

Dr Mohammed Ali Maud gave the status of the activities of INMIC 2001. He informed the executive committee that till June 18, 2001, total 176 abstracts have been received, and out of these 109 papers have been solicited after initial screening, while 67 papers have been solicited for poster sessions. It was also decided that Dr Maud, and Hasnain Reza, Chairman will write a letter to the PTCL headquarter Islamabad thanking them on their 0.5 million contribution as co-sponsor of INMIC 2001.

Planning of Activities of Membership Development

Mr Jamil Ikram informed the committee that he is working on the membership development. A letter will be sent on to all the inactive members to make them active in different IEEE activities. In this regard, the list of all the IEEE members will be issued to Mr Ikram by the section office. A few suggestions were given for membership development by the committee.

Education Project for Region 10

REPCOM - Dr Ashraf Chughtai could not participate in the executive committee meeting due to his prior commitments. He informed the Secretary that the meeting of REPCOM committee was scheduled two/three times, but it was postponed due to the non-availability of the committee members. Very soon a meeting with the Chair will be scheduled in this regard.

Series of Lectures – Dr Maud informed the committee that his Course Titled: Introduction to Digital Signal Processing has been completed successfully at LUMS. It was decided that next course will be offered at some other institute to make it accessible for more students. In this regard FAST or OPSTeC will be chosen for the next course. It was also decided that the institutions would be asked to register their students for the course, and send a list of the students for the participation. A committee of one or more students from every institute will be made responsible for this purpose. It needs to be ensured that these events are properly organised and utilised as a vehicle for promoting IEEE.

Pakistan Section Website http://www.lums.edu.pk/ieee

Mr Jamil Ikram pointed out that the structure of the Section website is not according to the standard structure of IEEE, and it needs to be changed, and the title of Pakistan Section will be changed with the Lahore Section. All the information about the section will be updated, and the website will be launched as soon as possible.

Update on Election

The Chairman informed the committee that the election would be held as per schedule in the updated bylaws.

Any other point

- It was decided that the next Technical lecture on Neural Networks will be held at LUMS on Friday, June 29, 2001 at 4:00 p.m. Dr Haroon Babri, Associate Professor will be the speaker. Invitation will be given to the maximum participants like students, software houses, engineering firms etc., in addition to all the IEEE members stationed in Lahore in particular.
- The Secretary/Treasurer presented the expenditures statement for the period January 01, 2001 to May 30, 2001. The house approved the outstanding payment of Rs 3,000 to M/s S A Salman & Co. for their audit fee for the term of 1999-2000.
- The Secretary/Treasurer informed the committee that the report of activities of the section has been sent to the region and headquarter.
- It was also informed that the Newsletter will be published, and distributed to all members in the first week of July. In this regard, all the work has been done, while the report of FAST-IEEE seminar held at FAST, and the report on OPSTeC student branch are yet to be received.

GETTING THE MOST

By Riaz A Bhutta, Vice Chair

In my opinion, the main benefits of becoming a volunteer office bearer in an IEEE entity, is the sense of participation and achievement it provides by interacting with your colleagues of different disciplines, ranging from utilities, industry to academia, enhancement of communication and leadership skills and above all the joy of remaining connected to leadership around the globe.

IEEE is the most respected and largest professional body worldwide and provides you a cutting edge to modern technology through seminars, symposia, conferences, research publications and on-line educational programmes. IEEE recognises talent in professional as well as administrative work and the contributors are suitably rewarded, at all levels from student to higher membership grades, by presentation of a

number of medals, certificates and plaques in recognition of one's contribution. It provides you a conducive family type-working environment satisfying your intellectual thirst and needs. There is a wide scope of personal development and only sky is the limit. I would urge the students and members to come forward and select any of the many prestigious

- The Vice Chair of FAST Student branch was asked to submit their seminar's report by Saturday, so that it could be incorporated in the coming newsletter.
- Dr Amjad, student counsellor, FAST student branch also informed about the activities of the branch, and also its future plans. He also informed that FAST has started a series of lectures/seminars with the first seminar on Issues and trends in IT Industry last week, and a few more will be held in this regard. Particularly he highlighted that FAST is planning to hold a student conference in 2002. The committee asked him to make a proposal in this regard, and present it to the executive committee in the next meeting so that an official approval be granted.
- The committee approved 50% of total expenses i.e. Rs 5,288/- for FAST-IEEE seminar held at FAST.
- It was also decided that a letter be sent to the different degree granting institutions, and organisations to inform them that membership fee can be submitted at IEEE office of the Secretary, LUMS, in local currency equivalent to Dollar's market value on the day of submission, with the application forms for further processing.
- It was also desired that another press release for the upcoming INMIC 2001 will be sent in the press. In this regard, a separate account at LUMS will be opened to keep all the record of INMIC 2001 transactions. It was also highlighted that the amount for previous press release for INMIC will be paid to LUMS, because it was initially paid through LUMS account. Mr Qamar, Accountant IEEE will keep all the records in this regard.

positions of voluntary office bearers of your student branch, chapter or local section. I am sure you will find it a stimulating and a rewarding experience.

Let us work for shared information, advancement of local and global prosperity through promoting scientific community worldwide.

LETTERS TO THE EDITOR

Members are welcome to send their views and suggestions on related technical subjects to IEEE through short letters. Letters would be published after necessary editing.

ANNEXURE 1 (page 1 of 2)
Fund Flow Statement
For the Period from 01-01-2000 to 31-12-2000

Receipts		
Section Rebate	220968	
Profit FIB	15000	
Profit on PLS	17432.35	
		253400.35
Payments		
Expenditure	74727.25	
Deduction of Tax at Source	5594.92	
Paid to Islamabad Sub-section	100000	
		180322.17
	Surplus	73078.18

Statement of Receipts and Payments
For the Period from 01-01-2000 to 31-12-2000

RECIEPTS	Rs. Ps.	Rs. Ps.	PAYMENTS	Rs. Ps.	Rs. Ps.	Expenditure	Rs. Ps.
Opening Balance			Expenditure during the period		74,727.25	Printing & Stationary	15,318.00
Emirates Bank Int. US$ Converted into Pak Rs.			Membership Fee Paid to HQ.		114,364.00	Postage	3,655.25
US$ 9516.96 A/C No.112-241690-102	493,882.62		Deduction of Tax at Source		5,594.92	Legal & Professional Charg	2,500.00
US$ 2013.86 A/C No.112-241690-106	104,509.26					Entertainment	978.00
Emirates Bank Int, Pak Rs.A/C.	85,336.15					Salaries Expenses	32,593.00
Cash in hand on 01.01.99	1,180.71		IEEE Isb. Sect. Start up Fund		100,000.00	Conveyance & Travelling	7,605.00
Dr.M.Akbar Imprest A/C	1,921.00		Closing balance			Grants & awards	1,600.00
Section Custody Account $1547.77	79,956.06	766,785.80	*Emirates Bank Int. US$			Telephone & Fax	500.00
Profit on PLS A/C		17,432.35	Converted into Pak Rs.	726,263.10		Bank charges	325.00
Profit on Federal Investment Bond		15,000.00	Emirates Bank Int.Pak Rs. A/c.	108,599.48		Meeting & Social Events	4,450.00
Membership Fee for remittance to HQ.		94,421.39	Cash in hand	870.46		PES Chapter	800.00
Miscellaneous Receipts $311.00		17,732.67	Dr. Muhammad Akbar Imprest	1,921.00	837,654.04	Gift	2,608.00
Section Rebate $4092.00 @ Rs.54.00		220,968.00				Zakat on Intrest for 2000	1,795.00
Total:		1,132,340.21	**Total:**		1,132,340.21	**Total:**	74,727.25

|			
*US$ A/C No. 1122-241690-102	$8,000.60		412,222.73
US$ A/C No. 1122-241690-106	$2,092.49		108,824.16
Sub Total:	$10,093.09		521,046.89
Section Custody Account	$3,626.52		205,216.21
Total:	$13,719.61		726,263.10

ANNEXURE 1 (page 2 of 2)

Bank Accounts Position as on 31-12-2000

Account No.	Balance on 01-11-2000	Deposits	Withdrawal	Balance on 31-12-2000
1122-241690-102 $	9,564.60	0.00	1,564.00	$ 8,000.00
1122-241-690-106 $	2,064.49	28.00	0.00	$ 2,092.49
Custody Account H/Q $	3,521.92	305.60	201.00	$ 3,626.52
1122-241-690-101	67,698.47	56,896.00	1,5995	108,599.48

Budget for the Year 2001

Description	Proposed Expenses Rs	Expected Income Rs
Salaries	70,000.00	-
Printing & Sttionery	50,000.00	-
Postage	25,000.00	-
Entertainment	5,000.00	-
Miscellaneous Expenses	3,000.00	-
Telephone & Fax	50,000.00	-
Technical Activities	10,000.00	-
Travelling & Conveyance	20,000.00	-
Bank Charges	5,500.00	
Audit Expenses	6000.00	
Seminar Expenses	30,000.00	
Advertisement	10,000.00	
Depreciation	14,000.00	
Section Joint Meetings	5,000.00	
AGM Expenses	15,000.00	
Profit on Investment		15,000.00
Profit on PLS A/C		10,500.00
Estimated Section Rebate		207,360.00
Sub-Total (A)	**318,500.00**	**232,860.00**
Conference		
Estimated expenses	1,200,000.00	
Sponsorship	-	1,000,000.00
Registration Fee	-	3,00,000.00
Sub-Total (B)	**1,200,000.00** *	**1,300,000.00**
Grand Total (A) + (B)	**1,518,500.00**	**1,532,860.00**
Surplus		**14,360.00**
Miscellaneous Expenses	**14,360.00**	
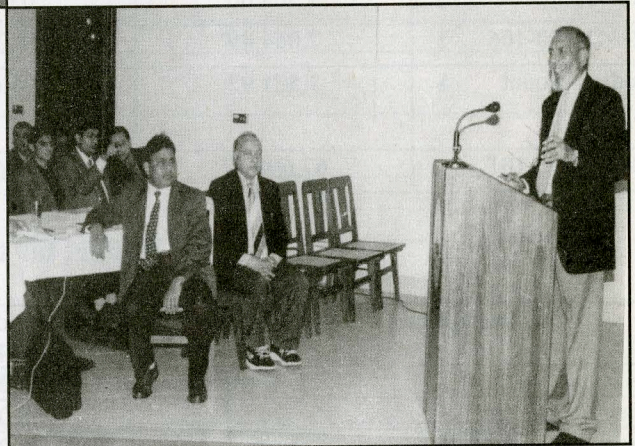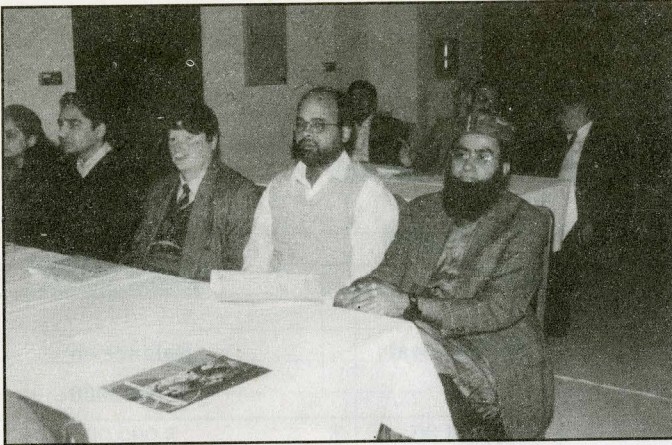
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