

TALIM

VOL. 11

Special Issue

September 2001



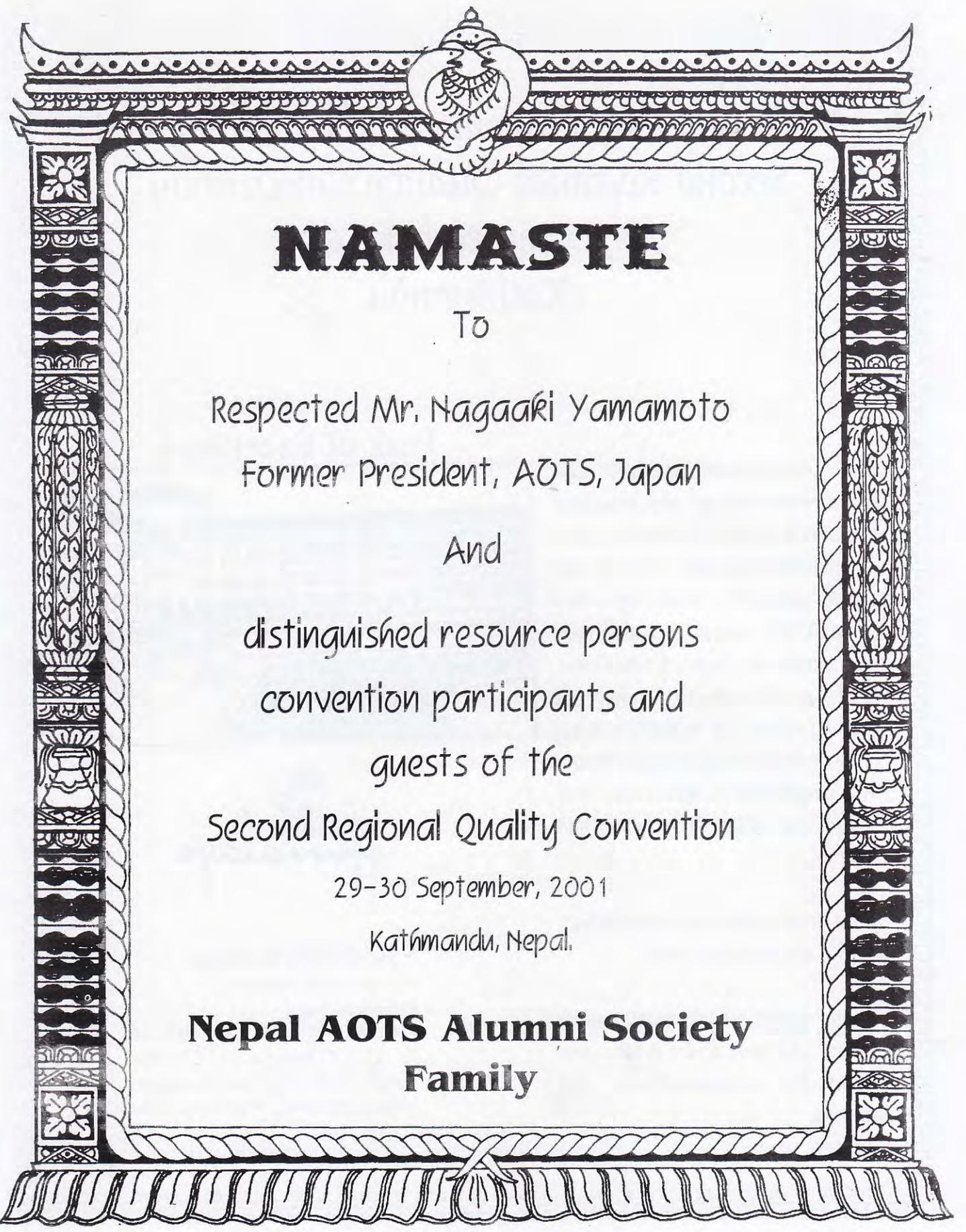
World Network of Friendship (WNF)



NEPAL AOTS ALUMNI SOCIETY

ACTIVITIES OF NAAS 2001 – 2002
(April 2001 – March 2002)

Activities	2001 Apr.	2001 May	2001 June	2001 July	2001 Aug.	2001 Sept.	2001 Oct.	2001 Nov.	2001 Dec.	2001 Jan.	2002 Feb.	2002 Mar.	Person In-Charge
JASMAN Trainings													
* Training at YTG					*								K. Khanal
* Training at RIA							*						K. Khanal
* Training at Siddhartha Hospital									*				K. Khanal
NACTC Trainings													
* Basic Computer Literacy	*	*	*	*	*	*	*	*	*	*	*	*	M. Bhattarai
* Diploma in Software Development						*	*	*	*	*	*	*	M. Bhattarai
* Job-oriented Training on Computer Hardware						*	*	*	*	*			M. Bhattarai
* Training of Trainers										*	*		M. Bhattarai
* Diploma in Computer Application								*	*	*	*	*	M. Bhattarai
Others													
* World Network of Friendship	*												B. Rajbhandary
* CICC Recommended Scholarship		*						*					R. Nepal
* NAAS Bulletin				*									R. M. Singh
* 11 th AGM				28									M. Nakarmi
* Registration Renewal				*									R. Nepal
* TALIM Publication						*							R. M. Singh
* 2 nd Regional Quality Convention						*							K. Khanal
* Alumni Recommended Scholarship													R. Nepal
* Printing Technology Training									*				S. Malla
* Bon-en-kai									*				P.N. Manandhar
* Importance of Energy Conservation in Industry									*				R. Nepal



NAMASTE

To

Respected Mr. Nagaaki Yamamoto
Former President, AOTS, Japan

And

distinguished resource persons
convention participants and
guests of the
Second Regional Quality Convention
29-30 September, 2001

Katmandu, Nepal.

**Nepal AOTS Alumni Society
Family**

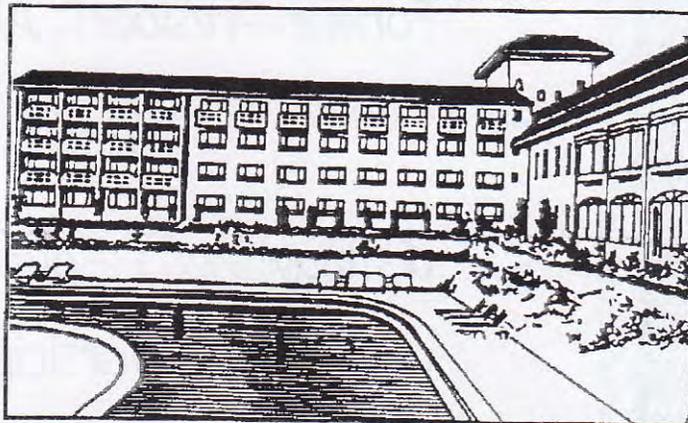
With Best Compliments on the Occasion of
Second Regional Quality Convention
29-30 September 2001,
Kathmandu

100 rooms centrally air-conditioned rooms with balconies and mountain view, 3 delux suites, 3 business suites, 22 channels Spacetime Network and satellite colour T.V., piped music, mini bar and IDD, Spectacular mountain views from all parts of the Hotel. Convenient location, 10 minutes from the city centre, 15 minutes walking distance from the ancient city of Patan with magnificent temples, historical monuments, palace, courtyards and squares.

"Base Camp" Coffee Shop ideal for light snacks and leisurely meals.

"Chalet" fine dining for exotic Mughlai cuisine, with spectacular views of the mountains, swimming pool and gardens.

Peak of Excellence



Sahid Sukra Marg

P.O. Box : 2141, Lalitpur

Kathmandu, Nepal

Cable : FLORA Telex : 2566 HOHIL NP

Tel : 977-1-523900, Fax : 977-1-523909

E-mail : himalhot@lalitpur.mos.com.np

Website : <http://www.yomari.com/himalaya>

We are extremely happy to bring out this 11th issue of TALIM on the special occasion of the Second Regional Quality Convention which is being jointly organized by Nepal AOTS Alumni Society and Association for Overseas Technical Scholarship (AOTS), Japan.

As national economies move toward global integration, organizations are under pressure to transform their traditional practices and mindsets into a more creative endeavour to align themselves with the global order. The pressure has been brought about by highly competitive economic market forces domestic, regional and global. And the only way to remain successful is to compete in today's market through quality and productivity enhancement – by building a competitive environment through quality.

The major event of the year 2001 is the Second Regional Quality Convention being held on 29-30 September in Kathmandu. We welcome the distinguished resource persons from Sri Lanka, Bangladesh, India, Thailand and Nepal who are presenting their respective papers in the convention which has adopted the theme "Building Competitive Environment Through Quality". About 70 managers, officers, supervisors, academicians of different business and non-business institutions are participating in this two-day event. And the highlight of the event is the august presence of Mr. Nagaaki Yamamoto, Former President, AOTS, Japan, a profound well-wisher of NAAS, a guide and source of great encouragement to us. He is scheduled to deliver a very important note on cooperation strategy of alumni societies and AOTS through a unique concept the WNF (World Network of Friendship) in his paper "Consolidation of the WNF for Achieving Peace and Prosperity in the 21st Century".

The 11th AGM of NAAS was held on 29th July 2001 instead of June when the AGM normally held. Mr. S. Miyamoto, General Manager, AOTS New Delhi Office and his wife had attended the AGM.

Besides the regular features of TALIM, this special issue contains the convention papers of the resource persons including the speech of Mr. N. Yamamoto. These papers will provide interesting and knowledgeable reading, offering an opportunity to learn about case experiences in quality in different countries.

This publication is a result of the cooperation of all NAAS friends, advertisers and well wishers, and, not to forget, the efforts of the publication committee. We hope you find the contents of this TALIM interesting and useful.

Happy reading !

1. NAAS News	16
2. NAAS Report	20
3. Second Regional Quality Convention	
* Consolidation of WNF for Achieving Peace and Prosperity in the 21st Century	27
* Quality Management in Pharmaceutical Industries of Bangladesh : LIBRA's Achievements	30
* Aligning an Organization to Achieve World Class Standards	35
* Quality & Bottom Line	41
* Case Study Report : TQM Implementation in Federal Electric Corporation Ltd.	50
* Quality Management Systems in Nepalese Industries	52
* Total Quality People for Total Quality Management	55
* Case Study of Fred Hollows IOL Laboratory : Manufacturer of Single Piece PMMA Intra Ocular Lenses	62
4. Article	
* Management of Energy Conservation in Industry	69
* Introducing AHP : Application for Quality Management	72
* Subjective Aspects of Management	77
5. Experience	
* Japanese Experience	80
* Japanese Experience while Learning Activity Based Management	81
6. NAAS Member List	82

PUBLICATION COMMITTEE

Mr. Ramesh Man Singh

Mr Prakash Suwal

Mr Kiran N. Shakya

Mr Binod Banskota

Mr Prabendra L. Singh

Cover Page : **WNF Logo**

The World Network Friendship (WNF) logo adopted through a Fund Logo Competition and selected during the 5th Convention of AOTS Alumni Societies at Chubu Kenshu Center, Toyota City, Aichi Prefecture in 1997. The WNF is a unique world-wide organization uniting all the Alumni Societies for the promotion of international friendship and understanding through technological, cultural and social exchanges utilizing the resources of the AOTS Alumni Exchange Fund.

Best Compliments from

Nepal Industrial Development Corporation

The only Industrial Development Bank of Nepal
Offers wide range of Industrial Banking Services
For establishment, expansion and modernization of
feasible projects in the private sector

For further information please contact :

Nepal Industrial Development Corporation (NIDC)

Central Office, NIDC Building, Durbar Marg,

P.O. Box 10, Kathmandu

Tel : 228-322, Fax : 977-1-227428

E-mail : nidc@wlink.com.np

Regional Offices :

Biratnagar : 24634, 25304

Pokhara : 20083, 20518

Nepalgunj : 20203, 20037

Dhangadhi : 21203, 21603

SMEcenter.com Nepal

Helping Small Business Do Big Business
Your Gateway to the Global Market Place

Please visit :

[http : //www.smecenter.com.np](http://www.smecenter.com.np)

MESSAGE



I am pleased to learn that the Nepal AOTS Alumni Society (NAAS) will be organizing the 2nd Regional Convention on Quality Management in Nepal and, on that occasion, will bring out a publication called 'Talim', which will contain useful information on human resources development in Nepal.

The private sector is a key to building a self-sustainable economy in any developing country, including Nepal. And human resources development is one of the most important factors in promoting the private sector. The private sector should vitalize itself by expanding its activities in the domestic market, and also into the international market. However, it is not an easy task to promote activities in both of these markets, because of obstacles such as the over-all socio-economic framework and infrastructure, as well as competition with other countries.

With this in mind, the Government of Japan has extended its assistance basically designed to support socio-economic development under the market economic system, as well as to support the democratization process. However, the private sector's own efforts to increase its competitiveness through human resources development should be the primary engine to strengthen that sector's activities.

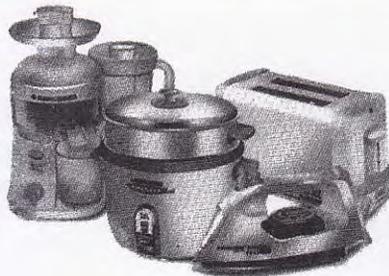
From this point of view, I am glad to note that during the last ten years, NAAS has made a significant contribution to human resources development in Nepal by organizing training programs in management-related fields such as business administration and management, quality control, and other areas. I believe that NAAS will continue to strengthen and enhance its activities in the years to come. And I sincerely hope that NAAS will be the central catalyst that will encourage this country's human resources development, particularly in the private sector, and will give impetus to realize a self-sustainable economy in Nepal.

A handwritten signature in black ink, which appears to read 'Mitsuki Kojima'. The signature is fluid and cursive, with a long horizontal stroke at the end.

Mitsuki KOJIMA
Ambassador of Japan
Kathmandu

 **BLACK & DECKER**

Bring Home The Difference



UTC

Universal Trading Centre

P.O. Box 1947, Tripureswor, Kathmandu, Nepal

Tel : 262192, 260587, Fax : 977-1-261154, E-mail : utcnepal@mos.com.np

Wishing the Second Regional Quality Convention of Nepal

AOTS

Alumni Society a Grand Success



POWER



Yokohama Car Battery



Shibako Auto Trading

Kha 2/100, Dharma Path, Kathmandu, Nepal

Tel : 977-1-224177, Fax : 977-1-226959, 258678

E-mail : shibako@infoclub.com.np

**Message from Mr. Shuji Ogawa, President,
The Association for Overseas Technical Scholarship
(AOTS)**



I have great pleasure in forwarding this message of congratulations on the publication of the special issue of "TALIM" magazine, on the occasion of the 2nd Regional Quality Convention in Kathmandu on behalf of the Association for Overseas Technical Scholarship (AOTS). I hereby would like to extend my heartfelt appreciation to NAAS as well as each committee member for their unceasing efforts to organize various types of programs in the field of human resource development.

I assumed the post of President of AOTS at the end of June this year, but in spite of my short experience, I am convinced that the technical cooperation provided by AOTS has been contributing to the mutual development of Japan and other countries through the network of the AOTS Alumni Societies. The activities of the AOTS Alumni Societies around the world have made a great contribution to the human resource development of their countries as well as strengthening the friendship and relationship between Japan and their respective countries.

The best example of self-sustained activities for HRD driven by the alumni societies, I believe, is the World Network of Friendship (WNF) Program. It is the mission of the WNF to empower individuals and organizations in developing countries who are committed to the social and economic development of their own communities, and to enlarge activities for the sustainable development of such communities.

NAAS is expected to play an even more important role in the new and yet more challenging tasks ahead to promote technology transfer and human resource development. May I wish NAAS further prosperity and development in the new millennium and to further strengthen the friendships fostered in Japan and to put forward the development of its society.

A handwritten signature in black ink that reads "Shuji Ogawa". The signature is written in a cursive, flowing style.

Shuji Ogawa
President, AOTS

***Wishing the
Second Convention on Quality Management of
Nepal AOTS Alumni Society
A Grand Success***



Everest Sugar & Chemical Industry Ltd.

Head Office : Janakpur Dham, Tel : 041-20472

Contact Office : Pyukha, New Road, Kathmandu,
Tel : 244943

***Wishing the
Second Regional Convention on
Quality Management
A Grand Success***

R-S - Bhagat & Associates Consulting Architect

Biratnagar - 12, Nepal

Tel No. 021-26597, 425247 (Kathmandu Office)

MESSAGE



It is a matter of great pride for Nepal AOTS Alumni Society (NAAS) and also for Bangladesh AOTS Alumni Society (BAAS) to celebrate this year the Tenth Anniversary of their implementation of the WNF Program (formerly known as the Inter AOTS Alumni Society Resource Exchange Program) which was initiated for the first time by these two alumni societies in 1991. Mr. Sanu Raj Manandhar, recommended by NAAS, was trained in Dhaka by BAAS from 6th January to 17th February, 1991 on 'Motorcycle Maintenance Technology' at Rian Motors Limited. Since then BAAS received a total of 26 trainees from Nepal and sent 4 trainees to Nepal under this program for training in different areas of national need. Apart from training, NAAS and BAAS exchanged a good number of alumni experts under this program for conducting seminars and management training courses during the same period.

The Second Regional Quality Convention implemented by NAAS at Kathmandu on 29-30 September 2001 is also supported by the WNF Fund in the form of providing daily allowance to a number of alumni experts from other countries. It is also a matter of profound happiness that the Opening Ceremony of this convention is graced by honorable Mr. Nagaaki Yamamoto who had conceived the idea of the WNF Fund and subsequently made a great personal contribution to it when he was the President of AOTS. We can find the details of the WNF (World Network of Friendship) in the key-note speech of Mr. Yamamoto.

We all know that to get technical training in Japan has become very difficult during the recent years due to the wide gap in the technology level between Japan and the developing countries. To get a Japanese expert to conduct a seminar or a training course is also very expensive and is beyond the financial capability of most of the developing countries. Therefore, I believe that the WNF Program of AOTS has opened a new frontier for our mutual cooperation among the developing countries in exchanging trainees and experts and I sincerely wish that this program will flourish during the days to come.

Next, I would like to say a little bit about the philosophy of 'Equal Partnership' which was also introduced by Mr. Yamamoto when he was the President of AOTS. The meaning is - AOTS and an alumni society must be considered as equal partners and any kind of cooperation should never be one-sided only; it must be mutual. In fact, this spirit helped a lot of alumni societies in the AOTS family in becoming self-reliant by this time and Yamamoto Talim Ghar of NAAS is nothing but a glorious example of this spirit. The members of NAAS will perhaps never forget the encouragement, the official and also the personal supports of Mr. Yamamoto in materialising this project. Mr. Yamamoto will be pleased to know that NAAS has recently purchased a piece of adjacent land for expansion of Yamamoto Talim Ghar in the future.

I sincerely appreciate the hard work of NAAS to implement this Quality Convention successfully for the second time. Through this convention, let us think again about the spirit of WNF and the spirit of equal partnership for our peaceful coexistence and prosperity.

(Dr. AKM Moazzem Hussain)
Representative, AOTS Dhaka Office

*With Best Compliments on the Occasion of
Second Regional Quality Convention*

29-30 September 2001,

Kathmandu



INTERSTATE

MULTI-MODAL

TRANSPORT (Pvt) Ltd.

Sabitri Sadan,

Kha -1/956, Red Cross Marg,

Tahachal, Kalimati

Tel : 977-1-271473, 271987, Fax : 977-1-271570,

E-mail : rauniar@mos.com.np

STARWAY

CL-125/8A

Star of Road



Motorcycle Sales
& Spares

Star International Ltd.

Thapathali, Kathmandu, Nepal, Tel : 231809 / 242552

MESSAGE



On the occasion of the Second Regional Quality Convention being organised by NAAS from 29th to 30th September 2001, I wish to extend my hearty congratulations to all the members of NAAS and wish the convention a grand success.

I hope that NAAS continues to prosper and contribute to the growth and development of your country-Nepal as well as the neighbouring countries. The friendship between Nepal and Japan be strengthened by cooperation between NAAS and AOTS.

My good wishes to NAAS and ITS Members.

Shinichi Miyamoto
General Manager
AOTS New Delhi Office

ABOUT NEPAL AOTS ALUMNI SOCIETY

Nepal AOTS Alumni Society (NAAS) is a non-government organization of the ex-trainees of the Association for Overseas Technical Scholarship (AOTS), Japan. NAAS was formally established in 1991 with the objective of human resource development in management and technical fields in Nepal through various activities in line with its parent organization, AOTS, Japan. So far, about 270 Nepalese have already received training in AOTS, Japan and more than 2000 in Nepal itself. NAAS has its own training centre, the Yamamoto Talim at Koteswor, Kathmandu. NAAS Vision 2000 has placed strategic focus in the development of human resources in two core areas : Quality and Information Technology. This is done through two centers : the Nepal AOTS Computer Training Centre (NACTC) and the Nepal OTS Japanese Style Management Training Centre (JASMAN).

AOTS, JAPAN a non-profit organization was established in 1959, with the support of Japan's Ministry of International Trade and Industry (MITI). Its main objective is to promote technical cooperation between Japan and the developing countries for the industrialization and developemnt of developing countries and enhancing mutural and friendly relationships between those countries and Japan : For this purpose, AOTS has been supporting various educational and training activities of alumni like NAAS. To date, AOTS has trained approximately 79,000 persons in Japan from 150 countries and regions.

Nepal AOTS Alumni Society

P.O. Box : 20994, Koteswor, Kathmandu, Nepal
Tel : 478467, 476561 Fax : 977-1-525417
E-mail : naasytg@mail.com.np

**We're an
ISO 9002 Company.
But we've already
received our
highest reward.
Your trust
FOR 40 YEARS**



The ISO 9002 Certification recognises the high standards we follow in our manufacturing, distribution and marketing.

We are the only steel company to achieve this triple certification. But to us, there is no recognition more important than the trust you have come to place in us. Your trust will continue to inspire us to make and market the best possible steel in Nepal for you.



HIMAL IRON & STEEL (P) LTD
JYOTI BHAWAN, KATHMANDU, NEPAL
TEL: 226490, FAX: 226314



Himal makes safer homes.

MESSAGE



On the auspicious occasion of the Second Regional Convention on Quality Management, Nepal AOTS Alumni Society (NAAS) proudly presents its Eleventh Volume of "TALIM". NAAS, in the last eleven years of its existence, has been successful in maintaining the role of a purely professional society. This magazine provides you briefly the activities of NAAS during 2001/02, together with some useful and interesting articles.

As we know AOTS, Japan is passing through a very difficult transition period after the retirement of our guest leader Mr. Nagaaki Yamamoto from the post of the President. Due to the change in the policy of Ministry of Economic, Trade and Industry (METI), Government of Japan, AOTS has cut off its overseas activities drastically. As such, we were deprived of our participation in various AOTS activities. But we have tried to maintain our HRD activities as much as possible with our own technical resources, thanks to the cooperation and consideration of every one.

After the success of the first Quality Convention in 1999, we are organizing this Second Quality Convention with the theme of Building Competitive Environment Through Quality. I am very proud to say that regional experts from Sri Lanka, Bangladesh, India and Thailand along with Nepalese experts are presenting their papers and findings in this convention. I would like to thank Ms. Hiroko Yamada, Secretary General, WNF and General Manager, Overseas Affairs Division for supporting this convention. I must make a special mention of Dr. AKM Moazzem Hussain, AOTS Representative in Bangladesh for his sincere guidance and cooperation.

I would also like to express my sincere wishes to our new AOTS President Mr. Shuji Ogawa for his success.

Lastly, I would like convey my best wishes to all the NAAS members for their cooperation and support. I wish this convention a grand success.

A handwritten signature in black ink, appearing to read 'R. Nepal'.

Ramesh P. Nepal
President,
Nepal AOTS Alumni Society (NAAS)

NIDC Capital Markets Ltd. is a leading merchant banking institution with its wide range of schemes something for everyone.

Our Range of Services

- * Issue Management & Post Issue
- * Registrar to the Shares
- * Buy & Sale of Securities
- * Portfolio Management
- * Collection of Deposit
- * Providing Loan for Different Purposes
(such as Housing, Working Capital, Industrial & Hire Purchase)
- * Trusteeship
- * Mutual Fund Schemes.

NIDC Capital Markets Ltd.

Kamal Pokhari, Kathmandu, P. O. Box No. 7423, Tel : 423219, 423398
Fax No. 00977-1-423401, E-mail : ncml@wlink.com.np

*Wishing Second Regional Convention
on
Quality management a
grand success*

FAIRMED CONCERN PVT. LTD.

(Import & Distribution of Medicine)
55/16 Putali Marga, Dillibazar, Kathmandu, Nepal
Tel : 414464, 422081, 414471

NEPAL AOTS ALUMNI SOCIETY
EXECUTIVE COMMITTEE, 2000-2002



Mr. Asoka M. S. Bania
Advisor



Mr. Prushottam N. Manandhar
Advisor



Mr. Madhusudan Bhattarai
Advisor



Mr. Dinesh P. Chapagain
Advisor



Mr. Ramesh P. Nepal
President



Ms. Amira Dali
Vice-President



Mr. Prakash R. S. Suwal
Vice-President



Mr. Kumar P. Khanal
General Secretary



Mr. Binod Rajbhandari
Joint Secretary



Mr. Ramesh M. Singh
Treasurer



Mr. Mahesh Nakarmi
Joint Treasurer



Mr. Bhawani B. Joshi
Member



Mr. Prakash R. Shrestha
Member



Mr. Shanta B. Mallia
Member



Mr. Ballav B. Pradhanang
Member



Mr. Brajesh Vaidya
Member



Mr. Ashok K. Aryal
Member



Mr. Pradeep Manandhar
Member



Mr. Prabendra L. Singh
Member

NEPAL AOTS ALUMNI SOCIETY

CORPORATE MEMBERS

- 1 Nepal Rastra Bank**
P.O. Box 73
Central Office, Baluwatar, Kathmandu
Tel: 414014, 428202, Fax: 410159
E-mail: nrbjtd@ntc.net.np
- 2 Shimizu Corporation**
P.O. Box: 346
Kathmandu Office,
New Baneshwor, Kathmandu
Tel: 498856, 498857, Fax: 498867
E-mail: shimz@htp.com
- 3 Harisiddhi Brick & Tile Factory Ltd.**
P.O. Box: 476
Harisiddhi, Lalitpur
Tel: 521178, 521451, Fax: 522776
E-mail: nbgroupp@mos.com.np
- 4 Himalayan Brewery Co. Ltd.**
P.O. Box: 1448
Putalisadak, Kathmandu
Tel: 411888, 419196, Fax: 412847
- 5 Swet Bhairab Power Supply (P) Ltd.**
P.O. Box: 5584
Baluwatar, Kathmandu
Tel: 425793
E-mail: sbps@infoclub.com.np
- 6 ICTC Pvt. Ltd.**
P.O. Box: 660
ICTC Building, Hattisar, Kathmandu
Tel: 434895, Fax: 434937
E-mail: ictc@info.com.np
- 7 Nepal Industrial Development Corporation**
P.O. Box: 10
NIDC Building, Durbar Marg, Kathmandu
Tel: 228322, 222560, Fax: 227428
E-mail: nidc@wlink.com.np
- 8 Royal Drugs Limited**
Babar Mahal, Kathmandu
Tel: 222945, 221512, Fax: 226116
- 9 Nepal Electricity Authority**
P.O. Box: 4909
NEA Central Office, Ratna Park, Kathmandu
Tel: 225296, 227725, Fax: 227035
E-mail: neamd@mos.com.np
- 10 Jyoti Group of Companies**
P.O. Box: 133
Jyoti Bhawan, Kantipath, Kathmandu
Tel: 225490, 226327, Fax: 226314
E-mail: pjyoti@mail.com.np
- 11 Himalayan Bank Limited**
Tridevi Marg, Thamel, Kathmandu
Tel: 227749, 225399, Fax: 222800
E-mail: hbl@hbl.com.np

NEPAL AOTS ALUMNI SOCIETY

INSTITUTIONAL LIFE MEMBERS

- | | |
|---|---|
| 1 Pacific Commercial Co. (P). Ltd. | P.O. Box: 347
Pacific Building, Putalisadak, Kathmandu
Tel: 430525, 431525, Fax: 430413
E-mail: pcc@wlink.com.np |
| 2 Deepak Garment Industries | P.O. Box: 1958
New Baneshwor, Kathmandu
Tel: 495768, Fax: 488463
E-mail: bajaj@bajaj.wlink.com.np |
| 3 Hazama Corporation | P.O. Box: 4137
TNT Building, Tinkune, Kathmandu
Tel: 482546, Fax: 482956 |
| 4 Nepal Hokkei (Pvt.) Ltd. | Lumbini, Nepal
Tel: 071-80236, Fax: 071-80126 |
| 5 Nissaku Co. Ltd. | P.O. Box: 3753
Nepal Office
Pulchowk, Lalitpur
Tel: 525979, Fax: 521812
E-mail: nepal@nkn.wlink.com.np |

HONORARY LIFE MEMBER

- | | |
|-----------------------------------|--|
| 1 Mr. Sindhu Nath Pyakurel | Senior Advocate
Kha 2-34, Kalikasthan, Kathmandu
Tel: 412025, 412759 |
|-----------------------------------|--|

Wishing the Second Regional Quality Convention
of
Nepal AOTS Alumni Society
a Grand Success



NEPAL WOOL HOUSE

P.O. Box : 212, Bhotahity, Kathmandu, Nepal
Tel : 249819, 249941 Fax : 977-1-228304
E-mail : woolhouse@unlimit.com

Basic Computer Literacy Training (BCL)

Altogether 12 batches with 199 participants (104 males, 95 female) have under taken the Basic Computer Literacy Training Program conducted by Nepal AOTS Computer Training Center (NACTC) at Yamamoto Talim Ghar, Koteshwor during the year 2000-2001. The 50 days BCL program has been designed to make fresh participants literate in computer application.

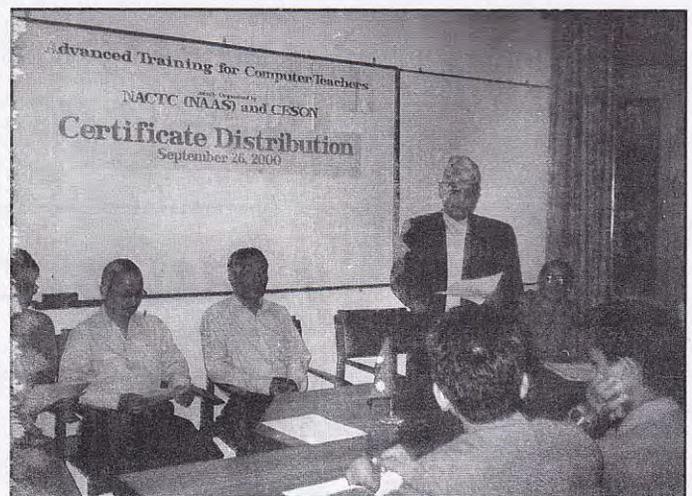


Diploma in Computer Application (DCA-1) and Diploma in Software Development Training (DSD-1)

The Nepal AOTS Computer Training Center (NACTC) has conducted two 6-monthly diploma computer programs during the year. The Diploma in Computer Application Training (5 Nov. 2000 – 2 May 2001) with 14 participants, and Diploma in Software Development Training (26 Nov. 2000 – 20 May 2001) with 13 participants.

Advanced Training for Computer Teachers (TOT-1)

An advanced training for computer teachers of secondary level schools was conducted during 27 August – 27 September 2001 by NACTC in collaboration with Computer Education Society of Nepal (CESON) at YTG. The program was participated by 13 school teachers teaching computer subjects in class 8,9 and 10.





Seminar of Japanese Style Management at Royal Drugs Limited

A half-day seminar on Japanese style management was organized in Royal Drugs Limited, Kathmandu by Nepal AOTS Japanese Style Management (JASMAN) on 4th February 2001. Altogether 25 senior executives of Royal Drugs participated in the seminar conducted by four NAAS resource persons.

Training Program on Total Quality Management at YTG

A 3-day training program on Total Quality Management was conducted in Yamamoto Talim Ghar of NAAS on 25-27 March 2001. Altogether 15 middle level managers of various manufacturing, pharmaceutical companies, financial institutions and NGO's participated in the program conducted by NAAS resource persons. Participants were presented with certificate of completion of training at the end.



10th Annual General Meeting of NAAS

The 10th AGM of Nepal AOTS Alumni Society was held on 25th June 2000 at Hotel Himalaya, Kathmandu. This AGM elected a new executive body of NAAS for a two year period, 2000 – 2002 headed by the new president, Mr. Ramesh Nepal. The report on the annual activity of NAAS including the financial report were presented during the meeting.

Talk Program to Commemorative 10th Anniversary of NAAS

To commemorate its 10th anniversary, NAAS organized a talk program on the topic "Human Resources Development in Nepal in the New Millennium" on 24th June 2000 at Hotel Himalaya, Kathmandu. The program was chaired by Dr. Shanker Sharma, Member of National Planning Commission/HMG. Presentations were made by Mr. Narendra Bajracharya, President, Hotel Association of Nepal and by Mr. Rajib Subba, General Secretary, Computer Association of Nepal. The program was also addressed by Mr. Kanichi Ito, then President of AOTS, Japan



10th Anniversary Commemorative Ceremony

NAAS marked its 10th anniversary by organizing a formal commemorative ceremony on 25th June 2000 at Hotel Himalaya, Kathmandu to highlight its development, achievements and its contribution to HRD in Nepal during the decade. Rt. Hon. Sher Bahadur Deuba, Prime Minister of Nepal, was the chief guest of the humble ceremony attended by Mr. K. Ito, then President of AOTS, Dr. AKM M. Hussain, Representative AOTS, Dhaka Office, guests and NAAS members.



Visit of CICC officials on Survey Mission

Mr. Yoshij Nakagima, Chairman and Mr. Astuo Miyazaki, General Manager, Computer Education Division of the Center of International Cooperation for Computerization (CICC) visited Nepal AOTS Computer Training Center (NACTC) at Yamamoto Talim Ghar, Koteswor on 8th September 2000 on a CICC follow-up mission. The mission team was briefed by the Executive Director of NACTC about the progress of NACTC and CICC sponsored programs in a small gathering.





NAAS Member Attends Quality Convention in Dhaka

Mr. Kush K. Joshi of Nepal Ekarat Engineering Co. and NAAS member attended the fifth annual quality convention organized by Bangladesh Society for Total Quality Management (BSTQM) on 20-21 October 2000 in Dhaka, Bangladesh under the WNF Program of AOTS. Mr. Joshi presented a paper on Quality Management System in his company at the convention.

Tissue Culture Training to BAAS member in Nepal Biotech Nursery

Nepal Biotech Nursery hosted Mr. K. M. Salim from BAAS, Bangladesh for training on tissue culture under the WNF Program of AOTS. The training was held from 5 to 23 October 2000 at the nursery in Kathmandu owned and managed by Mr. Brajesh Vaidya, a NAAS executive member. Mr. Salim was presented a certificate on successful completion of the training program.



11th Annual General Meeting of NAAS

The 11th annual general meeting of NAAS was held on 28th July 2001 at Hotel Himalaya, Kathmandu. The report on the annual activities of NAAS including the financial report were presented during the meeting which was attended by Mr. Shinichi Miyamoto, General Manager, AOTS Delhi Office as the chief guest. The meeting was followed by a dinner lively at the same hotel.

NEPAL AOTS ALUMNI SOCIETY 10TH ANNIVERSARY COMMEMORATION (24-25 June 2000, Kathmandu)

Talk Program

To commemorate its 10th anniversary, Nepal AOTS Alumni Society (NAAS) organized a talk program on the topic "Human Resources Development in Nepal in the New Millennium" on 24th June 2000, Saturday at Hotel Himalaya, Lalitpur. Dr. Shanker Sharma, Member, National Planning Commission/HMG chaired the program and delivered a presentation on the theme. Individual sector papers were presented by Mr. Narendra Bajracharya, President, Hotel Association of Nepal and Mr. Rajib Subba, General Secretary, Computer Association of Nepal.

Among the distinguished invitees to the talk program were representatives of Federation of Nepalese Chambers of Commerce and Industry (FNCCI), presidents of various trade associations, government dignitaries, invitees from the Embassy of Japan in Nepal, the press media and businessmen, etc. The program was also attended by Mr. Kanichi Ito, President of the Association for Overseas Technical Scholarship (AOTS), Japan - the parent association of NAAS, Dr. AKM Moazzem Hussain, Representative of AOTS Dhaka Office and NAAS institutional and individual members.

10th Anniversary Commemorative Ceremony

The 10th anniversary commemorative ceremony has held on 25th June, Sunday also at Hotel Himalaya to mark the 10th year of the establishment of NAAS, and highlight its development, achievements and its contribution to the human resources development in Nepal. Rt. Hon. Sher Bahadur Deuba, then Former Prime Minister of Nepal, graced the occasion as the chief guest at the humble ceremony which was attended by Mr. K. Yotsuya, Charge d'affaires at the Embassy of Japan, various dignitaries, guests, the press media, and members of NAAS.



AGM of NAAS

On the same day, NAAS held its tenth annual general meeting in a separate program in the afternoon. This 10th AGM elected a new executive body of NAAS for the period 2000-2002 and the outgoing President Mr. Dinesh Chapagain handed over the mantle to Mr. Ramesh Nepal who was elected the new president. Mr. Kanichi Ito, President, AOTS Japan gave an address lauding NAAS for its achievements and encouraging us even further.

The new executive committee is as follows :

Mr. Ramesh P. Nepal	- President
Ms. Amira Dali	- Vice-president (first)
Mr. Prakash R. S. Suwal	- Vice-president (second)
Mr. Kumar Khanal	- General Secretary
Mr. Binod Rajbhandari	- Joint Secretary
Mr. Ramesh M. Singh	- Treasurer
Mr. Mahesh Nakarmi	- Joint Treasurer
Mr. Bhawani B. Joshi	- Member
Mr. Ashok Aryal	- Member
Mr. Brajesh Vaidya	- Member
Mr. Ballav Pradhanang	- Member
Mr. Shanta Bahadur Malla	- Member
Mr. Prakash Rudra Shrestha	- Member
Mr. Pradeep Manandhar	- Member
Mr. Prabendra Lal Singh	- Member

NEPAL AOTS COMPUTER TRAINING CENTER NACTC - REPORT

Basic Computer Literacy (BCL) Training Program

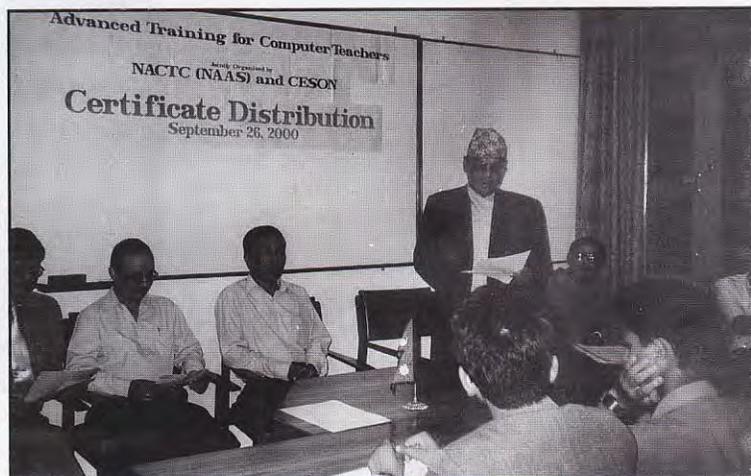
Nepal AOTS Computer Training Center (NACTC) initiated its Basic Computer Literacy (BCL) Training Program since July 25, 1999. By July 2, 2001 altogether 344 trainees in 21 batches have successfully completed BCL training. BCL course duration is of 2 months of 6 days a week and 2 hrs per day. BCL course coverage include Computer Fundamentals, Operating System (MS-DOS, Windows ME), MS Word 2000, MS Excel 2000, MS Power Point 2000 and concept of Multimedia, E-mail & Internet with project work (Word 2000 and Excel 2000). During training more emphasis is given to practical work. Hence, after completion of this program a trainee is capable to use computer in any office. In comparison to previous year (yr. 1999/2000) when up to 3 sessions per day of BCL classes were conducted up to 4 sessions of BCL classes have been conducted in the yr 2000/2001.



In the year 1999/2000, 129 trainees completed BCL course which consisted of 51 female and 78 male participants. Similarly in the year 2000/2001, 215 trainees have completed BCL course. Out of 215 trainees 105 were female and 110 male participants. Interest shown towards BCL conducted by Nepal AOTS Computer Training Center (NACTC) is being popular and NACTC is constantly trying to improve the quality of BCL training.

Advanced Training for Computer Teachers (TOT)

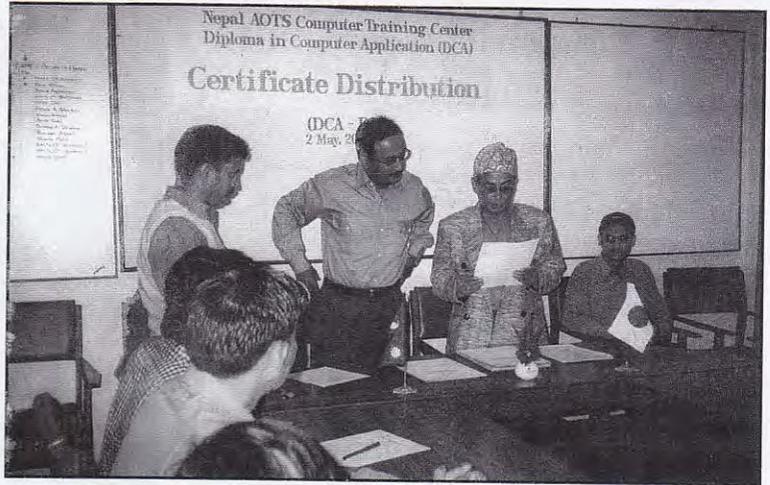
A one month long advanced program for computer teachers for secondary level school computer teachers was organized jointly by Nepal AOTS Computer Training Center (NACTC) and Computer Education Society of Nepal (CESON). This training program was conducted within the NAAS premises on August 27 2000 to September 26, 2000. 13 computer teachers coming from 12 various schools completed this training program. During this program a panel of experienced IT professionals imparted advanced concept of computer SLC course contents and the skill of delivery techniques needed for effective teaching. Teachers also completed project with presentation using MS Word, MS Excel and Power Point. During the closing ceremony on September 26, 2000, chief guest Honorable Shreeman Shrestha, Member-



Secretary, National Planning Commission distributed certificates to the participants of the training program. Mr. Hari Gopal Shrestha, President CESON, Principle & Headmasters of different schools and NAAS executive committee members were present on this occasion.

Diploma in Computer Application DCA

Nepal AOTS Computer Training Center (NACTC) organized training program "Diploma in Computer Application" (DCA) of six month duration. Training package consisted of 3 Module with following coverage.



- Module I**
- a. Advanced concept of computer Architecture, Hardware and Operating System. Networking concept and Basic knowledge of Windows NT.
 - b. Advanced office package with project work, email and Internet.

Module II Computer based designing consisting of Adobe Page Maker, Photo Shop, Free hand with project work.

Module III Software Development using Access & Visual Basic 6.0, System Analysis and Design.

14 participants who had basic level of computer training completed this training conducted within the Nepal AOTS Alumni Society (NAAS) premises on November 5, 2000 to May 2, 20001. Mr. Madhusudan Bhattarai, Executive Director, NACTC distributed certificate to the successful participants amid a closing ceremony program on May 20, 2001.

Diploma in Software Development DSD

Nepal AOTS Computer Training Center (NACTC) organized training program "Diploma in Software Development" of six-month duration. Training package consisted of 3 different Module with following coverage.



Module I Advanced concept of computer Architecture, Hardware and Operating System. Basic of Networking concept and windows NT.

Module II (Software Development) Databased Management System using Access. Visual Basic 6.0, System Analysis and Design and project work.

Module III (Web Page Development) Internet (Trends & Technology) Front Page, HTML, Photoshop

Project work (Web page designing using HTML & Front page.)

13 participants who had basic level of computer training completed this training within the Nepal AOTS Alumni Society (NAAS) premises on November 26, 2000 to May 20, 20001. Mr. Ramesh P. Nepal, President NAAS distributed certificate to the successful participants on May 20, 2001.

CICC Follow-up Mission

A high level CICC follow-up mission team consisting of Mr. Yoshij Nakagima, chairman CICC committee on computer education and Mr. Astuo Miyazaki, General Manager, Computer Education Division, Center of the International Cooperation for Computerization (CICC), Japan visited Nepal on September 7, 2000 to September 9, 2000. During the visit the team inspected the computer training center at the premises of Nepal AOTS Alumni Society, NAAS at Koteshwor, Kathmandu on September 8, 2000. On this occasion a meeting with the CICC follow up mission, CICC extraneese, NAAS executives together with Management Committee members of the computer training center took place. Follow up mission members explained in brief about the CICC scholarships offered, the selection criteria and the training conducted by CICC, Japan. A lively discussion was held on the future need of training programs for Nepal.



The mission also visited Institute of engineering, TU, Pulchowk, Professional Computer System Pvt. Ltd. and Mandala Software Pvt. Ltd. in Kathmandu. During this visit CICC Mission members met Nepalese IT professionals and university professors and gathered first hand IT related informations relating to IT education, trainings and software development activities in Nepal.

With best compliments

from

BTC Private Limited

WHOLESALE & RETAIL OF SCIENTIFIC INSTRUMENT, LAB. CHEMICALS AND GLASSWARES,
PLASTICWARES, MEDICAL EQUIPMENTS, HOSPITAL FURNITURES, AND TURNKEY PROJECT SUPPLIES
FOR RESEARCH, HOSPITALS, NURSING HOMES.

SCIENTIFIC TECHNICAL SUPPLIES FOR
HEALTHCARE • RESEARCH • INDUSTRY • EDUCATION • LABS

Show Room/Office :
Tel : 520187, 524539 Fax : 536698
Pulchowk, Lalitpur, Nepal

WITH BEST COMPLIMENTS ON THE OCCASION OF
SECOND REGIONAL QUALITY CONVENTION
29-30 SEPTEMBER 2001,
KATHMANDU

Sarowar Garment Industry

Manufacturing & Export of Readymade Garment.

Bhagabati Bahal, Naxal, Kathmandu, Nepal

Tel : 417391

*Wishing the Second Regional Quality Convention
of
Nepal AOTS Alumni Society
a Grand Success*



Veer Shree (Nepal)

(A well-known house of garments' accessory)

Near Shanker Dev Campus

Putali Sadak, Kathmandu, Nepal

Tel : 245927, 245928

Second Regional Quality Convention
“Building Competitive Environment
Through Quality”

29-30 September, 2001
Kathmandu

Nagaaki Yamamoto

J. N. Dutta

Dr. Firoj Kabir

Dian Gomes

P. Wiwat

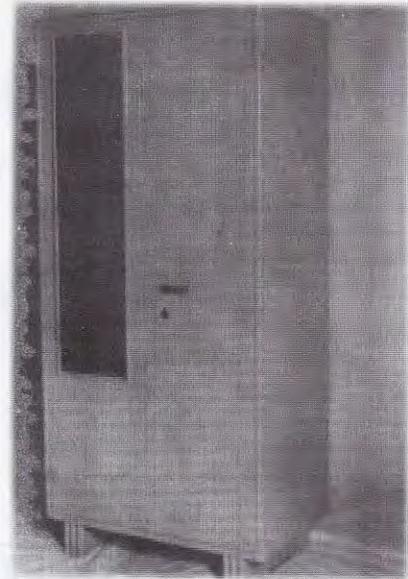
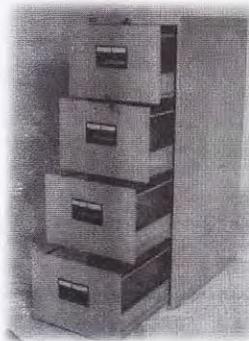
Purna P. Manandhar

Dinesh P. Chapagain

Rabindra K. Shrestha

PODREJ[®]

Wishing the Second Regional Convention
on Quality Management of
Nepal AOTS Alumni Society
a grand success



Manufacturer of all kinds of
Quality steel furniture.

With best compliments from



NEPAL CONSULT (P) LTD.

CONSULTING ENGINEERING & ARCHITECTS (ESTD. 1974)

Gushingal Kupandol, Lalitpur - 1, Nepal

Mailing Address : G.P. Box No. 492, Kathmandu, Nepal

Telephone No. 524-379 & 536-827, Fax No. : 0977-1-536824

E-mail : nc@wlink.com.np

Field of Service

- | | | |
|------------------------------|--------------------------------|-------------------------------|
| * Water Supply & Sanitation | * Electrical Power Engineering | * Geotechnical Investigations |
| * Airport Engineering | * Water Resources Studies | * Soil Engineering |
| * Structural Engineering | * Training Programme.g | * Ground Water Engineering |
| * Transportation Engineering | * Survey & Mapping | * Management Services |
| * Irrigation Engineering | * Integrated Rural Development | * Advisory Services |
| * Socio-Economic Studies | * Building Design & Planning | * Environmental Engineering |

**ADDRESS AT THE WNF PROGRAM,
SECOND REGIONAL QUALITY CONVENTION**

Nagaaki Yamamoto
Former President of AOTS



Distinguished guests, ladies and gentlemen,

It is my greatest honor to be invited to this Seminar and to deliver a speech on "Consolidation of the WNF for Achieving Peace and Prosperity in the 21st Century".

First of all, I would like to express my sincere thanks to the Nepal AOTS Alumni Society for organizing this wonderful Seminar in Kathmandu. I appreciate greatly how much the responsible Committee Members have devoted themselves to materializing this WNF Program.

Secondly, congratulations to all of the participants of this Seminar. Kindly notice that this is the first international program under the WNF in the 21st century. I think this century will be the developing countries' century. For this, the Seminar is very meaningful indeed.

Now, I have to explain to you what the WNF is and how it works. The WNF was established at the 5th Convention of AOTS Alumni Societies at the AOTS Chubu Kenshu Centre in Toyota-city, Japan, in early September 1997. At that time, there were 63 AOTS Alumni Societies in 41 countries, and they formed Six Regional Federations in the world, namely CNAAS for North-East Asia, FOSAAS for South East Asia, SAFAAS for South Asia, FELAAS for Latin America, AFAAS for Africa and EFAAS for Europe.

At the 5th Convention, all of the participants unanimously decided to unite all of these Federations into one, and named it the "World Network of Friendship". In fact, I proposed this name to the Sub-Committee of the Convention. The mission of the WNF is "The Creation of a Better World through the Ties of Friendship and the Individual as well as Collective Endeavor of Our Members", which is precisely described in the Basic Guidelines for the WNF. It was adopted at the 2nd WNF Management Committee Meeting, held in Dhaka on 28 November 1998.

Before going into the details of the WNF, I would like to briefly explain to you the activities of AOTS. AOTS was founded in 1959 as a non-profit, private-based public service corporation to undertake the technical cooperation between Japan and developing countries in order to promote the quick industrialization of those countries. What kind of technical cooperation has AOTS been involved in? The most important point has been to help train and develop the human resources of those countries. Therefore, AOTS initially invited young engineers and senior technicians to Japan in order to provide them with new technology at the factories of the Japanese sponsoring companies. In addition they learned about Japan, itself, including the Japanese language. I, myself, changed jobs from AOTS to UNIDO and worked in Vienna from 1970 to 1982, but came back to AOTS in early 1983. By that time many of AOTS's old trainees had become managers, directors and sometimes top executives of their companies. They requested me to organize management courses for them. Then management program became a big portion of all of AOTS's training programs. So far AOTS has trained about 100,000 persons. In addition, in 1977, AOTS started overseas training courses to meet increasing training demands, under which more than 100,000 people around the world have been trained.

Now AOTS has 4 training centers in Japan (namely Tokyo, Yokohama, Kansai and Chubu) which together can accommodate 1,000 live-in trainees at any one time. In principle, AOTS trainees should stay at one of these training centres at least to participate in an Orientation Course or Management Program. AOTS has tried to make these centres a home in Japan for the participants. I'm very happy to inform you that through staying at

our centres, AOTS trainees have become good friends regardless of differences of race, nationality, class, religion, and so on. Then, based on their common experience of having received training through AOTS, ex-trainees have established AOTS Alumni Societies voluntarily and now we have 66 Alumni Societies in 44 countries. The first one was established in Dhaka in February 1983, so you can see how this unique organization has rapidly developed.

The AOTS Alumni Societies are non-profit private organizations founded by the participants of AOTS training programs, all of whom share the experience of training in Japan. The experience and wisdom of the members go beyond the boundaries of national borders to develop human resources for the industrial development of developing countries. With respect for human dignity and equal partnership among members and AOTS, the AOTS Alumni Societies work for the self-reliance and prosperity of their countries. What is the relationship between AOTS and the AOTS Alumni Societies? The most important point is equal partnership on the basis of friendship. We are all equal. There are no junior or senior partners in our organization.

What is the vision of the WNF?

The WNF has a common vision of a future world transcending national borders where all peoples, irrespective of nationality, race, class, religion, gender and ideological belief, are treated as equals. The WNF primarily supports the activities proposed by AOTS Alumni Societies with the WNF mission to further develop their communities, within the framework of the WNF Program and the WNF Fund. The WNF supports and promotes a wider movement for the social and economic development of these communities in order to enlarge our activities for the sustainable development of such communities. Special consideration is given to human resource development and the preservation of the environment. We are committed to applying this vision to all aspects of the WNF initiatives towards the creation of a better world in the 21st century.

What are its objectives?

1. Planning and implementing WNF Programs proposed by the AOTS Alumni Societies in order to promote the transfer of appropriate technology as well as social and cultural exchange for the benefit of communities around the world.
2. Managing and increasing the value of the WNF Fund, and harnessing its financial resources for the promotion of the WNF Program.
3. Building an information-network infrastructure (e.g., the Internet) to share common information on the execution and evaluation of the WNF activities.
4. Strengthening friendship and cooperation amongst the world's communities through various channels in order to promote recognition of the WNF initiatives more widely.

What is the Management System?

The World Network of Friendship is administered by the WNF Management Committee, comprising of one nominee from each of the six Regional Federations of AOTS Alumni Societies, together with one Secretary General, who is the General Manager of AOTS's Overseas Affairs Division. The Chairperson is elected by the members of the WNF Management Committee. The WNF Management Committee Meetings are organized at the time of the World Convention of AOTS Alumni Societies and if necessary when and where a meeting of a Regional Federation takes place.

The WNF Management Committee carries out the following functions:

1. It increases the value of the WNF Fund and formulates policies and strategies for attracting contributions.
2. It administers and evaluates the WNF Program.
3. It promotes the WNF and informs the public of its activities to obtain the recognition and support of the world community.

4. It established and amends the WNF Basic Guidelines with a simple majority decision of all the WNF Management Committee members.
5. It proposed practical use of the WNF Logo.

What is its budget ?

The WNF has its own fund, the WNF Fund, which is now valued at 144,110,274 Japanese yen, at the end of FY 2000. All of this money is made up of contributions from AOTS, AOTS Alumni Societies and persons concerned both in Japan and other countries, and this Fund is used for financing exchange programs of trainees and experts among AOTS Alumni Societies. Training costs are born by the recipient Alumni Societies and the sending Alumni Societies should take care of travel costs. The first exchange program was implemented between the Nepal AOTS Alumni Society and the Bangladesh AOTS Alumni Society in Dhaka. The importance of this program has been recognized by all of the AOTS Alumni Societies. So far under the WNF Program about 197 people have been trained and 60 experts have undertaken training programs among 46 AOTS Alumni Societies. The budget for year 2001 is approximately 6,000,000 Japanese yen.

Dear participants, this is an outline of AOTS and the WNF.

The subject of speech, which has been given to me by NAAS, is "Consolidation of the WNF for Achieving Peace and Prosperity in the 21st Century". Dear participants, from my explanation of the WNF activities, you can very easily understand how important the WNF is for the peace and prosperity of the World. "Peace" means "freedom from war, and freedom from civil war".

Therefore, it is said that "at peace is being in a state of friendliness". What does "Prosperity" mean? I think it means everyone is being prosperous, flourishing, successful and thriving.

After the 2nd World War, most of the old colonies became independent countries, and the people could understand how the war was cruel and brutal. They believed that the world would become more peaceful and prosperous. Unfortunately, the past 50 years of history has not shown the victory of their or our expectations.

Dear friends, government can change but people cannot change. We established this very unique private organization the "World Network of Friendship", and the programs have been developing slowly but steadily, at best beyond my supposition.

Kindly allow me to propose to all of you the following points:

- (1) Give strong support to the WNF programs,
- (2) Implement more transfer of technology programs,
- (3) Create more business exchange chances,
- (4) Encourage the exchange of cultural and social welfare activities, and
- (5) Strengthen the functions of the Management Committee of WNF.

Someone may say "some of them are out of AOTS activities". My answer is as follows:

When we decided the name of the WNF, some of my friends proposed to me "we add the word AOTS, namely the WNF of AOTS". I did not accept their advice, since the WNF is the equal partner of AOTS, not belongings of AOTS. Also I had a dream, and I still have the same dream that the WNF will develop further and become a very influential international private organization to create and sustain true peace and prosperity in the world.

Now, we have entered the 21st Century and I sincerely hope that this century will be the century of the developing countries. For this, our cooperation is a must, no more divide and rule, and killing each other does not produce anything.

Concluding my speech, again, I am truly thankful to the organizing Alumni Societies, and wish all of you, the participants, good luck.

Thank you.

QUALITY MANAGEMENT IN PHARMACEUTICAL INDUSTRIES OF BANGLADESH - LIBRA'S ACHIEVEMENTS



Dr. Firoz Kabir

Plant Manager, Libra Pharmaceuticals, Bangladesh

ABSTRACT

The only weapon to fight for survival in a highly competitive economic market is QUALITY. Pharmaceutical industries of Bangladesh have unimaginable prospects. There are about 200 drug manufactures in the country, which produce 90% of the total requirement of medicines. Quality Management in Bangladesh started only a few years back to cope with the global scenario. Ensuring quality is a prime consideration for a successful pharmaceutical business. Although some countries are gradually acknowledging the quality of our drugs, a sound quality image in the international arena is yet to establish. International recognition is of great significance and will reinforce the efforts of companies to compete internationally. Some companies have started practicing defined quality management systems and have gained significant results. LIBRA Pharmaceuticals Ltd., the first and the largest manufacturer of intravenous Fluid in Bangladesh always maintains contemporary technology to produce world class products. Sorting good products from bad was not the most efficient way to assure a quality output. A more efficient management philosophy might focus on actions to prevent the production of any defective product and thus satisfy customer demand. From these points of view, the management implemented ISO 9000 Quality Management System, which not only contributed significantly to improve quality, but also enhanced the development of an excellent work culture. These achievements are the ultimate result of sincerity, honesty, hard labour and team effort. LIBRA has gained full confidence in protecting patients with quality medicines through a national commitment to Total Quality.

INTRODUCTION

There is a rapid growth in trade and international capital flows all over the world. Continuous technological upgradation is transforming the global scenario almost dramatically. Changes in one part of the region have immediate effect on the lives of individuals in another part. The Quality Improvement of the Japanese after the Second World War has shaken the manufacturers all over the world. Global exchange is leading to economic development. Globalisation is leading to world-wide interdependency. All organisations desirous to shape its future needs to act in global concept. This emphasises shared values and common interest and calls for a deeper and more creative endeavour. Today, all are making efforts to strengthen economic relation for promoting new global human order. Quality Management is in the nascent stage in Bangladesh. In general, most organisations are serious about short term benefits and quick return on investment. Many entrepreneurs still believe that improvement in quality will increase cost and decrease productivity. In spite of all these, some organisations are producing high quality goods and services. Quality is increasingly gaining importance which is likely to intensify further in the next few years.

STATUS OF PHARMACEUTICAL INDUSTRIES

During the last 15 years, this important industrial sector in Bangladesh has grown by almost ten times. About 70,000 skilled personnel are engaged to manufacture the country's demand of medicines. Earlier, the multinational companies dominated the market asking excessive prices for their drugs. But, the drug policy of 1982 stopped this by fixing maximum price ceiling on drugs and stated that import of drugs will be limited to only those drugs which are not produced locally. The local companies thus flourished. An enormous amount of foreign currency

has now been saved due to the growth of the local companies. In 1992, Bangladesh started venturing in the international market. Some companies are exporting their products to Vietnam, Singapore, Myanmar, Pakistan, Nepal, Cambodia, Russia, Iran, Maldives, Bhutan, Malaysia, Thailand, China, Oman, Sri-Lanka and Yemen. But, the quality image of our drugs is yet to create in the international market.

Ensuring quality is a must for drug manufacturers. The manufacturer should establish and implement an effective pharmaceutical quality assurance system, involving the active participation of the management and personnel of the different services involved. The holder of a manufacturing authorisation must manufacture medicinal products so as to assure that they are fit for their intended use and do not place patients at risk due to inadequate safety, quality or efficacy strictly following Good Manufacturing Practice (GMP). Good Manufacturing Practice is that part of Quality Assurance which ensures that products are consistently produced and controlled to the quality standards appropriate to their intended use and as required by the product specification. GMP is concerned with both production and quality control. The Principles and Guidelines of GMP are stated in the two Directives. 91/356/EEC for medicinal products for human use and 91/341/EEC for veterinary medicinal products. In the United Kingdom the Directives have been implemented by standard provisions and undertaking incorporated in regulations made under the Medicines Act. Other European countries also follow the GMP Guidelines to manufacture drugs for ensuring quality. In Bangladesh, this universal GMP concept is not maintained strictly by all drug manufacturers. At the same time, only a few companies have so far implemented the internationally recognised ISO 9000 Quality Management System. This international recognition might be a solution for companies who would like to achieve a world-wide reputation for continuous commitment to excellence in quality.

LIBRA PHARMACEUTICALS LIMITED

There was always a scarcity of Intravenous (I.V.) Fluid in the market as the only state owned company could not manufacture enough to fulfil the local demand. The major portion of the demand was being covered by the imported I.V. Fluid. To overcome this situation, Libra Pharmaceuticals Ltd. made its debut with a view to provide quality products. I.V. Fluid is a life saving medical necessity used in all situations involving diarrhoeal disease, surgical operation, loss of blood, weakness and hospitalisation in general. LIBRA I. V. Fluid being a quality product has a tremendous demand in the market. The technology has been supplied by M/S Vifor S. A. Switzerland under a Technical Collaboration Agreement. LIBRA employed a team of highly qualified and motivated staff. Since LIBRA came first in this segment of pharmaceuticals, the company had to struggle with a lot of adverse situation. But today, LIBRA is known to the medical profession and general public as the best and the largest manufacturer of I. V. Fluid in Bangladesh. In addition, implementation of ISO 9000 Quality Management System at LIBRA has ensured customer satisfaction by guaranteeing good design, reliable product quality, safe performance, prompt delivery and efficient service.

Description of Activities

As quality is never an accident and is always the result of intelligent efforts, the company took an effective action plan which is sequentially described below:

Identifying ISO 9000 requirements:

- a) Commitment
 - A strong commitment was made at senior level.
 - A well informed management team was selected.
- b) Initial Review
 - First reviewed the present picture of the management system.
 - Then established a base line.

- c) Quality policy
 - Prepared a documented statement which is relevant to the activities, products and services of the company and announced.
- d) Planning
 - Identified quality aspects and requirements.
 - Documented and quantified objectives and targets.
 - Prepared an effective schedule.

Implementation:

- a) Structure and Responsibility:
 - Management Representative and System Coordinator were selected.
 - Prepared company's Organogram and Job Descriptions were finalised.
 - Responsibility of every concerned person was identified.
- b) Training, Education and Awareness
 - All employees who have a significant impact on the quality were trained to meet identified levels of knowledge and skill.
 - Induction training of different personnel were carried out by respective department.
 - Introduced identify card for all employees where Quality Policy is printed.
 - A wall magazine was introduced where LIBRA activities were focused.
- c) Quality Management System Documentation
 - Concerned department prepared their own procedures, work instruction, formats to reflect what they actually are doing.
 - Quality Policy Manual was prepared and issued.
- d) Document Control
 - All quality documents were brought under control and ensured that only the current issues of documents are available at the place of work and obsolete copies are removed.
- e) Operational Control
 - Identified process parameters and applied statistical techniques to control these.
 - Carried out calibration and validation of equipments and instruments.
 - A rating system has been introduced to evaluate vendor's performance.

Corrective and Preventive Action:

- a) Preventive Action Team (PAT) Meeting
 - Members of PAT were selected.
 - Once in a month all non-conformities, customer complaints were discussed and effectiveness of actions taken were followed up.
- b) Internal Quality Audit
 - Audit Team was selected and they were formally trained.
 - Internal Quality Audit was conducted to monitor the effectiveness of Quality Management System being adopted by the company
 - Non-conformities were recorded and effectiveness of actions taken were monitored.

- c) Management Review Meeting
- Members for Management Review Committee were selected.
 - Discussed Internal Quality Audit, corrective and preventive actions and customer complaints.
 - Reviewed Quality Policy, Quality Objectives and Targets.
 - Assessed the overall performance and discussed new plans for continuous improvement.

Certification Audit:

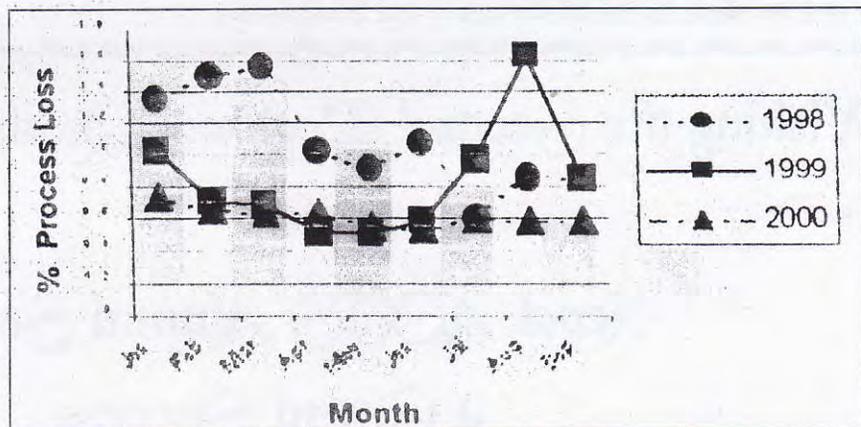
- Selected a certification body.
- Performed Preliminary Evaluation.
- Took corrective actions against minor non-conformities observed.
- Carried out Registration Assessment.

Benefits

People at LIBRA are committed to provide total customer satisfaction which is achieved by a defined quality management system, contemporary technology and active participation of all employees. A lot of enthusiasm and commitment were found among the employees. The outcome of introducing the ISO 9000 Quality Management Systems is given below:

- a) Easy and simple documentation of all activities.
- b) Effective handling, storage, preservation and despatch of products preventing damage or deterioration.
- c) Knowledge and skill of employees at all levels have been improved due to continuous training and awareness programme.
- d) Process loss, breakdown of machineries and cost have been reduced. Thus, productivity is increasing.

Comparison of Process Loss:



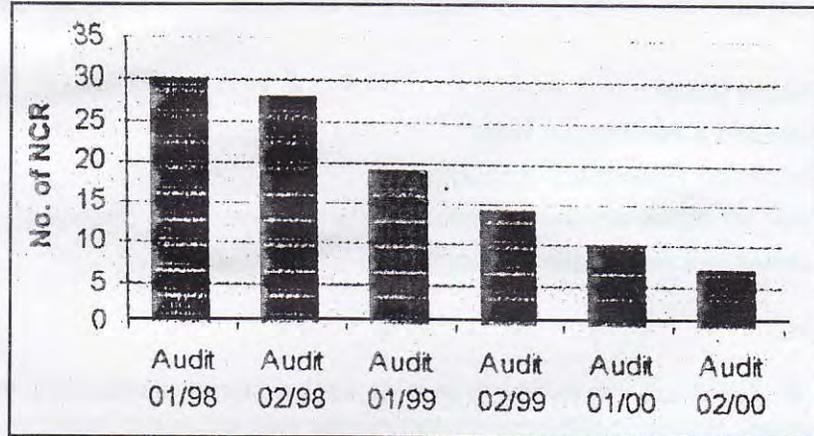
- e) Customer complaints have been reduced and customer satisfaction has improved due to customer feed back and regular customer monitoring.

Comparison of Customer Complaints:

Year	Sales	Complaints	Target
1998	2,830,967	23	25
1999	3,357,259	15	20
2000	3,808,661	11	15

- f) Development of new products are now being carried out in a systematic way which ensures speedy introduction of new quality products in the market.
- g) Communication skill of personnel is improving.
- h) Everyone has become more concerned to create a good working environment.

Audit Nonconformity Reports



- i) The most remarkable achievement visible in the organisation is the confidence in team work.

CONCLUSION

The growth of pharmaceutical industries in Bangladesh is promising. The journey to reach the top of quality mountain has just begun. As a poet said, "But I have promises to keep. Miles to go before I sleep". Getting ISO 9000 certification not only means an international quality guarantee which will enable an organisation to compete in the international market. but also that the company will function at optimum levels, i.e., doing better today than yesterday and still better tomorrow. And thus our medicines will be accepted everywhere because of the highest quality and be ready for the challenges of the 21st century.

Wishing the Second Regional Quality Convention
of
Nepal AOTS Alumni Society
a Grand Success

Riddhi Siddhi Emporium

(Garment Accessories Supplier)

Putalisadak, Kathmandu, Nepal

Tel : 246663/246029

ALIGNING AN ORGANISATION TO ACHIEVE WORLD CLASS STANDARDS

Companies Don't Succeed, It's People Who Do

Dian Gomes

Managing Director
Slimline Pvt. Ltd., Srilanka



1. INTRODUCTION

Better, cheaper, faster.... These are more than buzzwords in successful manufacturing organizations worldwide. To compete and to win in today's marketplace requires manufacturers to improve productivity while lowering costs and bringing quality products to market quicker than ever before.

The winds of change are creating new sources of competitive advantage with developed economies moving into the knowledge/information economy and the manufacture of consumer products largely devolving to the developing world. However, the first world consumer continues to expect a product which is innovative, differentiated and of world class quality. How does a third world manufacturer cater to these needs?

A few of the more agile organisations have gained a **competitive edge with the acceptance** and implementation of World Class Manufacturing (WCM) disciplines **together with the adaptation of a management style** needed to sustain such a philosophy. The successful implementation of WCM in any organisation will depend on how well the organisation is aligned towards it, in terms of strategic direction, resource allocation and most importantly the extent of employee commitment to the vision of excellence; It's people who make the difference.

Business is a microcosm of Life. To stay competitive, be successful and overcome barriers standing in its' way, an organisation needs to regularly assess where it is and what it wants to achieve. It's people who make or break an organisation. The people's mindset and mental attitude can make the difference between reaching or not reaching an organisation's goals.

This paper attempts to provide a case study example of how an organisation by creating the right culture, has successfully aligned it's people to believe in Total Quality Management, thereby making WCM a reality for them.

2. SLIMLINE (PVT) LIMITED

Slimline is a joint venture between Mast Industries Inc of USA; Courtaulds Textiles Plc of UK and MAS Holdings (Pvt) Limited of Sri Lanka. The factory commenced operations in 1993 and is in the business of manufacturing intimate apparel and leisurewear for the European Union and USA. Garments are manufactured for reputed brands such as Marks & Spencer, British Home Stores (BHS) in the UK and Victoria's Secret in the USA.

Slimline's success in implementing and sustaining WCM is acknowledged by the many international and local awards won by the company. Some of the achievements and awards are listed below.

- Slimline was named an "A" Grade factory by Mast Industries (1996 1997)
- Victoria's Secret recognized Slimline as a center of excellence for 100% on-time delivery of products with zero defects in (1998)
- Slimline is considered the Best Manufacturing Plant for Marks & Spencer products in Asia
- The fabric laboratory at Slimline is accredited by Marks & Spencer and British Home Stores
- The International Willis Carroon Risk Management Award (1997) and the merit award (1998)

- The Taiki Akimoto 5 S Award (1996 & 1997)
- The Mast Industries Quality Award for outstanding performance & superior quality (1998, 1999)
- The Sri Lanka National Productivity Award (large scale) – 1997
- The Sri Lanka National Health & Safety Award (1999) merit award (1997)

Slimline is also the first plant in Asia to implement the SAP Enterprise Resource Planning system utilizing the Apparel and Footwear Solution. Over the last seven years the company has been able to sustain growth levels exceeding 20% and at present the company's turnover is US\$ 50 MN combined with an attractive bottom line.

3. THE PROCESS OF ALIGNMENT

3.1. CREATING THE CULTURE

Organizations practising WCM principles in a Total Quality Management environment have found that achieving significant results generally requires changes in the prevailing culture of the organization, as evidenced by the way people treat each other, their customers, and suppliers. This is one of the most difficult aspects of implementing Total Quality Management in that it necessarily requires a change, albeit gradual, in the prevailing culture of the organization. It manifests itself most dearly in the way that people treat each other, managers and staff, fellow employees, customers, and suppliers. This change is usually unlike anything that has been experienced in the workplace and will never occur unless everybody in the organization buy-in to the change, and especially, if the management does not model the hoped-for behaviour themselves.

Like it or not, people are not cogs in a machine. Emotions do affect how we learn, react, and work. Especially during times of corporate change, hidden fears and resentment can fester, undermining the cooperation, energy, and enthusiasm that are crucial for an effective work environment. The most efficiently redesigned work process won't really work until the employees integrate it, believe in it, and support it. People need to understand that their own role has broadened and that they must develop new skills and take on new responsibilities. If the change involves a re-organisation it is important that any new roles are communicated and understood by everyone. "You can change the chart - but nothing changes until you change the heart."

According to a 20-year-long study conducted by the World Confederation of Productivity Science, 54% of all performance breakthroughs are available from working, not with technology and processes, but with issues of the human spirit. It's ironic, that, if this research is accurate, we tend to neglect and devalue the one place where apparently more performance and productivity improvement is available than any other place. People must see close linkage between the attainment of the vision and their personal goals. People must understand that when the enterprise succeeds, they succeed. They need to "buy into" the company vision and feel that achieving the goals of the company is the best way to achieve their own goals. They must see themselves as actively engaged in a common and worthwhile cause. When these goals are supportive of each other, alignment of the enterprise has begun.

"Building a visionary company requires 1% vision and 99% alignment" (Collins, James C. and Porras, Jerry I., "Building Your Company's Vision"- *Harvard Business Review*, Sept.1996)

Leaders need to take the initiative by recognising that they can only achieve their aims by establishing some manner of cooperation with the will of those who chose to serve. This is best obtained through the forging of common values, purpose and mission such that the efforts of people are united rather than scattered. People will do extraordinary things if they can be convinced of their importance. The challenge of leaders is to build this sense of the importance of good service.

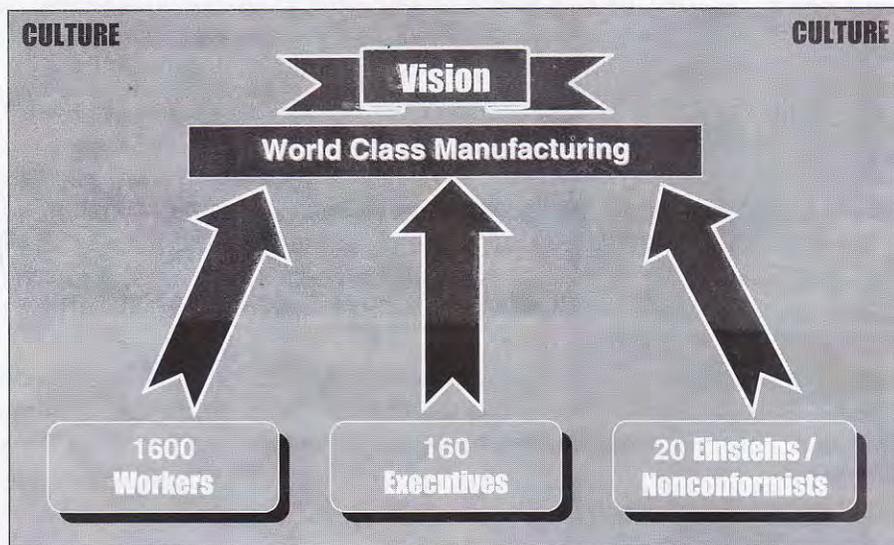
There was a time when people put up with the thought of being managed. A time when the "top down" approach to management worked. No more.

In these changing and highly volatile times, the trend is away from management of people as though they were a loose field of sheep who need to be guided or they will "screw up". The time for the "team" approach has

Second Regional Quality Convention
“Building Competitive Environment Through Quality”

arrived. People should be empowered to become more entrepreneurial, to manage their own work and people at the top must be more a coach than a manager or leader. Coaches cannot play the game. They belong to the sidelines. Only the players go into the field to compete and win the game. It is the coach's job to create an environment, an atmosphere within which his players have the greatest opportunity to succeed.

While strategic direction and resource allocation can be provided from the Board and senior management, employee commitment needs to be bought from all levels in the organisation. Employee commitment to an organisation comes through the culture that pervades the daily working life. Alignment of the entire organisation towards WCM requires a *cultural fingerprint* reinforced by a strong organisational architecture. The cultural fingerprint is *the viable differentiation*, which gives employees a sense of “the way things are done”. Employees who share this common culture are unified in their actions, and this unity affects performance. It also focuses attention on the *right issues* ensuring that the organisation does not stray from its vision.



This is what Slimline says about its culture: “ Our culture embraces trust, encourages openness and fosters teamwork”

Since its inception the CEO and senior management of Slimline have been the driving force behind the dynamic go-getter culture. The egalitarian approach of management has resulted in an organisation where bonding of staff is not restricted to work but personal life as well. This in turn has fostered a family where cross functional teams operate with a common objective. At Slimline everyone strives to create a place in the sun.

With all staff and workers being on a first name basis, the sense of belonging and team spirit is extremely strong. The ability of a machine operator to challenge her superior, and a staff member to challenge even the CEO brings about an egalitarian approach as well as a common bond that people's future are linked to the company's survival and growth.

The infusion of fun and sport to work brings about a passion which embraces all employees alike . This in turn stresses the importance of the Slimline vision – the passion to be number one though team working and strong leadership. The *Slimline way* created by the Senior leadership is a culture of trust; teamwork; challenging the status-quo; teaching and learning.

The Slimline spirit is reinforced on the team through strong top-down direction, and supported by the organisational architecture of formal procedures; management procedures and informal networks.

The formal procedures partly reflect Slimline's joint venture partners- it combines the American professionalism; British Safety ethic and Japanese 5S order and discipline. The key management procedures are founded on the principles of retaining high calibre personnel; empowerment and informal communication. Together with this

architecture and cultural fingerprint, Slimline has created for itself a place in the sun as Sri Lanka's largest apparel manufacturer.

3.2 THE 6 STRANDS OF SLIMLINE CULTURE

There is nothing magical or elusive about corporate culture. One has only to be clear about the specific attitudes and behaviours that are desired, and then to identify the norms or expectations that promote or impede them.

Culture is created and transmitted mainly through employees sharing their interpretations of events, or through storytelling. Cultural characteristics attributed to the organization actually become the organization's characteristics when employees share their beliefs about management. Employees observe what happens to them (and around them) and then draw conclusions about their organization's priorities. They then set their own priorities accordingly. Thus, these perceptions provide employees with direction and orientation about where they should focus their energies and competencies. This, in turn, becomes a major factor in creating a climate”

Thriving on challenge – Winning Attitude

A winning attitude is a combination of things. The most important of these being knowledge. Employees need to be given rigorous training to know all about the games they have to play so that they are confident and self assured. These are times of dynamic change that hold the seeds of almost unlimited opportunities for those with the vision, the courage, and the ability to seize them, and mortal threats to those who do not or cannot adapt. The mind-set of the employee who thrives on challenge is filled with the passion to win; to be the number one.

Slimline was the first and at present, the only company in Asia to take on the Apparel and Footwear Solution in SAP R/3 – and do it SUCCESSFULLY. Slimline still is the only company in Sri Lanka to implement the SAP software as an ERP solution. This has integrated the business processes and improved the speed and quality of management information.

The Slimline team stands for the epithet “Yes, there is a way!”

Participative management - Open door policy - Team Spirit

People must see close linkage between the attainment of the vision and their personal goals. People must understand that when the enterprise succeeds, they succeed. Employees need to “buy into” the company vision and feel that achieving the goals of the company is the best way to achieve their own goals. They must see themselves as actively engaged in a common and worthwhile cause.

At Slimline everyone is on a first name basis. Ideas, suggestions and criticisms are welcome from all levels of the organization and rocking the boat is encouraged rather than feared.

Everyone at Slimline is kept informed about strategies, and success as well as failures are communicated across the organization. It is a learning organization, which rewards and publicizes successes and failures – not with a negative attitude of humiliation but as a learning experience. Focusing on problem solving rather than finger pointing encourages people to call on particular hands-on knowledge of hazards and near-accidents to identify risks. The result is continuous improvement of risk management and safety.

Whether or not one values teamwork is not so much a cultural matter any more; it is increasingly a matter of whether or not one can get the job done at all without teamwork. In other words, as technologies become more complex, work will be divided among more different people with different specialities, but these people will be more and more dependent on each other. And if interdependence increases, the need for teamwork increases. People must, therefore, have **shared beliefs that teams can and will work** and that individualistic competition is not the answer to all problems.

Second Regional Quality Convention
“Building Competitive Environment Through Quality”

Team spirit is not limited to the boundaries of the work place. An example of people making a difference was evident when one employee contracted Dengue fever during the New Year vacation. All colleagues got involved and contacted each other all across the Colombo metropolis area and co-ordinated a campaign to collect donors of a very rare blood group. That employee had been with Slimline since its inception and today is proud to continue to work for this caring organization.

An HR executive at Slimline says : *“We share passion and commitment whether it is work, sport or our beliefs... ..humility and humanity”*

Superior Quality

“Live Quality ... and Drive for Cost and Speed for Competitive Advantage” (Robert Slater - Jack Welch and the GE Way)

Quality is an outgrowth of who people are. If quality is present and sought by a given person then it suffuses their outlook and conduct. Even where a substantial degree of quality has already been attained by people it is possible to encourage even better. People are susceptible to being influenced and it is crucial that those who are asked to serve be given favourable conditions for doing so.

“The key to assuring quality is to treat everyoneas a potential customer” says Dilesh Fernando, Head of Quality Assurance at Slimline. Quality is prima-facie, not just on the production floor but in Finance, HR, IT – right down to the cafeteria.

At the heart of a quality culture is a commitment to continuous improvement, the basis of which is the belief that within any situation or any activity, there is always room to improve. The goal is perfection or “zero defects,” nothing less. This goal applies to every piece in the puzzle: people, processes and products. All must work together to provide the foundation for a zero-defect culture; The continuous improvement process increases efficiency and competitiveness, reveals opportunities that might otherwise be overlooked and promotes teamwork and proactive problem solving. Every person has input to achieving established objectives. People are empowered, not only to participate in the system, but also to contribute in demonstrable ways toward the goal of getting things right the first time, every time.

Quality is checked at the cutting stage; in line; end line and at the pre-shipment stage. Furthermore, in order to build awareness throughout the organization even non-production staff is expected to spend one/two hours per month inspecting garments. A traffic light system was implemented recently where an amber light is activated when a final audit failure occurs. This attracts the management staff to the problem and brings awareness to the entire production floor so that an immediate solution is found to remedy the issue.

Discipline has been used as one of the key instruments in maintaining high quality. 5 S is practiced throughout Slimline. Cleanliness, health & safety, neatness and order are a way of life. If you asked anyone at Slimline to open his or her wallet or purse – you would see 5 S in there too. Slimline innovated 5 S by adding another S to it – “Safety” – they now practice 6 S.

Five minutes are allocated after work each day to clean up work stations; everyone practices health & safety when it comes to sitting posture and needle-procedure; any health hazards are immediately reported and corrected; even a wastepaper basket has a designated place for it and filing is neat and organized; executives have no qualms about picking up waste and putting it in a dustbin — these are but a few of the many 5 S and health & safety procedures at Slimline.

Slimline also believes in improving quality standards through investment in modern technology and best practices. Trade fairs (E.g. ITMA – Paris) are attended often, and close relationships with machinery manufacturers are maintained. Slimline was named one of Mast Industries most technologically advanced plants in 1997 and 1998.

“In a region rife with exploited labour and primitive working conditions, Slimline uses first-rate technology in an advanced working environment”. – *Wall Street Journal*

Humility v. Pride

Slimline is proud of what it has become. Yet it is also aware of how much better things *could be* and how important it is not to become complacent. While applauding progress, the senior management has created a culture of “*good is great...now let's get better*”.

4. CAPACITY FOR CHANGE

“Winning is not a sometime thing, it is an all the time thing. You don't win once in a while and you don't do things right once in a while. You do them right all the time. Winning is a habit. Unfortunately so is losing.” Vincent Lombardi

The anthem of Vincent Lombardi “*what it takes to be Number One*” is an anthem that resounds from the state-of-the-art factories of Slimline and Slenderline to the Gymnasium where the national athletes, national boxers, women and men Cricketers employed at Slimline strive to win again, again and yet again. It is this competitive chord that ensures the high fashion market leaders - Hanro of Switzerland and Victoria's Secret and retail chain leaders, Marks & Spencer and British Home Stores to be the prestigious clientele of the MAS Group.

When Slimline “loses” it analyses the cause for failure; implements the best corrective measure and most importantly celebrates the new learning experience. Changes are sometimes reactive but most often proactive. Every quarter brainstorming sessions are held to forecast future trends and develop strategies.

The charismatic leadership displayed by senior management enables them to explain and sell the idea for change to the organisation. They lead by example – by living the change – by walking the talk.

SUMMARY

Slimline has found its place in the sun through a cohesive, challenge driven team culture – reinforced through strong top-down leadership and supporting organisational architecture.

It has never been true, nor will it ever be true, that exceptional accomplishments can be acquired without struggle, commitment and difficulty. It cheapens the meaning of ‘excellence’ to suggest that it asks nothing of us before delivering its bounty. Excellence must be earned each and every day, as has been known since ancient times in the moral recognition that one is entitled only to that which one has contributed to.

There is no particular reason to do anything of World Class unless one seeks to shape things so that something above average can result. This ‘will to quality’ thereby moves from being a goal to a commitment. A commitment is the undertaking of an obligation in which one will risk not measuring up to a high standard. Achieving World Class Standards means living with the risk of doing poorly. On the other hand, superior quality cannot be achieved merely by intentions as, at some point, one will have to struggle to demonstrate excellence. This would explain why ‘talking about quality culture’ is so universally insufficient as a response to the deeper challenges of achieving excellence. Words are not deeds.

And just as fingerprints differ from individual to individual, so do successful organisational cultures – there is no single formula for success.

QUALITY & BOTTOMLINE

J. N. Dutta

President, JENTEK, Regd. Lead Auditor, IRCA, UK
Vice-President, AOTS Alumni Society of Calcutta, India



ABSTRACT

Quality plays a viatal role in building sound economy and assured profitability in an industrial organisation. An efficient Quality Cost Control System can convert quality looses directly into profit through simple real life examples with Pareto analysis and different types of quality cost elements, e.g. Prevention, Appraisal, Failure costs, etc., and with scant reference to step like passive approach, final control approach, production process control and comprehensive control approach stages, this paper discusses how considerable savings can be obtained by eliminating massive avoidable losses and thus reducing total Quality cost. The Return on Quality Investment (ROQI) has been illustrated showing how corrective actions cost more than preventive actions in the ultimate analysis. In the interest of minimising colossal national loss due to nonquality, it should be obligatory for companies to report "Quality Costs" in their annual reports like Balance sheets and profit and Loss Accounts.

INTRODUCTION

In any industry, all business activities and programmes are finally decided on the basis of their relative capabilities for controbutions to profit. So are also Quality Assurance and Improvement Programmes. In the ultimate analysis, quality does not cost; it pays. Every rupee saved from quality loss goes directly into the profit. One of the powerful methods used to improve quality is an effective management system of reporting quality costs. If an organisation can measure the cost of quality accurately, it opens several windows to visible scopes for imroving quality and productively. A Quality Cost System reveals the areas of high costs which, in turn, indicates the areas of concentration for corrective action to reduce those costs. Effective control of preventing high inequality costs results in significant breakthroughs in improvement in quality of products and services. Economic consequences of high and low quality are emphasised in the following graph in figure 1, showing more return of Investment (ROI%) for high quality products and services, even during recessions.

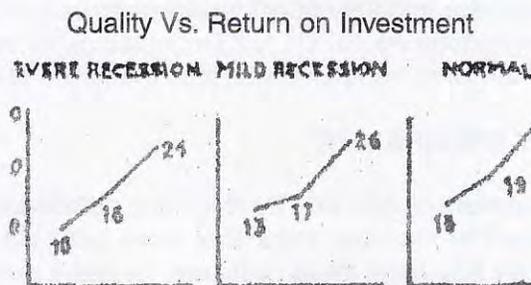


Fig. 1. Graph showing ROI% Vs. Degree of Quality in normal time and recessions.

Unfortunately even now many people in industry, believe that they are saving in costs by nonadherence to Quality Standards and by not investing in expensive inspection and measuring equipment. That this is far from true can be readily revealed to them by systematic Quality Cost Accounting reports.

In the early fifties, A. V. Feigenbaum of General Electric Company developed a preliminary Quality Cost System providing, perhaps for the first time, opportunities to professional Quality Managers to converse in money terms, a language that top Management understands. Among the industrially developed nations, the late sixties

witnessed Quality Costs extended to include customer related cost concept of "Life Costs" and the Eighties indeed signaled "Quality Costs" off the manufacturing floor into the Board as a powerful tool in combating fierce competitions by reducing cost and enhancing total value offered to customers. Today in twenty first century in a climate of globalisation and liberalisation, Quality cost has become more important than ever before.

It is the purpose of this paper to suggest ways and means for wide spread use of this powerful tool of "Quality Costing" in most of the industries in India where a new aim has been already set to reach the front rank of the world's most advanced economies and beyond, in as many sectors and as soon as possible, embarking on a massive transformation of its industry from mere production of goods to high quality and cost efficient production, delivering complete customer satisfaction through accounting for quality in a way that links quality with business improvement.

AVOIDABLE QUALITY LOSSES

A sum total of all avoidable quality losses is termed as "Gold in the mine", which can be evaluated by answering. "What present losses would disappear if all defects disappeared?" The individual major losses constituting "Gold in the mine" can be classified as under :

Tangible

- Materials scrapped or junked;
- Labour and overhead on product scrapped;
- Extra operations added because of presence of defectives;
- Repeat and additional inspection costs;
- Downgrading of product and discounts on seconds;
- Charges on quality guarantee - free replacement;
- Repair and processing of returned material;
- Loss of interest for delayed execution due to defectives etc.

Intangible

- Delays and stoppages caused by defectives,
- Customer goodwill;
- Loss in morale due to historical frictions between Inspection and other departments.

As per world renowned QC expert, Dr. J. M. Juran, the "Gold in the mine", in dollars, usually totals 500 to 1000 times the number of production workers and the cost of quality improvement programme is only to the tune of 10-40% of the gains from such programme. As per Dr. A. V. Feigenbaum, for many companies quality failure cost can amount to more than 20% of turnover, compared with less than 10% of sales in pacesetter organisations.

OBJECTIVE OF QUALITY COST PROGRAMME

Companies generally have some system of their own for reworking defectives and rectifying failures and related costs appear besides scrap costs. The manager know that these exist but has no knowledge of the extent. Unless the manager is told explicitly how large these costs are, he has a tendency to let the idea go out of this mind. This is the real secret key to success of Quality Cost System. When the manager realises how big the costs are, he feels he must do something for those and is ready to pay for the work involved in producing a proper Quality Cost system.

The need for the quality Cost disciplines in the industry might be understood easily be comparing with the function of the finance within a company. Companies irrespective of their products or services, are guided by certain financial facts of life. Money is received from various sources, spent for various purposes and severe consequences are faced for failing to keep the income and outgoings in proper balance. Such situations are avoided by making use of various "Tools of Financial management" evolved over centuries, such as budgets,

balance Sheets, Sales Analysis, Expense and Cost Reports, Accounting Ratios etc., for reviewing performance and making decisions accordingly.

A corresponding set of tools is also available today for the quality functions. However, the striking difference between the worlds of finance and Quality is in the extent to which the Managers are trained in the use of such available tools.

We must ascertain that quality of our products or services conform to the requirements and produce total customer satisfaction. For this, we have to avoid getting things wrong and remember that our inability to do it right the very first time starts contributing to avoidable Quality Costs and hence losses of shocking proportions. As Quality is cross-hierarchical and cross-functional, Quality department alone can do very little about the right quality of a product or service - except measure it, report it and worry about it. Quality, unfortunately, must be everybody's business and has to be built into the product right from the concept stage to commissioning. Quality problems are ultimately reflected in manufacturing shops or at customers end, but actually these do originate elsewhere, surprisingly up to 80% of which is due to white collar lapses. Quality costs then are not only the costs of Quality Assurance departments. These are costs of all departments in a company that have an influence on product quality. Some of the quality-oriented concepts, methods, tools, techniques are skills through which we manage quality were evolved long ago and are universally used; but some methods for monitoring quality are relatively recent and used under various terminology, yet to be standardised.

While considering “Economic Gains from Quality”, it is obviously that a dissatisfied customer is a potentially lost customer. Selling prices may be governed by the competition in combination with the performance standards; but the manufacturing cost is the sole responsibility of the manufacturer. Reduction of “all costs of doing things wrong” is indeed equal to increase in profit. Therefore, an objective Quality Cost programme can be set as achieving the required quality at economic cost through minimising quality losses.

TYPES OF QUALITY COSTS

As recommended by the American Society of Quality, Quality Costs are reported under four board categories that represent avoidable quality losses :

1. Prevention Costs

These costs are related to any function of a company that attempts basically to prevent poor quality being produced, e.g.,

- The costs associated with personnel engaged in designing, implementing, maintaining and auditing the quality system.
- Quality engineering tasks (Planning, design review, process control etc.);
- Design and development of Quality measurement and control equipment;
- Quality training and other prevention expenses.

2. Appraisal Costs

These costs related to functions that appraise or evaluate for assuring conformance to requirements, e.g.,

- Receiving or incoming test and inspection;
- Laboratory acceptance testing;
- Inspection and test;
- Quality labour;
- Outside endorsements or approvals;
- Maintenance and calibration of test and inspection equipment;
- Review of test and inspection data;
- Field testing;
- Internal testing and release;
- Evaluation of field stock and spare parts etc.

3. Internal failure Costs

These costs are associated with non-conformance and failures that occur in-house, e.g.,

- Scrap;
- Rework and rectifications;
- Trouble shooting
- Reinspect, retest;
- Scrap and rework vendors' faults;
- Material review activity,
- Downgrading etc.

4. External Failure Costs

These costs are due to supply of defective products to customers and related to all failures and non-conformance in the field or at the customer's facility, e.g.,

- Handling Customer Complaints
- Products of Customer service;
- Returned product from customer;
- Returned goods that are scrap;
- Returned goods that must be reworked;
- Order acceptance error;
- Usage error, etc.

These items can be added to any category of above quality cost examples. Most costs will be one of the four types. However, there may be difficulty to categorise some of them because they could fit in either one or another. The most important is to report all costs and to take subsequently corrective action to reduce them.

Generally, a slight increase in the cost of preventing and appraisal bring in considerable reduction in cost of internal and external failures and hence in total quality Costs as can be seen from the graphs in Fig 2. Below.

Figure 2

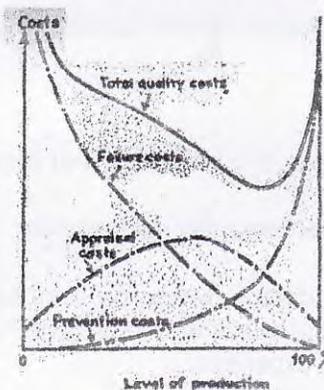


Fig. 2. Graphs showing effect of increase of Prevention and Appraisal Costs on lowering of Failure and total Costs.

In addition to above, *User Quality Costs* of certain costs like

- repair costs;
- conversation costs;
- lost income;
- loss in firm's efficiency;
- additional investment costs (for keeping extra capability/stand by) etc.,

borne by the customer during use of the product. The purpose is to compare total life cycle costs of products of different Quality level to establish that it plays to buy a better product at a higher price and bear lower user Quality Costs and vice versa.

PREPARATION, ASSESSMENT & ANALYSIS OF QUALITY COSTS

Systems and procedures are to be established to evaluate the cost of each element. It calls for use of existing data in accounts, estimates made on the basis of special investigations and introduction of new cost from the existing accounting system and no special re-adaptation of accounts should be made for introducing the system. Though some accounts contain not only quality costs but also other items, it is better to find out the part that belongs to quality costs than to form special new accounts. If the system of accounting serves all other purposes, the data relating to quality costs are likely to be much more true and factual. When a special system separated from other costs is formed, there may be a tendency to hide certain items or to reduce some costs or losses for showing improved results. This manipulation would be much more difficult if data are collected from existing system.

In assessing certain costs, even with full co-operation of the Book keeping department, it is easier to evaluate some types of costs than others' usually, the former are losses on scrap, rework and appraisal, while the most difficult are prevention costs.

It would be prudent to place the responsibility of measuring Quality Costs on Accounts department rather than Quality department. Firstly, for precedence, as Accounts department measures all other costs. Secondly, it would be wrong to allow Quality department, which is responsible for reducing Quality Costs, to measure and report its own success or failure without an independent check. Finally, the top Management is used to receive cost information from Accounts department more seriously.

Regular operating Quality Costs reports should be issued periodically on monthly basis or at least on quarterly basis.

For the purpose of comparison of Quality Costs easily with other plants, the units or firms, it is necessary to compare the relation of Quality Costs to total investment costs or turnover etc. Perhaps, the simplest way of normalising Quality Costs is to state the total quality costs as a percentage of sales and similar separate ratios for all category of quality costs, i.e., Prevention, Appraisal and failures to sales, individually. Following format in figure 3 was introduced by the author for use in the erstwhile General Electric Company of India Ltd.

Fig. 3. Quality Cost Report form

QUALITY COST REPORT MONTH		MONTH			YEAR TO DATE			REMARK
		ACTUAL 1988-89	ACTUAL 1988-90	BUDGET 1989-90	ACTUAL 1988-89	ACTUAL 1989-90	BUDGET 1989-90	
RS 000'S PREVENTION	(Likely to include Quality engineering Qualification Quality Training Social Programmes failed tests)							
TOTAL % SALES APPRAISAL	(Likely to include suppliers inspection Cost of Inspection in process inspection Quality audit inspection)							
TOTAL % SALES FAILURE	(Likely to include rework scrap warranty staty lolarity Damages)							
TOTAL % SALES TOTAL QUALITY COST % SALES								

STEPS AND STAGES OF QUALITY COST REDUCTION

After analysis of prepared quality cost data, an action plan is to be drawn for their reduction. The first step is to identify the spots where the costs are largest. Often, these are internal and external failure costs. Then, we are to discover the causes of these losses; in other words, the task is to find out what the fault is, where and when it occurs and where and when it does not occur. This can be done with the help of Pareto's law, the basic concept of which is that in almost all cases, 80% of the problems are caused by 20% of the people, machines and other factors. Pareto's law says that one should concentrate on the major problems immediately and work on the minor problems later. Often, it is referred to as “The vital few over the trivial many”. While setting up a Quality Cost reporting System, it is very important that Pareto's law is applied to focus attention on the vital few. Perhaps the following example would well illustrate this :

Several Scrap Costs (Internal Failures) collected are shown below :

<i>Department</i>	<i>Quantity Scraped</i>	<i>Cost per Unit Rs.</i>
Welding	12	300
Grinding	3	2,500
Stamping	103	30
Forging	1	1,000
Heat Treat	3	10,000

Hence, the total cost for each Department :

	<i>Quantity Scraped x Cost per Unit</i>	
Welding	3,600	Scrap Cost
Grinding	7,500	"
Stamping	3,090	"
Forging	1,000	"
Heat Treat	30,000	"

In Pareto's Form i.e., with highest cost first, the above becomes :

Heat Treat	30,000	Scrap Cost
Grinding	7,500	"
Welding	3,600	"
Stamping	3,090	"
Forging	1,000	"

The above Pareto list shows that the highest quality cost area to the company is the Heat Treatment shop and this scrap should be investigated first to correct the problem, next the Grinding department scrap problem and so on.

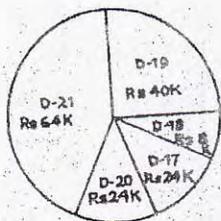


Fig 4 Quality losses in Department

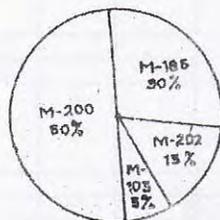


Fig. 5 Quality Losses in Machines

The above pareto list shows that the highest quality cost area to the company is the Heat Treatment shop and this scrap should be investigated first to correct the problem, next the Grinding department scrap problem and so on.

A Company would definitely make a mistake to investigate first problem of stamping department where scrap quantity is high but the cost is only Rs. 30 each, letting the high cost problem in Heat Treat department continue to occur.

Similar study can be made with following Pie-charts in figures 4 and 5 showing quality losses in various departments like Department D-17 (Rs. 24000, i.e., Rs 24 K); Department D-24 (Rs. 64 K); and 50% loss in Machine no : M-200; 30% in M-185, etc.

Hence, the *second step* is to propose remedied for eliminating these causes and to lower the losses, keeping always in mind the fact that each of these remedies involves some definite cost.

The third and most important step is to prepare a budget of these “Investments” in cost reduction projects. Unless such a budget is made, the firm manager might be tempted to attempt reducing failure losses without incurring prevention costs, which is obviously not possible to achieve.

The fourth step is that one should choose most profitably investment opportunity in prevention cost, which will produce highest reduction in failures, losses and above all costs. It is prudent to start those improvements, which can be achieved without radical changes in the production processes and capital equipment. Once such projects are effectively completed, one should turn to those temporarily put aside.

Approach to quality costs are effectively programmed usually in four stages, viz...,

1. **PASSIVE APPROACH STAGE** - During this first stage, practically no quality control exists and external failure costs are very, very high whereas the prevention costs, appraisal costs and internal failure losses are negligible.
2. **THE FINAL CONTROL APPROACH STAGE** - In this second stage, the external failure losses fall considerably, but the final control costs and internal failure losses rise significantly.
3. **THE PRODUCTION PROCESS CONTROL STAGE** - During this stage, when in addition to final control, entrance control on raw material and intermediate control on stages and subassemblies are introduced, the costs of latter two rise but the internal failure costs are reduced.
4. **THE COMPREHENSIVE CONTROL APPROACH** - In this stage, i.e., the ideally desired stage, only prevention cost rises but all appraisal, internal and external failure costs diminish quite significantly.

Fig 6 below illustrates how by control of quality costs, non-conformance and lost opportunity costs are minimised in stages from start to maturity.

The most important prevention cost elements are the expenses on quality experts drawing up programmes of reducing the costs and for training of the staff of the enterprise for process control, quality engineering, calibration and communication etc., but all these pay off in short time. Following Japanese Quality Circle principles, organisations invest under the head of prevention cost Account, the costs of letting the employees devote 1% of their working time (that comes roughly to 20-30 minutes per week), to discuss quality problems and means for improvement. This has produced excellent results.

For any objective and for that matter for lowering overall costs also, motivations are generally of two types - economic and non-economic. Since much stronger material incentives are granted normally for surpassing quantity plans, effectiveness of the same for improving quality plans is considerably reduced. Rather non-economic motivations create great opportunities. Besides the great success of quality circles in Japan, the fact that the workers are better educated today and that their standard of living rises, makes it necessary to give

them much greater responsibility of the entire production process to which they are the closest partners and hence are able to control and improve quality more effectively. At times, it may be just enough to

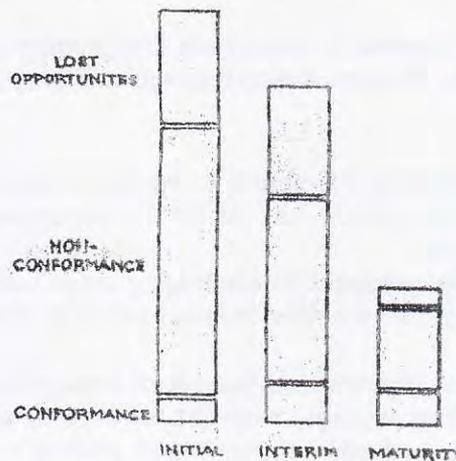


Fig. 6 The Cost of Quality

remove the demotivation to quality elements. It is wise to find the key element and to follow it, ignoring other elements for the time being.

THE RETURN ON QUALITY INVESTMENT (ROQI)

A primary consideration for any business is to ensure return on investment (ROI) and more. This return is not always immediate as demanded in case of investments in prevention cost of Quality, which may be termed better as "Return on Quality Investment (ROQI)". As it is not known what problems would occur, if preventive steps were not taken through investment in people, tools, training and systems, ROQI is not directly and readily measurable and Management is often shy initially to invest in the area of prevention. But one can measure the effect of prevention, provided quality costs relating to scrap, rework, warranty etc., are measured systematically prior to taking preventive actions. If we continue to measure the progress we are making in these areas, we can say definitely that some of the progress is due to prevention and some might have happened anyway.

CONCLUSION

It is good business to adopt prevention, which is the vital part of the quality costs and helps stop poor quality before it occurs. Any action after production of poor quality is corrective action to improve quality. Preventive action saves money by preventing poor quality and costs money because additional time and extra effort are required to plan for good quality. Corrective action costs more than prevention because we incur not only costs of investigating and correcting, we have there also the costs on defective products as scrap, rework, etc. Also, commonsense tells us if we prevent occurrence of one problem one time, then we might have prevented its occurrence several times, if not forever.

Hence, Management cannot wait anymore to leave quality to chance; but must take effective preventive action and have something to say with pride for quality and productivity.

Preventive action is expensive but corrective actions are costlier, much in the final analysis. The capability of quality costs to measure effectiveness of quality systems has already caused a great deal of widespread awareness that improving the quality of a product or service positively ensures company's profitability. Many organisations in many American and European companies are using Quality Cost System for quite some time now and in India also a few have started introducing the same.

Organisation for Economic Co-operation and Development reported as long back as in September, 1988 that quality losses in France was 1000 French Francs per employee per month in industry, and in USA and the Netherlands was 30% of production costs. A few years ago, U.K. reported annual quality losses as 10 billion pounds sterling. One can easily imagine this dimension in India. In a company of Rs. 100 crores turnover, a modest assumption of 20% losses would consist of a quality loss of Rs. 20 crores and even 1% improvement in it would increase direct profit straight by Rs. 1 crore. Even in the following example of a small firm, as much as 40% of total profit potential is blocked by quality losses, elimination of any part of which would directly contribute to profit, as depicted in fig 7.

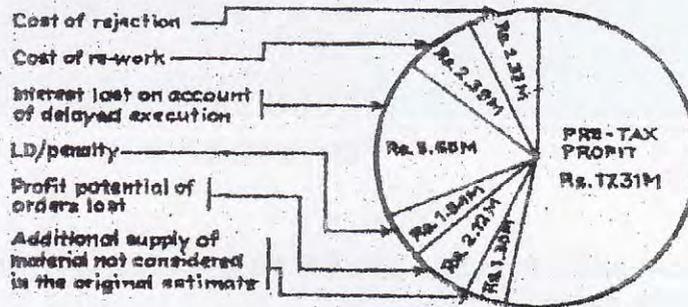


Fig. 7 Showing present actual profit (in million rupees) and various quality loss dimensions, if eliminated each directly convertible to profit.

Indian Economy is opening up as a result of liberalisation. Brutally competitive, turbulent and complex 21st Century market, that promises to extend beyond domestic boundaries, needs sharpening of Management skills and tools for best effectiveness in India business organisations. Controlled “Quality Costs” might indeed serve as a load-bearing element in Indian Industrial Economy for its immense capability to directly contribute to the bottomlines of business. In the interest of minimising colossal national loss due to non-quality, it might be prudent to make it obligatory for companies to report “Quality Costs” in their annual reports like Balance sheets, Profit and Loss Accounts, etc., and some kind of suitable incentive might be conducive to encourage implementation. This would certainly result into mutual benefit for both the company and its customers recognising the well known fact that what is measured correctly is managed correctly.

ACKNOWLEDGEMENTS

The author is grateful to the Committee of AOTS Alumni Society of Calcutta & its President, Mr. P. K. Roy in particular, as well to the Management of JENTEK (Japanese, European & National Techniques to Engineer Quality), Calcutta for according permission to prepare and present this paper.

References :

1. Feigenbaum A.V. (May, 2001) : “How to manage for Quality in today's Economy”, Quality Progress, American Society of Quality, Pages 26-27.
2. Dutta J. N. (1989) : “Quality & Economy”² Quality for Progress & Development, Wiley Eastern Publication, Pages 93-103.
3. Rao, Prof, V.K.R. (1986) : Quality consciousness and better Productivity. Economic Times, 11 November 86, Page 7.
4. Oyzanowski, Prof. B, (1981) : Quality cost systems Help increase Company Profits and Quality Chairman, EOQC Committee Report.
5. Juran, Dr. J. M., Gryana M. Bingham R. S. (1979) Quality Control Handbook. 3rd Edition, McGraw, Hill Book Company.
6. GEC Management college, Dunchurch, U.K. : Quality Awareness Video Programme.
7. Organisation for Economic Co-operation and Development (1988) : Oecd Report, September, 1988.
8. Dutta, J. N. (1988) : Quality Costs, “Towards Achieving Quality”, CEI (ER) November 1988 Publication, Pages 47-54.

CASE STUDY REPORT OF TQM IMPLEMENTATION, 1995-2001

FEDERAL ELECTRIC CORP. LTD., THAILAND

(ELECTRIC HOME APPLIANCES)

P. Wiwat
Quality Expert, ABK & AOTS Alumni Society, Thailand



Executive Summary

Introduction

In late 1995, Federal Electric Corp. Ltd. applied to the ASEAN-Japan TQM Project. The purpose of the project is to use TQM as the method for development in ASEAN industries. The project was supported by MITI and implemented by JSA FEC was diagnosed by Japanese experts and chosen to be one of the pilot companies in Thailand. The project was started in March 1996 and ended in 2000.

Result of the TQM implementation

1. Company gets ISO 9002 (1994) credit by TUV Rheinland and now under revision to ISO 9000 (2000)
2. Company gets ISO 14000 credit by TEI (Thai Environment Institute).
3. Company gets ISO/IEC guide 25
4. Small group activities (5S, Kaizen, Safety, QIG, etc) are implemented actively and systematically.
5. Statistical tools are implemented widely in the shop floor.
6. Policy deployment is underway.

Conclusion

TQM implementation has made the company stronger in business status. ISO is only the subset in TQM. Finally the system is the methodology for the company-wide PDCA in order to achieve world class company.

Major issues for TQM in FEC

1. Policy deployment of year 2001-2002
 - To reduce the delivery time in domestic and export, not over 75 working days.
 - 10% cost reduction
 - To improve the process in order to be the export leader.
 - To raise the level of education and training of the workers in order to ensure the workers have the knowledge and core competence in working.
 - To set up the cost calculation system for domestic and export in order to know the result within 24 hours.
2. To complete QC process chart and put them to full implementation company-wide. This is one of the production standardization.
3. Encourage small groups activity from bottom-up in order to connect with top-down from management level.
4. To implement the method to determine customer satisfaction on the products of FEC and appropriate response through Product Quality Development and Product Function Development by R&D.
5. Level up by education and training for the front line and supervisors.
6. Integration of sub-system (ISO 9000, ISO 14000 etc.) into TQM.

Result of TQM in FEC past till present

1. In July 1997, Thailand faced an economic crisis. The company was also affected. Our productions decreased to 50% of the good time. Our policies are :
 - Freezing the number of working people instead of lay-off (keeping good relation and solving problem together).
 - Investigation of both the inside and outside situations.
 - Decreased production because demand on domestic shrank. Careful in the selection of credit to wholesalers in order to reduce bad debt.
 - A time to investigate ourselves what expenses could be reduced. One major expense we reduced is changing a working shift which resulted in reducing demand charge of about 4,000US/ per month
 - Use excess workers to work on 5S on total factory.
 - Training on QC 7 tools and New 7 tools etc. by AOTS subsidiary
 - Export projects were concentrated.
 - Micron type rice cooker.
 - Compact type rice cooker.
 - One new product is introduced by segmented ideas.
 - 7 litres rice cookers are produced for restaurant use.

2. Continuous improvement on energy conservation resulting in awarding for energy conservation from Ministry of Science & Technology on :
 - Used electronic ballasts in the whole factory resulting in energy savings of USD 7,900/per year.
 - Changing high bay lighting to fluorescent lighting and labeling all lighting corresponding with switch.
 - Controlling maximum demand on peak period.
 - Change temperature control to fix position at 25°C in order not to lower room temperature than this optimum point.
 - Reporting energy consumption in management meeting.
 - Using recycled water for road cleaning and practicing fire fighting.
 - Planning to use surface water to minimize deep-well water. Now under investigation of quality and quantity of water to be used in each period.
 - Renewal of Storage roof for transference roof to minimize lighting.
 - Set timers to control usage at peak demand to use off-peak demand.

3. Education and Training
 - Check education level in the factory and plan to increase education level of workers to be at least grade 7.
 - Statistics training on QC story and 7 tools of QC for all QIG 13 groups with 80 persons.
 - Training programs are set for the whole year of 2001.

4. Policy deployment for year 2001-2002
 - Each division at policies are planned according to company policies by matrix diagram.
 - Section policies are followed and the implementation plan drawn.
 - TQM facilitators team follows up the implementations plan and expedition of plans.

QUALITY MANAGEMENT SYSTEM IN NEPALESE INDUSTRIES

Poorna Prasad Manandhar

Director General, Nepal Bureau of Standards and Metrology/HMG

Background

It has been proved that industrial development is important for the economic development of a country. In Nepal, 80% of the population still depend on agriculture and the industry sector shares only 10% of the GDP. Hence, industrial development can not be taken as very satisfactory. In such circumstances, manufacturing establishments must be able to compete through quality in the domestic as well as the international market in a sustainable manner. Nepal imports a large number of goods from India and other foreign countries. Some of these goods of similar nature are also manufactured in Nepal. But, they can not compete with the foreign products due to lack of quality. Similarly, some significant quantity of Nepalese products is exported to India and foreign countries. However, it has been noticed that some of these products could not sustain in the market and one of the reasons for this is the lack of uniform quality. Nepal's foreign trade and major export items are as follows :

Foreign Trade

In billion Rupees

	Export	Import	Total
India	17.69	29.98	47.67
Other countries	21.21	45.20	66.41
Total	38.91	75.18	114.08
India/others	45.5:54.5	39.9:60.1	41.8:58.2

Major Exportable items of Nepal

1. Ready made garments
2. Woolen carpets
3. Pashmina (Cashmere) Products
4. Handicrafts
5. Food and food products
6. Chemicals
7. Fabric
8. Cables
9. Miscellaneous

For the sustainable growth of the economy, the main objective of the manufacturing establishments should be to provide continued satisfaction to the consumers. This can be achieved only through uniform quality as desired by consumers and product improvement. Only then can the establishments get the required profit out of their investment. A balance has to be maintained between consumer satisfaction and profits. Profit can be made only when the productivity is enhanced and this is possible only when different wastages on raw materials, human resources, energy, production process etc. occurring at different stages of production could be lowered. The continued production of the required quality and productivity enhancement are possible only when the strategic management incorporating the quality management system is adopted in the manufacturing establishment.

Today, Nepalese manufacturers are increasingly becoming aware and conscious about quality. The number of manufacturing industries using NS Mark or quality certification mark in their products has increased

Second Regional Quality Convention
“Building Competitive Environment Through Quality”

significantly in the last few years. This indicates the desire to establish products of required quality or even better. This indicates they would like to establish products of required quality or of even better quality. It is being highly felt that continued quality assurance to the consumer is very essential in the context of growing competition. More than 100 manufacturing establishments have been licensed to use Nepal Standard Mark (NS Mark), a third party guarantee certification of their products. This should be taken as an outstanding achievement. This is the result of the consciousness of both industries and consumers regarding the quality of the product. In this context, the Nepal Bureau of Standards and Metrology (NBSM) has been playing a significant role. NBSM is trying to help industries to change their conventional concepts on quality control strategy, i.e., the end product inspection and certification which may have consequences of rejection of the final product. The manufacturing establishments receiving the NS mark are categorized as follows.

1. Food and beverages :	24
2. Building construction materials :	23
3. Electrical :	6
4. HDPE/PVC pipes and fittings :	17
5. GI pipes and fittings :	4
6. Paints and varnishes :	4
7. Miscellaneous :	22
Total : 100	

All these industries have the following requirements in place :

1. Quality manual in practice
2. Company standards
3. Quality control laboratories in progress
4. SOP in operation
5. Compliance plan with required standard
6. Built in consumer assurance system
7. Market surveillance and consumer complaints monitoring and corrective measures
8. Internal quality auditing system
9. Waste minimization and waste auditing procedure
10. Documentation of all activities

These industries are being regularly monitored and guided by NBSM regarding what they are supposed to do as a daily routine. The corrective measures are immediately made to take so that the final product is in compliance with required quality. In the mean time, they are equally guided and encouraged for the product improvement. Similarly, strict measures are also taken in case of the non-conformity and non-compliance with the required standard. The license is suspended as a first step warning which could be followed by withdrawal of the license if the corrective measures are not taken with complete assurance.

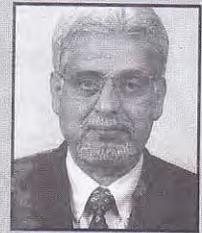
To help sustainable growth of the industries and to make them competitive with respect to quality, His Majesty's Government of Nepal has already developed and established the basic infrastructure and also has been trying to render the required services as best as possible. Some of them could be described as follows.

1. National Standard Body : Nepal Bureau of Standards and Metrology has already been established with required facilities.
2. Legal instruments : Nepal Standards (Certification Mark) Act and Rules have been promulgated.
3. National Standards : More than 700 national standards have been formulated and this activity is being continued.
4. Analytical facilities : Many laboratories equipped with some specific testing facilities have been installed.
5. Laboratory accreditation and laboratory quality assurance : Domestic and international proficiency testing is in progress in order to help the laboratory quality assurance.
6. Training and counseling for better quality production : Training on quality control, quality management system, ISO 9000 standards etc. for technical personnel and the managers is in progress and will be continued.

STUDENTS QUALITY CIRCLE

TOTAL QUALITY PEOPLE FOR TOTAL QUALITY MANAGEMENT

Prof. Dinesh P. Chapagain
Kathmandu University, School of Management



*"Karmande-badhikaraste ma falesu kadachana
Ma karma-fal-hetur-bhuma te sango-astwo-karmani"*

Introduction

1. One of the common languages of the Total Quality Management [TQM] is very much in line to this *shlok* from *Geeta*: "Give emphasis on the process, continuously improve it, and don't worry about the result; Result is bound to come." Obviously, improving the process continuously will not only satisfy or delight, but will even astonish the customers with surprising results. It will generate the "WOW" effect. And, this is the most important aspect of building competitiveness.²
2. Many of us still have result-oriented value system within ourselves. The boss always says – I want results; I don't care how you do it. Parents always say – bring good results otherwise you can't compete with others. The Management by Objectives [MBO] school of thoughts emphasizes on designing the process by the manager to achieve organizational goals. Since the obvious objective of business is to earn profit, this puts pressure on everybody to think in terms of earning profits by any means. This is an absolute result-oriented approach. According to Karl Albrecht,³ a proponent of MBO philosophy, this approach is nothing but an observable pattern of behaviour of the manager. He says that objective-oriented managers, objective-oriented workers and a reward-centered environment are the three basic conditions required for MBO. And rather than the profit, the objective should be the customer satisfaction.
3. The word "customer satisfaction" seems quite simple in its face value. But it is not. It is people variant and multi-dimensional in nature that also changes with time. It is a complex phenomenon with maximum flexibility and dynamism. TQM has the answer to this complex issue – continuous improvement. It means, to be successful, one needs to improve the working process continuously with the objective of astonishing customers. For this, one has to change one's attitude and perception of looking at one's work in a different way. One has to clearly understand the values and beliefs that are built within us, and that they are the result of inherited culture and society.
4. Thus, TQM is more of a psychosocial substance. It should not be seen merely in the context of some simple technical tools, but more as a study of human behaviour. In this paper, I do not attempt to discuss what TQM is all about, nor am I going to deal with its virtues in improving competitiveness of organizations. This paper is only an attempt to explore what lies behind TQM and the making of total quality people – people who can make the world a place worth living in.

Whole Brain Theory, Appreciative Inquiry Theory and TQM

5. To understand the human psychosocial traits, many writers have postulated a number of theories. It is worth noting here Herrmann's four-quadrant brain model.⁴ The research carried out by Roger Sperry⁵ and others in the 1960s have revealed the dual function of the brain. The left hemisphere of the brain, which controls the right side of the body, appears to have the function of logical, analytical, sequential and rational thinking, whereas, the right hemisphere tends to perceive the world and people in a global mode, i.e., instantaneous initiative, visual, synthesizing, emotional and expressive. Recently, a new dimension has been added to this famous brain theory by Ned Herrmann who differentiated the left and right brain into four clear quadrants: upper left (Quadrant A) lower left (Quadrant B), lower right (Quadrant C) and upper right (Quadrant D).

Quadrant A (Cerebral left)

Logical, analytical, mathematical, technical, problem solving. *Example: Medical doctor in a hospital*

Quadrant B (Limbic left)

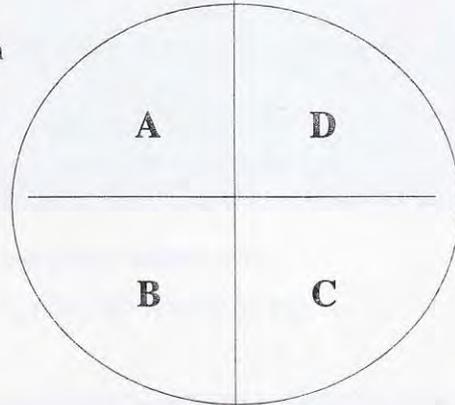
Controlled, organizational, planning, detailed, administrative. *Example: Hospital administrator*

Quadrant C (Limbic right)

Interpersonal, emotional, musical, spiritual, expressive. *Example: Nurses in a hospital*

Quadrant D (Cerebral right)

Creative, synthesizer, artistic, holistic, conceptual. *Example: Psychiatrist in a hospital*



6. Studies have revealed that 7% people have single dominant, 60% have double dominant, 30 % have triple dominant and only 3% have quadruple dominant profiles. Every individual possess some dominance profiles. There is nothing like good or bad in individuals having any of these profiles. Understanding TQM philosophy and utilizing its techniques and tools need people with quadruple dominant profiles, preferably ones who prefer Quadrant A and Quadrant B, and utilize Quadrant C and Quadrant D.

7. TQM puts emphasis on people to be more process-oriented. David Cooperrider's Appreciative Inquiry (AI) theory, in essence, contends that the fact of an organization is not a problem to be solved, *but a miracle to be embraced.*⁶ It postulates the 4D cycle (Discovery, Dream, Design and Destiny Cycle) for organization development (OD).



AI emphasizes on entrepreneurs to be persons who can dream, have wide vision, and ones with the capability, to envisage the future and its environment. TQM, as such, does not disagree with this. Its only contention is that far out dreams may be harmful. Taking a step-by-step problem solving approach at the process level is better. It subscribes to the *slow and steady wins the race* philosophy. It assumes that solving problems continuously with an eye on customers' expectations, and applying the PDCA⁷ (Plan, Do, Check and Act) cycle helps them to be competitive.

8. However, TQM needs people in the organization with appropriate values that make them recognize the important of being

- Customer (process) oriented not only profit (result) oriented
- Collaborative (unidirectional cooperation) not only participative (democratic exercise)
- Problem solvers (continuous improvement) not only dreaming (innovation)

9. This requires an overall orientation of managers, supervisors and workers towards understanding the customers and their needs, and solving problems continuously in a collaborative way to improve the process. Such orientation depends on the values, beliefs and traits of each individuals within whose minds these psychosocial scripts are written right from their early childhood – at home, at school and, later, at their working place. According to Stephen Covey, individual behaviours are reflected as per the script written earlier.⁸ And, it is very difficult to change or re-script as time passes, or later stages of life. The question, therefore, arises whether the individual traits come by nature or they are nurtured. The answer to this is that some are by nature, but many are nurtured. Parents at home do the nurturing or re-scripting of a newborn child; for a school going child, teachers at the school do this; and, the boss largely contributes to this as far as his subordinate is concerned.

Universalization of the TQM Concept

10. The importance of TQM and Quality Circle and their benefits in productivity enhancement and improving competitiveness has been known in this country since the last three decades. The National Productivity and Economic Development Centre (NPEDC), formerly known as Economic Service Centre (ESEC) and also as Industrial Service Centre (ISC) has been promoting this concept in various industries in the public and private sectors through training and consultancy services.
11. At present, a number of Nepalese entrepreneurs, professionals, academicians, some supervisors and work leaders have developed awareness about productivity, quality management system and total quality management. But, there are hardly any organizations actually implementing TQM on a continuous basis. The term TQM itself has become a favourite word of many consultants and trainers. The question is, why is TQM not being effectively applied in Nepalese organizations in spite of its awareness among concerned stakeholders?
12. I put this question obliquely to two famous Deming Prize winners, Dr. Hitoshi Kume⁹ and Dr. Noriaki Kano¹⁰. The reply of both these Japanese champions of TQM was the same – TQM is a universal concept, and it is feasible in all countries in all types of organizations, both manufacturing, service and even in government. They said that TQM was definitely made and tested in Japan with overwhelming success, but it has been successfully adopted by many developing and developed countries.
13. My endeavour at implementing TQM in Nepal found little success. The reason was the lack of continuity. Continuity is the apparent key to the success of TQM. I discussed this matter with some TQM champions of this region too, as they have more or less the same culture and values as we have. I learnt from Mr. Sunil G. Wijesinha¹¹ of Sri Lanka and Mr. AMM Khairul Basar¹² of Bangladesh that successful implementation of TQM depends on macro-environmental factors such as economic growth, the socio-cultural values and beliefs of entrepreneurs, attitudes of trade unions, government commitments, etc. And, TQM and productivity movement need more time in our part of the world.
14. Two years ago, I got a chance to meet the American quality management champion Mr. Donald L. Dewar¹³ at Lucknow, India. While revealing the teething problems he faced while implementing quality circles at Lockheed and other industries in USA, he said that TQM looks like a universal phenomena, but a lot of training and education was necessary, especially for entrepreneurs or managers. It is an arduous process, but when the entrepreneurs realize its importance, it will immediately begin to show results. For this, unstinting top management commitment is a prime necessity.

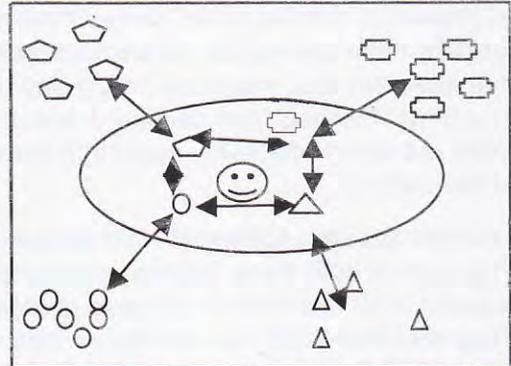
TQM implementation in Nepal

15. Although quality circle program in Nepal started around the 1980s, they have not been able to really take off due to the problem of continuity. An observation¹⁴ of various enterprises that implemented the program revealed that application was not done whole-heartedly by the owners or the top managers, but only by the initiatives of some energetic managers or external experts. Something, therefore, is missing that is hindering the success of this universal concept in Nepal. What are missing are the zeal for continuous improvement, the approach of collaborative action, and the passion for systematic problem solving. At this juncture, it becomes necessary to understand the traits, thinking processes and preferences of individual stakeholders. So, in a country like Nepal, instead of trying to convince entrepreneurs to implement TQM simply by narrating its virtues and successes in countries like Japan, USA, Singapore, and India, the whole approach to TQM has to be reengineered to a different mode. We have to reach out to the roots, start by nurturing the individual traits towards the psychological profiles that are suitable for TQM right from the early age of our people, i.e., when they are children. A child can easily adapt the script written on him/her at childhood.
16. There are several cases (two are shown in the boxes below), which shed light on the problems in TQM implementation in Nepal. The obvious reason is the thinking and preference profiles of individuals whose foundations lie in their psychosocial and cultural backgrounds. It is of no use talking only about the technical aspects of TQM and quality circles if we cannot improve these individual traits.

17. The children of today will assume the roles of entrepreneurs, managers, supervisors or workers of tomorrow. If we start moulding them today, we can get positive results 10 years from now. We have already spoilt 20 years; why not invest another 10 years to really develop a world of people where everybody plays a win-win strategic game, where a synergic solution is developed for the benefit of all human beings!

Understanding Organization Development and Infusion of TQM Culture

18. An organization is a group of people coming from different social backgrounds working together to achieve a common goal. Considering the social dimension of the organization, it is a complex and arduous job to convince all workers, employers and managers having different psychosocial and cultural backgrounds to join hands in forming a new social order. Organization development demands the formation of new work order with objectives agreeable to all in the organization.



19. Total Quality Management is a culture that has to be infused among managers and subordinates. This will encourage collaboration in striving to achieve the common goal, i.e., improving competitiveness of the organization. Individuals have different degrees of Herrmann's quadrants dominance profiles. It is very difficult to change the habits and traits of mature and academically qualified people having long work experience, the kind generally found in organizations. It is, therefore, quite impossible to have a homogeneous brain dominance profile (1122) of preferring quadrant A and B, and also utilizing quadrant C and D, that is suitable for TQM application.

Educational Institute: a Man Making Organization

20. Swami Vivekananda has once referred to educational institutes as man making organizations. Educational institutes have the responsibility of producing Total Quality People (TQP) – persons who can develop their latent capabilities, productive skills and who can coordinate their expression for the enrichment and progress of society. This is the saying of Mr. Jagadish Gandhi¹⁵, a visionary man who started a campaign of Students Quality Circle to make Total Quality People for the future. While exploring the attributes of Japan's progress during his visit to that country in 1992, Mr. Gandhi identified Quality Circles and TQM as the main contributors to the country's success. He reasoned that if this management philosophy could work in the shop floors of Japan why couldn't it work in the school grounds. After returning to India, with his very qualified and dedicated lieutenants, Dr. Vineeta Kamran and Mr. Prakash Bihari, he initiated the Students Quality Circle (SQC) in City Montessori School. Making tiny students exercise Quality Control Circles in a classroom was a remarkable and historic job. As these students are going to be our future managers and workers, one can imagine the positive effects SQC can have.
21. Quality people are those with commitment, positive outlook, leadership abilities and the desire to excel. The quality people are not created by chance, but a constant and conscious effort is needed to groom them. They have to be trained right from the beginning with quality consciousness as their second nature. Our academic institutions and schools have to adopt innovative ideas to respond to changing times. Their responsibility lies not only in imparting formal education but also in shaping the attitudes and personalities of their pupils. In institutions like these, empowerment programs like quality circles have tremendous potential in moulding children into total quality people, total quality citizens and total human beings.
22. Students Quality Circle program, introduced as an integral part of TQM in schools and universities, will help to reorient the psycho-social traits of students who as future leaders and managers can promote TQM culture in their respective organizations to develop win-win playing fields.

School-wide Quality Control (SWQC) and Students Quality Circle (SQC)

23. We all know that quality is an attitude of mind striving continuously for improvement. And, a systematic solving problem for continuous improvement is quality control. Quality, in the perspective of a school, is a set of principles and methods organized as a comprehensive strategy with the goal of mobilizing the entire school (teachers, staffs and students) in order to achieve the greatest satisfaction of parents.

24. Quality control is the control of variations that are inherent in nature. It would enable schools to:

- have a competitive edge in terms of academic excellence;
- enhance the satisfaction of parents whose wards are the products of the schools ;
- provide means for resolution of existing problems and subsequent prevention; and above all
- enable all round development of the child.

25. In applying the concept of TQM in schools, School-wide Quality Control (SWQC) can be expressed as follows:

$$SWQC = QM * QA * QT * QC$$

Where,

- QM = Quality Management (director, manager, principal's leadership)
- QA = Quality Assurance to the parents (customers and society) as focus
- QT = Quality Teams (staffs and teachers of all levels and departments)
- QC = Quality Circles (in all departments) of teachers and students

[Note: Absence of any one component in the above formula creates nil results]

26. The definition of Students Quality Circle would be

- a small group of voluntary students of the same school
- who meets regularly one hour a week
- to identify analyse and solve their problem
- as a part of the SWQC
- for their self development and mutual development
- for improving personality and communication skills
- developing a sense of social responsibility and global out look.

27. Recognizing the need to introduce quality culture among students, and making total quality people around the world, a group of quality experts, academicians, administrators, managers, teachers and students from USA, Japan, Switzerland, Germany, Singapore, Mauritius, Australia, India, Sri Lanka, Bangladesh and Nepal met at City Montessori School, Lucknow on the eve of 22nd February 1999 and formed the World Council for Total Quality and Excellence in Education (WCTQEE). The head office of the WCTQEE is in Singapore and the corporate office is in India.

28. The humble vision of the WCTQEE is: “Making every student a total quality person and a pride of human race and a highly productive and corporative future citizen.”

SQC Experience in Nepal

29. Himalaya Vidya Mandir¹⁶ in Siphel, Kathmandu is the first educational institute in Nepal that tried this new concept of SQC. In 1999, they formed one circle with six students with an average age of 14 years from classes VIII and IX. They practiced circle activities during the school time. This circle bagged a special award in the 2nd International Convention on Student Quality Circle (2nd ICSQCC) held in December 1999 in India. Under the name “AUM”, they presented a case titled “Towards Maintaining Discipline Among Students”¹⁷ in which they identified the following benefits after involving in Student Quality Circle activities. They

School-wide Quality Control (SWQC) and Students Quality Circle (SQC)

23. We all know that quality is an attitude of mind striving continuously for improvement. And, a systematic solving problem for continuous improvement is quality control. Quality, in the perspective of a school, is a set of principles and methods organized as a comprehensive strategy with the goal of mobilizing the entire school (teachers, staffs and students) in order to achieve the greatest satisfaction of parents.

24. Quality control is the control of variations that are inherent in nature. It would enable schools to:

- have a competitive edge in terms of academic excellence;
- enhance the satisfaction of parents whose wards are the products of the schools ;
- provide means for resolution of existing problems and subsequent prevention; and above all
- enable all round development of the child.

25. In applying the concept of TQM in schools, School-wide Quality Control (SWQC) can be expressed as follows:

$$SWQC = QM * QA * QT * QC$$

Where,

QM = Quality Management (director, manager, principal's leadership)

QA = Quality Assurance to the parents (customers and society) as focus

QT = Quality Teams (staffs and teachers of all levels and departments)

QC = Quality Circles (in all departments) of teachers and students

[Note: Absence of any one component in the above formula creates nil results]

26. The definition of Students Quality Circle would be

- a small group of voluntary students of the same school
- who meets regularly one hour a week
- to identify analyse and solve their problem
- as a part of the SWQC
- for their self development and mutual development
- for improving personality and communication skills
- developing a sense of social responsibility and global out look.

27. Recognizing the need to introduce quality culture among students, and making total quality people around the world, a group of quality experts, academicians, administrators, managers, teachers and students from USA, Japan, Switzerland, Germany, Singapore, Mauritius, Australia, India, Sri Lanka, Bangladesh and Nepal met at City Montessori School, Lucknow on the eve of 22nd February 1999 and formed the World Council for Total Quality and Excellence in Education (WCTQEE). The head office of the WCTQEE is in Singapore and the corporate office is in India.

28. The humble vision of the WCTQEE is: “Making every student a total quality person and a pride of human race and a highly productive and corporative future citizen.”

SQC Experience in Nepal

29. Himalaya Vidya Mandir¹⁶ in Siphel, Kathmandu is the first educational institute in Nepal that tried this new concept of SQC. In 1999, they formed one circle with six students with an average age of 14 years from classes VIII and IX. They practiced circle activities during the school time. This circle bagged a special award in the 2nd International Convention on Student Quality Circle (2nd ICSQCC) held in December 1999 in India. Under the name “AUM”, they presented a case titled “Towards Maintaining Discipline Among Students”¹⁷ in which they identified the following benefits after involving in Student Quality Circle activities. They

- learnt to tackle a problem systematically
- developed consciousness about wearing school uniform properly
- learnt to prioritise to identify the best from the rest
- developed the capacity to think creatively
- developed consciousness towards quality
- learnt to be more specific
- undertook more interest in the systems in school
- learnt to manage time through action plan
- improved school environment
- developed unity among SQC members by respecting other's views
- developed power of expression
- understood that group work can produce synergy effect in solving problems.

30. Whereas two principles, two teachers and six students participated in the second international convention on SQC held in India, eleven principals/directors/ convenors of schools from the eastern region of Nepal participated in the 3rd International Convention on SQC held at Mauritius in 2000. In December 2001, the 4th International Convention on SQC is going to be held in Lucknow again. It is quite encouraging to learn that 7 schools and 45 students have already shown their interest in participating in this convention, and they are practicing student quality circles in their schools. The efforts of those principals who are keen on developing Total Quality People really need to be appreciated. This will definitely set a platform for the future to implement TQM and to gain the competitive edge in any business in the future, and for the development of our people, our country and the whole world.

31. In summing up, the principles of Students Quality Circle can be expressed as 10 Cs:

- Making a COMPLETE PERSON, having CREATIVITY, COMMITMENT, and COMMUNICATION skills;
- Developing COOPERATION, COORDINATION, and COLLABORATION among peers;
- Striving always for CONTINUOUS IMPROVEMENT, by adopting CIRCLE ACTIVITIES, and Systematically solving COMMON PROBLEMS.

32. Last but not the least, I would like to reiterate the same *slok* from the *Geeta* “Don't Look for the results, go on improving the process”.

End Note :

- ¹ A Sanskrit slok from the famous epic Sri Mad-bhagwat Geeta. It says” *Proceed rightly on your work, you have no control on the result; so, never care for results, and never stop from working.*”
- ² *Astonish Customers Always by Understanding the Time Value of Quality [TVQ] Concept*; a paper presented by the author at the 3rd International Convention on Quality Control Circles, 26-28 July 2000, Mauritius
- ³ In his book “*Successful Management By Objectives*” published by Prentice-Hall, Inc., in 1978, Karl Albrecht has illustrated the views of George Odiorne (1965), Paul Mali (1972), Dale McConkey (1965), David Olsson (1968), Peter Drucker (1973) and John Humble (1972).
- ⁴ Ned Herrmann's “*Whole Brain Business Book*” published by McGraw Hill, NY, 1996. He has also developed Herrmann Brain Dominance Instrument [HBDI] that permits one to become aware of his thinking preferences in order to use them better in one's personal and professional life.
- ⁵ Referred in the handouts in the “*Symposium on Innovative Human Resources Management Practices: Thinking and Innovating through the Whole Brain Model*” 22 – 24 August 2001, organized by APO and TPI, Bangkok.
- ⁶ David Cooperrider and Suresh Srivastava, “*Appreciative Inquiry in Organizational Life*,” in R.W. Woodman and W. A. Pasmore, eds., *Research In Organizational Change and Development*, Vol. 1, Greenwich, CT: JAI Press, 1987.

Second Regional Quality Convention
"Building Competitive Environment Through Quality"

- ⁷ Dr. W. Edwards Deming's "Out of the Crisis", MIT Centre for Advanced Engineering Study, Cambridge, MA, 1986 is a very important book for understanding this W. Shewhart or Deming Cycle.
- ⁸ Stephen R. Covey, "The Seven Habits of Highly Effective People", Simon & Schuster Ltd., UK, 1992.
- ⁹ I got an opportunity to meet Dr. Kume at Tokyo in July 1996 during the Executive Seminar on Total Quality Management organized by the AOTS, Japan. Dr. Kume, one of the prominent students of Dr. K. Ishikawa, has written several books along with the famous book titled "Management by Quality" in 1995
- ¹⁰ I met Dr. Kume at Kathmandu, Nepal in September 1998 during his lecturing tour on Total Quality Management organized by the AOTS Japan and Nepal AOTS Alumni Society. He is widely recognized for the development of Kano's methodology and the book titled "TQM in Service Industries" which was edited by him.
- ¹¹ I have regular meetings with Mr. Wijesinha in various regional international quality seminars. Mr. Wijesinha, CEO of Merchant Bank of Ceylon is a pioneer and successful promoter of productivity in Srilanka. He is also the recipient of the famous APO productivity award.
- ¹² I have regular contacts with Mr. Bashar, General Secretary of Bangladesh Society of Total Quality Management, who is a promoter of TQM in Bangladesh and has written books on Quality circles and 5-S in Bengali language for Bangladeshi people.
- ¹³ Mr. Dewar, President QCI International, USA is the one who implemented Quality Control Circles successfully in USA for the first time in 1973 at the famous Lockheed Company where he was working as industrial engineer. His contributions to the quality worlds are many. He is president of the internationally renowned monthly magazine of "Quality Digest", USA.
- ¹⁴ The paper "Application of Japanese Management in Nepalese Industries" presented at the Regional Convention on Japanese Style Management organized by the Japan Sri Lanka Technical & Cultural Association (JASTECA) at Colombo in 1999 by the author covers 5 cases of problems faced by him while implementing TQM in Nepal.
- ¹⁵ Mr. Gandhi is the Founder Manager of City Montessori School, Lucknow, India, a school with 23,000 students. This school with the maximum number of students in a single city has the distinction of figuring in the Guinness book of world record.
- ¹⁶ Ms. Savitri Singh, the founder principal was very interested in grasping the opportunity to introduce this very new concept of SQC in Nepal for the first time.
- ¹⁷ The quality circle case presented at the 2nd International Convention on Students Quality Control Circle, 15-18 December 1999, CMS Lucknow, India.

**Best wishes for the
Second Regional Quality Convention
of
Nepal AOTS Alumni Society**

Modern Packaging Industry

B.I.D. Balaju, Kathmandu, Nepal
Tel : 350983, 350848, Fax : 223997
E-mail : modepack@wlink.com.np

**A CASE STUDY OF
FRED HOLLOWES IOL LABORATORY**
(MANUFACTURER OF SINGLE PIECE PMMA INTRA OCULAR LENSES)



Rabindra K. Shrestha

Deputy General Manager, Fred Hollows IOL Laboratory
Tiganga Eye Center, Nepal

INTRODUCTION

The Fred Hollows IOL Laboratory manufactures Single Piece Posterior Chamber Intraocular Lens (IOL) and is part of Tilganga Eye Center, which is the implementing body of the Nepal Eye Program and is situated in Kathmandu, Nepal. The Nepal Eye Program is a non-profit organization, incorporated in 1992 and it was envisioned that the Tilganga Eye Centre should become a world-class center of excellence for its quality of products and services.

Tilganga Eye Centre is committed to meet the needs of cataract blindness in developing nations by providing high quality affordable intra-ocular lenses (IOL) for use in modern cataract surgery and the provision of world class ophthalmic services to the people of Nepal and neighboring countries. It is also committed to providing Nepal with a world class, high technology manufacturing base, not only generating new export markets but also demonstrating that Nepal and its people have the capacity to meet global standard and world best quality procedures.

The Laboratory commenced with a team of just 4 Nepalese staff in 1993 and grew to around 66 in 2001 as technical, administrative, management and engineering staff were employed to establish and develop the manufacturing facility. The lab is staffed, managed and run entirely by Nepalese staff. This Nepalese team, plus the dedicated experts from the Fred Hollows Foundation in Australia and New Zealand, have taken the Laboratory through the IOL Validation process and into full commercial production, which commenced in December of 1995.

The Laboratory maintains a high commitment to ongoing staff development and training, ensuring that the manufacturing facility continuously meets the demands of world-class production and management standards.

The crowning of the success of establishing the Lab, was ISO 9002/EN 46002 and CE Mark Certification which was attained after a great deal of very hard work on every ones' part and represent the commitment to continuous improvement of the Production and Quality Assurance Staff. It should be said that the Fred Hollows IOL lab is the only manufacturing facility in Nepal to achieve these Prestigious certificates and to date, the only IOL Lab in the region to hold the "CE Mark".

QUALITY AND ENVIRONMENT OF THE LABORATORY:

ENVIRONMENT

All manufacturing operations in the Fred Hollows IOL Lab are conducted in Class 350 (Class 10000 US Fed Std 209) clean room standard (AS 1386); while finished product packaging is conducted in class 3.5 (Class 100 US Fed Std 209) Laminar Flow workstations. The Class 350 Clean-room environment therefore provides an essentially particle less manufacturing environment with low levels of bacterial contamination and conditioned air.

To maintain such type of cleanroom standards, the external environment must have very low concentration of duct particles. Huge number of particles i.e., 10 million particles per liter of air (10 million particles per one

square feet area) are present in areas such as Bus Park, garment and carpet factories, cement factories etc. Thus higher the level of external environmental pollution the higher is the involvement for the maintenance of the HEPA system.

Every year, such type of clean room environment has to be certified by the certifying company. To maintain clean room environment, we have used 4-stage air filtration system, which comprises of 10 mm and 5 mm coil filter, HVAC/HEPA system (Heating Ventilation Air Condition with 0.2 micron High Efficiency Particle Arrester). To maintain clean-room standards, the Engineering department has been performing regular service and monitoring of the production environment by checking the airflow, particle count and room pressure every 6 months as per related Standard Operating Procedures.

Every production rooms are monitored by the calibrated magnehelic pressure gauge, which indicated positive air circulation.

Every production room are painted with the anti bacterial emerald rubber paints which help to stop the growth of the microbiological organism as well as stops from contamination from external environment even when the walls of the room surface gets cracked because of its stretching property.

IOL PRODUCTION LINE

The IOL manufacturing equipment has been selected from independent proprietary equipment suppliers according to technical and performance specification; cost effectiveness, reliability and the service and maintenance capabilities of the principal. The IOL Laboratory incorporates the best possible machinery combination for the production of high quality, affordable Intraocular Lenses.

Quite simply, the IOL Laboratory in Kathmandu is world-class facilities equipped with state-of-art production equipment sourced from the USA and Australia. Key production equipment includes.

- One 4-axis CNC air-bearing lathe, with 0.2 micron resolution producing truly equi-convex lenses.
- FH 2000 automated intra ocular lens lathe comprises two independent numeric controlled lathes that mach the posterior and anterior surface of lens.
- 2 sixteen station CNC air-bearing mill capable of producing an infinite number of lens design and dimensional variations.

INHERENT QUALITY OF THE PRODUCT

In every production process, there is inbuilt quality control that means we are doing three-stage quality control during the process. They are line clearance check, in-process check and QC release.

Quality control and Quality Assurance personnel carefully monitor the lens polishing process to ensure that each batch of lenses meets the exacting Fred Hollows IOL surface quality specifications.

The QA department strictly ensures that, the Quality is always maintained from the time of raw material entering the production facility until its conversion into a finished lens and its final release/distribution.

Apart from inbuilt quality assurance in production line, we apply following quality process:

- Control of non-conforming materials, products and processes.
- Corrective and Preventive action
- Calibration and maintenance
- Strictly follow the clauses of ISO and CE system/
- Own in-house microbiology laboratory

- Monitoring of air and surface bioburden.
- Trained Engineering and maintenance personnel.
- Independent Surface Quality Comparative Testing
- Manufacturing process Control
- Control Quality Reference Standards.
- Control and Maintenance of External Published Standards.
- Change Control Process
- Post Marketing Surveillance
- Approved Supplier Management
- Statistical Analysis of Sampling Procedure (AQL)

QUALITY AUDIT AND CERTIFICATION

Quality Audit is a systematic and independent examination to determine whether quality activities and results comply with planned arrangements and whether these arrangements are implemented effectively and is suitable to achieve objectives.

It explains or verify whether what you do is as you write and to examine whether what you write is good enough.

Quality audit has been done by independent examination against the object evidence by trained personnel and evaluation based on defined criteria and it should be based on fact, not opinion.

It is also known as a system or management audit and is normally an office exercise which determines the extent to which documented system is represented by the quality manual and the associated procedures adequately meets the requirements of the applicable standard.

A comprehensive quality audit conducted by internal and external auditors, guarantees IOLs of a consistently high quality in compliance with international standards and Good manufacturing Practice.

The quality Audit and Certification program includes:

- Internal Quality Audits, on a six monthly basis by appropriately trained personnel.
- External Quality Audit for ISO 9002/ EN 46002, ISO 13488 and Medical Device Directive 93/42/EEC (CE Mark) surveillance audit on yearly basis, by an accredited independent certification body, in this case SGS Yarsely, International Certification Services Limited.

Awards of Certification:

- ISO 9002/EN 46002 - April 1998.
- CE Mark - August 1998
- ISO 13488 - June 1999
- Re-Certification for next three years - May 2001.
- In all certification, we are the first organization in Nepal in receiving above mentioned standards.

Continuous independent validation studies by the attached Microbiology Lab have shown that lenses manufactured in the Laboratory are free of bacteriological contamination prior to terminal post packaging sterilization by ethylene oxide.

In summary, IOLs produced by the Fred Hollows IOL Laboratory have the inherent qualities that only a profound program of quality control can nurture and project.

STANDARD OPERATING PROCEDURES (SOPS)

The requirements for the quality system provided in ISO 9002/EN 46002/ISO 13488/CE mark were followed in preparation of the Quality System of the Fred Hollows Foundation. At each stage in the lens manufacturing operation, the Laboratory staff strictly ensures that, from the time raw material enters the production facility until its conversion into a finished lens and its final release/distribution, each process complies with the Fred Hollows IOL Laboratory's Standard Operating Procedures (SOPs). These SOPs are written to meet or exceed international standards of Good Manufacturing Practice for the manufacture of IOLs.

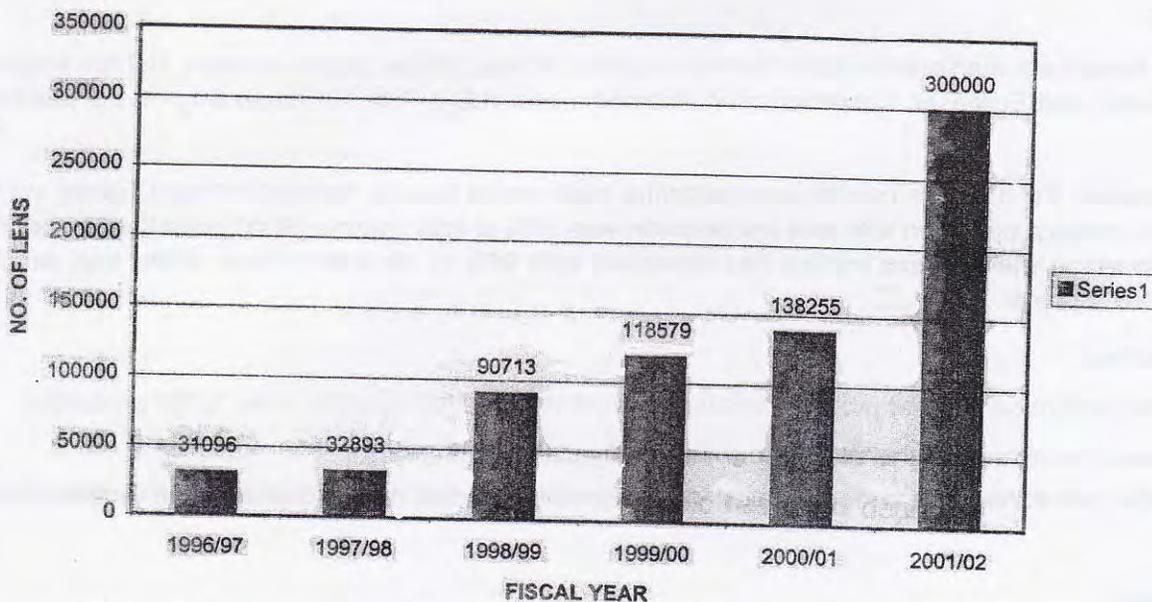
Quality is built into the product at every stage of manufacturing process by an interiocutory set of 375 specially written SOPs, which are written to maintain compliance to ISO 9002/EN 46002, ISO 13488 and Medical Device Directive 93/42 EEC.

PRODUCTION ACTIVITIES:

The commercial production of the Posterior Chamber biconvex single piece Intra Ocular Lens from Fred Hollows IOL Laboratory began on January 1996. During the year of 1996/97, we produced 31096 and on 5th fiscal year 2000/01, our production has reached to 138255 that means 344.6% increased with respect to base year. So far, the Laboratory has produced a total of more than 450000 lenses.

By year 2003, we are expecting our production volume to boost upto 500000 IOLs/year.

PRODUCTION ACTIVITIES



WORKING ENVIRONMENT

GUIDE LINES FOR HEALTH OF STAFFS :

The equipment and procedures already in place will go a long way to assure a high quality product free from contamination. However to maintain such environment, measures should always be undertaken to reduce the load of organism in the clean room. The chief source of contamination being humans personnel infected with skin diseases, flu and other communicable diseases are avoided inside the cleanroom facility. All personnel working in the lens factories should undergo a complete medical examination prior to commencing work.

STAFF TRAINING:

All the new recruitment in the IOL Laboratory undergoes an extensive three months training programme to ensure they receive the necessary information and knowledge to become a productive member of the Fred Hollows IOL Laboratory staff.

All the departmental Managers ensures that training needs for all personnel are identified, implemented and maintained in accordance with documented procedures and that all staff receive adequate training to meet their defined job requirements as per standard operating procedure called “Staff Training”. Generally these are categories in three sections, namely General, Job specific, and supplementary. All the staff training records are checked and approved by relevant department managers and filed in the Staff Training Record files kept by the Document Controller.

Written and Oral Examination are held before signing the Trainer's Signature that means trainee's comprehension of the related topic has been determined by written or oral examination following training and found to be satisfactory.

GOWNING PROCEDURE :

To enter to the production area, one has to follow SOP “Clothing Standards and Gowning Procedure”. That means all the production garments are designed specifically for use in controlled environments and are effective in filtering out contamination shed from people whilst not generating contamination in their own right and they are made from 100% polyester with ECF strips.

MARKETING

Fred Hollows lenses are marketed in more than 46 countries in Asia, Africa, South America, Central America, Australia/Oceania and European Countries at an affordable cost (US \$ 7 to 10) depending on the purchase volume.

In domestic market, FH IOLs are used by eye surgeons in almost all the eye hospital in Nepal. Before our lab establishment, cataract operation with lens implantation was 10% of total volume (9000 operation) and during the year % coverage with the lens implant has increased upto 90% of the total volume of the total cataract operation of 90,000 (year 2057).

Market Objective:

- Meet the current demand by proper communication of the required quantity make to the production.
- Continuous monitoring of the stock levels; especially standard dioptries.
- Extensive market research to identify actual market position forecast market size and plan variable market share.

THE PRODUCT

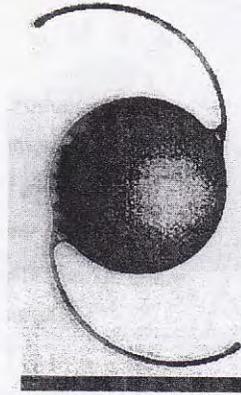
Our single-piece technology provides the most flexible haptics to facilitate easy insertion and rapid centration. FH 106 and FH 105 lenses are lathe-cut computer controlled parameters then tumble polished using revolutionary polishing system that guarantees the very best surface and edge finish available.

Quality Control and Quality Assurance personnel carefully monitor the lens polishing process to ensure that each batch of lenses meets the exacting Fred Hollows IOL surface quality specification. After, polishing each lens is individually inspected at 10X magnification (ISO 11979-3), using a stereoscopic microscope fitted with a diascopic base, to ensure compliance with the Labs stringent finished product release specifications.

Lenses are quality-control tested during each phase of manufacture and ethylene oxide sterilized to ensure a

product of the highest quality and efficacy.

Most polymethylmethacrylate (PMMA) intraocular lenses (IOLs) in common use today have a biconvex optic, where both surfaces are convex.



CONCLUSION

Since there is inbuilt quality control, control air system, timely calibration and maintenance of the equipment, corrective and preventive action therefore the final product is quality product.

In summary, IOLs produced by the Fred Hollows IOL Laboratory have the inherent qualities that only a profound program of quality control can nurture and project.

SOME BENEFITS OF ISO 9000 CERTIFICATE

There are internal and external benefits from ISO 9000 certificate.

INTERNAL BENEFITS :

- Improve the documentation
- Improve the process
- Improves the communication between the units.
- More customers' focus.
- Reduce the scrap/rework
- Increase the productivity
- Improve in other aspects

EXTERNAL BENEFITS:

- More concern on product quality.
- Increase the customer satisfaction.
- Realized as a good promotional tool.
- Reduce the customer complaint
- Increase the domestic market share.
- Increase in profit/surplus
- Increase the export market.
- Realized other external benefit.



HASTAKALA

Wishes the
Second regional convention
on
Quality Management
a grand success
Organized By Nepal AOTS Alumni Society

*Experience the unique craftsmanship of Nepalese
craft producers.*

*Browse and choose at your leisure the unique crafts
from different parts of Nepal.*

*Products that are fairly produced and
fairly marketed.*

SANA HASTAKALA

Kopundole Showroom

Opposite Hotel Himalaya,
Lalitpur.

Tel 977-1-522628.

Fax 977-1-526885

Lazimpat Showroom

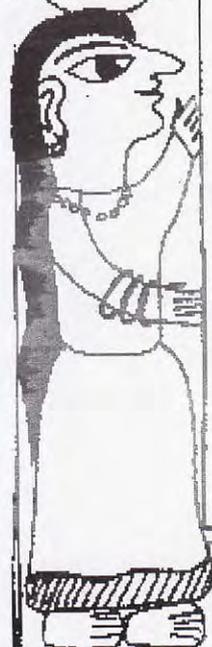
Opposite Canadian Cooperation,
Kathmandu.

Tel. 977-1-436631

E-mail: sanahast@wlink.com.np

Web: www.peoplink.org/hastakala

Mailing address: P.O.Box. 9701,



MANAGEMENT OF ENERGY CONSERVATION IN INDUSTRY

Ramesh P. Nepal

President of Nepal AOTS Alumni Society (NAAS)

In any plant, the three top operating expenses are often found to be energy (both electrical and thermal), labor and materials, not necessarily in that order. If one were to relate to the manageability of the cost or potential cost savings in each of the above components, energy would invariably emerge as a top ranker and thus, energy management, called energy conservation function in technical terms would be a strategic area for cost deduction.

What is Energy Conservation:

Energy conservation means more efficient use of energy without reducing production levels and without sacrificing product quality, safety and environmental standards. Energy conservation should be based on cost effectiveness, i.e. energy conservation should only be undertaken to the extent that it can be justified in normal commercial and financial terms, like any other investment. Energy conservation requires a proper and well planned management approach.

Energy conservation does not mean having to do without energy i.e. it does not mean rationing or curtailment or load shedding. It means identifying areas where energy is being wasted and taking action to reduce the waste i.e. an increased level of goods and services for the same amount of energy.

For efficient energy conservation, an industry should consider the following two points:

- What is the monetary value of energy conservation?
- What percentage of the total production cost is the energy cost?

Why Conserve Energy

- Sources of energy are limited
- Energy is a major portion of operating costs
- Reduce bills
 - Save costs, improve profitability
 - Help nation in reducing need for new power generation facilities and reduction in fuel import bill
- Short lead time for energy conservation vs. long lead time for new power generation.

- Energy conservation costs only a fraction compared to new power plants; approximately \$500 Vs. \$ 2000 - \$ 3000 per KW
- Favorable environmental impact

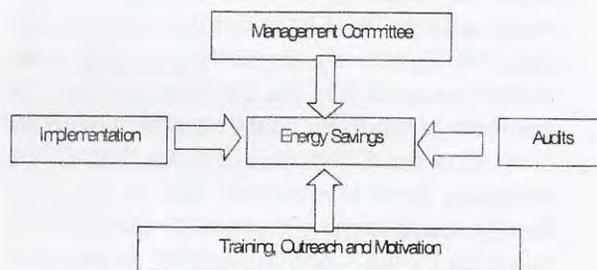
Barriers Affecting Energy Conservations

The most important barriers affecting energy conservation are:

1. Lack of awareness about energy conservation techniques.
2. Lack of awareness about energy efficient equipments.
3. Managerial attitude towards energy conservation.
4. Inadequacy of fiscal and financial activities.
5. Lack of local expertise.

How To Manage Energy Conservation

The following diagram depicts the requirements for a successful energy conservation program.



A. Management Commitment

The foremost requirement for having an energy conservation program is the commitment from the highest level of management. Hence the patronage of the chairman or General Manager is essential. The formation of an Energy Committee and the appointment of an Energy Manager is important for a successful energy conservation program. The Energy Manager should be committed and he/she must be made to directly report to the energy committee. The Energy manager should be assigned the duties of energy data collection and analysis, monitoring of energy bills, energy conservation project evaluation, energy project implementation and communication and public relations.

B. Energy Audits

Energy audits are conducted to identify the Energy conservation opportunities (ECOs). The audit can be performed by the organization's own staff or outside consultants. The audit is normally of two stages:

a. Preliminary Energy Audit:

This is also called "Walk through audit". It is normally carried out without instruments and involves collection of information through meetings with management and plant personnel and identification of obvious sources of energy waste, such as steam leaks, missing insulation, inoperative instrumentation etc.

b. Detailed Energy Audit:

It is an instrumented audit of all energy consuming equipment and process in a plant, followed by a detailed analysis of the different systems such as energy balances and calculation of efficiencies etc.

Based on the Energy Audit, Energy conservation opportunities (ECOs) are identified. Financial analysis are then conducted to determine the investments involved and the payback periods. The ECOs are then ranked and then the Energy manager through the committee presents it to the top management for approval of funds for implementation of some or most of the ECOs. It is obvious that ECOs involving least investment (low or No cost mainly housekeeping measures) normally are taken up by the management for implementation. Based on the success of these least cost measures and after seeing the benefits of energy conservation, the management may then proceed with the approval of funds for ECOs involving higher levels of investment such as process improvements, replacements of equipments & machinery.

C. Implementation

After the ECOs are identified and management approval obtained, the next step is to start implementing those ECOs so that energy savings can be realized.

The ECOs can be categorized as follows:

a. No-cost/low-cost measures (housekeeping)

These are operations and maintenance ECOs. The costs involved are small so the paybacks are rapid (less than a year). Such measures include: repairing of leaks of all types, maintaining optimum combustion efficiency, maintenance of pipe and equipment insulation, maintenance and repair of steam traps, stem condensate return, power factor improvement, use of energy efficient lighting etc.

b. Medium – cost measures (Process improvement)

After completing the housekeeping, the losses due to obvious energy waste will have to be reduced. The next step is to look at how efficiently energy is being used in processes themselves. They may include: heat exchangers and economizers, high efficiency motors and variable speed drives etc.

c. High cost measures (Major replacement)

Such measures include purchase of new production or auxiliary equipment. The costs are high with a pay back period of around five years. They often involve import of large process specific equipment or equipment with elaborate controls. These projects often cannot be justified on energy savings alone. Increase in production quality or capacity must also be figured in the financial analysis. The replacements may also include new boilers and co-generation equipment, in addition to process equipment.

Most companies will have many housekeeping and process improvement projects to complete before they consider projects in the category of major replacements.

D. Training Outreach and Motivation

Awareness and commitment on technical and operational matters among all employees is a crucial factor in the success of any energy management program.

a. Training:

Training is the primary tool by which awareness is generated and knowledge is transmit-

ted. Training is aimed at

- i. Developing new skills in technologies and
- ii. Adopting new attitudes towards energy waste and reduction of waste.

The training is required at different levels such as for management, Engineering /Technical/ Supervisory and operations levels.

Such training can be from the outside and /or in-house.

b. Outreach:

This requires information, reminders and reinforcement campaigns which bring about changes in attitudes. The company may decide to announce the energy conservation program in memos to all employees. Meetings should be held with middle and junior level staff to explain the objectives of the energy conservation program. Posters, stickers and newsletters can provide high visibility to energy conservation efforts.

c. Motivation:

Recognition is always very motivating to employees. For example, a certificate of appreciation or a monetary reward to the employee who made a suggestion that lead to large energy savings will always be highly appreciated. Such rewards keep the staff motivated and pay off in much bigger savings in the long run.

Conclusion

Over the last decade, much has been learned about energy conservation opportunities world wide. These have been brought into Nepal through the various activities being undertaken by international donors and organizations. Now it is up to the energy users in Nepal to start reaping the benefits of energy conservation techniques and technologies.

Remember:

Energy conservation means Energy Generation.

***Save "Terra-Cotta Culture" Through
Harisiddhi Brick & Tile***



We Deliver the Difference

Contact us For Normal/DD Brick
Roofing/Flooring Tiles
Decorative Dry Press Tiles.

Harisiddhi Brick & Tile Factory Ltd.

Tel : 521451, 521178

Fax : 522776

INTRODUCING AHP: APPLICATION FOR QUALITY MANAGEMENT

Shashi Bhattarai

Chief, IT Branch, Nepal Industrial Development Corporation (NIDC)

General

Everyone is aware with the fact that the changing global economy is dominated by information. Utilization of real-time information in a comprehensive framework for value added decision is becoming bottleneck for the success in business. Business decisions are shifting from a single person (the Boss!) and a single criterion (profit) to multi-person and multi-criterion situation. Awareness of the development is growing in business as well as development practices. The quality of decision and application of decision-making tools in quality management in multi-dimensional situation is not an exception.

The paper introduces a multi criteria decision making (MCDM) tool based on the theory of Analytic Hierarchy Process (AHP), software available to process and its application in quality management, especially in Total Quality Management (TQM).

Analytic Hierarchy Process (AHP)

The Analytic Hierarchy Process (AHP) is a powerful and flexible multi criteria decision making (MCDM) tool for complex decision situation where qualitative as well as quantitative aspects of decision need to be integrated. Application process of AHP needs to structure the decision problem into hierarchical fashion. Then the decision criteria and sub criteria are converted in to a series of simple comparison and ranking processes. The synthesized result on the judgment of decision makers / criteria values are the output of the decision analysis. The AHP not only helps to arrive at the best decision, but also provides a clear rationale for the choice has been made. AHP is high valued, because of its reflection on the way people actually think. AHP was developed more than 20 years ago by Prof. Saaty and continues to be the most highly regarded and widely used decision-making theory. Box 1 below describes AHP more precisely.

Box 1: Analytical Hierarchy Process

The Analytical Hierarchy Process (AHP) uses subjective judgement for structuring and solving multi-person, multi-criterion and multi-time period problems. Structuring problems hierarchically allows for the identification of multiple actors and interests while resulting in prioritization of impacts and/or preferences through pair-wise comparisons by those who have a first hand knowledge to the system. The AHP allows for a margin of inconsistency (or intransitivity) of preferences and is equally suitable for scenario construction and policy selection. The technique draws upon the human ability to conceptualise problems as sets or systems of interdependent factors while simultaneously decomposing the problems in terms of those factors, which are perceived to have the highest priorities.

The Analytic Hierarchy Process is a powerful and comprehensive methodology that provides the ability to incorporate both qualitative and quantitative factors in the decision making process. The AHP uses a hierarchical model comprised of a goal, criteria, and several levels of sub-criteria and alternatives for each problem or decision.

The AHP's flexible and efficient hierarchic framework guides the decision making process. Because all parts of the hierarchy are interrelated, it is easy to see how a change in one factor will affect the other factors. By laying out decisions in this format, many types of data can easily be incorporated, differences in levels of performance can be accommodate, tradeoffs among things that look different can be identified.

(Adopted from: Saaty, T.L (1980), The Analytical Hierarchy Process, New York: McGraw Hill, Saaty and Kerns: 1995 and Expert Choice 9.5 Help Manual: 1998)

AHP has strong mathematical background based on the matrices of eigen vector and eigen values. Application of AHP is becoming more popular among the business communities due to availability of software to process it. There are a dozen of software are available to process AHP applications, however, *Expert Choice* is well-regarded software in literature and business. Details on the software and tremendous references are available at the web site of the software company <www.expertchoice.com>.

The strong theoretical foundation of AHP application includes, but not limited to the following quality management issues:

- Quality of Decisions
- Benchmarking
- Quality Improvement
- Quality Function Deployment (QFD)
- Pareto Analysis
- Process Control - measurement of 'variables' and 'attributes'
- Cause and effect analysis
- Product and process design
- Pricing
- Human Resources Management

AHP and Quality Management: An Overview

Recently concluded International Symposium of Analytic Hierarchy Process (ISAHP 2001 - <<http://www.isahp2001.ch>>) featured papers on direct application of AHP in quality management. The papers were on the application of AHP to determine success factor on quality management (Meixner O. et al., 2001), decision analysis for application of TQM (Karpak B. and O. Bayazit, 2001) and quality decision making process for product release (Russo, A. M., 2001). There are instance of using AHP for selecting the quality management consultants.

The underlying strength of AHP – structuring complexity, measurement, and synthesis over multiple dimensions – is applicable to numerous aspects of Total Quality Management (TQM). Quality is multi-dimensional, as is illustrated by the hierarchy of Malcom Baldrige criteria (United States of Department of Commerce, 1996). That included seven major qualitative and quantitative criteria. AHP provides a strong way to synthesize such a mixed

criterion to arrive at the result. A far more meaningful set of weights can be derived through pair wise comparisons as performed in AHP.

Selection of a Quality Management consultant can be done through the use of an Analytical Hierarchy Process (AHP). This involves the derivation of the functions expected to be implemented with the consultant's aid. The functions should come through a brainstorming session, followed by affinity diagramming, in which ideas are categorized into more general headings. Once this is done, inter-relationship derivation between the categories should be done. This will determine the driving issues that need to be addressed by the consultant. Finally an AHP matrix weighing the expertise of various consultants can help in the selection of the consultant.

Quality, like beauty, is in the eyes of the beholder. But deciding who's eyes we look into and ascertaining what these eyes are looking at are not always easy to determine.

The application of AHP to derive priorities for a firm's products or services is both simple and sound. Simple because the purpose of each of the models is straightforward and easily understandable. Sound, because the priorities that are derived are ratio scale priorities and ratio scale priorities are required for the results to be mathematically meaningful!

Customer Driven Value Analysis

The method makes use of the Analytic Hierarchy Process, a tool developed for decision analysis in order to structure and quantify value to customers. It enables the user to structure the functionality of a product or service into mutually interacting elements and then to synthesize them by measuring the priority of the functional elements. The result is a list of functional attributes carrying weights established through a rigorous analysis with the user. The AHP verbal scale and eigenvector priority computation method can be used to derive the priorities of the customer wants.

Competitive Value Analysis

The priorities established through Customer Driven Value Analysis are used as input to the next tool, Competitive Value Analysis. The ability of different

companies to satisfy requirements according to priority values established by the customer is compared through a simple process – rating the companies on a 1-10 scale for each of the functional attributes.

An even more robust way to arrive at such results is to perform pairwise comparisons of the companies with respect to each of the functional characteristics and derive priorities using the AHP technique. In fact, Customer Driven Value Analysis, and Competitive Value Analysis, can be combined into one simple AHP model to derive relative values for competing company products. The relative importance of what the customers want (size, design, reliability etc.) are derived with pairwise comparisons and the relative value of the competing companies with respect to each of the customer wants also derived with pairwise comparisons.

Maximum Product Price vs. Competitors' Prices

The Analytic Hierarchy Process provides a way to derive and synthesize ratio scale measures of distance from the target on each of the applicable dimensions of product or service quality— leading to a practice of “continuous improvement.” AHP hierarchies can be used to evaluate alternative approaches to producing a product or service during design or re-engineering phases, or to measure the relative outputs of the process during system operation.

Prioritizing Defects and Evaluating Solutions with AHP

Suppose an organization has a mission with several (numerous) specified objectives, some of which were more important than others. Also suppose the organization identifies a set of ‘defects’ in its processes, defects that hamper the achievement of the mission objectives. Further suppose the organization has identified a set of ‘solutions’ that can be applied to mitigate defects. How can the organization decide which solutions to implement subject to budgetary constraints?

A rational approach to such a problem requires ratio scale measure of the relative importance of the mission objectives; ratio scale measures of the impacts of the defects on the mission objectives, and

ratio scale measures of the mitigating effects of the solutions on each of the defects. AHP can be applied to derive such ratio scale measures, which can then be used in a resource allocation optimization.

Quality Function Deployment and The House of Quality

The AHP model alternatives are the individual customer attributes, clustered into groups and subgroups as necessary. The relative importance of the clusters can be determined by pairwise comparisons with respect to customers in general, or, if desired, with respect to prioritized market segments.

The process of constructing such a survey needs to be standardized for any topic that the department will address. A suggested P-D-C-A approach follows:

- Plan: Use Quality Function Deployment (QFD) to obtain the topic and questions for the survey.
- Do: Write down possible survey questions. Questions should be included to address the current situation, and to assess the relative value of possible improvements.
- Check: Review for biases and redundancy.
- Act: Edit survey as necessary, then publish survey.
- Plan: Decide on appropriate subset of population
- Do: Distribute survey.

Once the surveys have been completed, the interpretation of the responses also needs to be standardized.

- Check: Determine the most common response to each question addressing the current situation. These numbers will become the Current Service column in the House of Quality matrix.
- Act: Use AHP to assess relative weights of the possible improvements. These will become the Customer Weights in the House of Quality.

Designers often have to trade off one benefit against another. This tradeoff involves deriving priorities for the engineering characteristics with respect to the

each of the customer attributes. This process, performed by an inter-functional team of marketing and engineering personnel – traditionally involves putting check marks or scores in the body of the house, but can be readily improved with an AHP model. The overall priorities of the engineering characteristics are determined by multiplying priorities of the engineering characteristics by the respective priorities of the customer attributes and then summing over the customer attributes – again part of the AHP process. This transformation of input measures into output measures in the house of quality, as well as in the other 'linked houses' require that the input measures and measures derived within each 'house' be ratio level measures. Otherwise, the results are mathematically meaningless and may distort the data and judgments used in the process. While we can be confident that priorities derived with AHP models are ratio level measures, we have no such confidence with the traditional approaches such as ordinal scales, check marks, or symbols to which arbitrary numbers are assigned. Since there is no reason to believe that these numbers or symbols possess interval or ratio scale properties, the multiplication of these numbers can produce mathematically meaningless results.

The 'roof' matrix of the house of quality helps engineers specify some of the inter relationships between the engineering features. In general there can be numerous interactions between customer attributes and engineering characteristics.

A series of linked 'houses', can convey the customer's voice through to manufacturing. Each house having the 'whats' in the rows and the 'hows' in the columns can be implemented with an AHP model. For example, customer attributes, the rows of the house of quality are used to prioritize engineering attributes, or the columns of the house of quality. Subsequently, the 'hows' from the house of quality become the 'whats' of another house, one mainly concerned with detailed product design. Engineering characteristics like foot-pounds of closing energy can become the rows in a parts deployment house, while parts characteristics – like hinge properties or the thickness of the weather stripping – become the columns" or the 'hows'. The process can continue to a third and fourth phase as the 'hows' of one stage become the 'whats' of the next. Weather-stripping thickness – a 'how' in the parts house- becomes a 'what' in a process planning house. Important process

operations, like 'rpm of the extruder producing the weather stripping' become the 'hows.' In the last phase, production planning, the key process operations, like 'rpm of the extruder," become the 'whats,' and production requirements – knob controls, operating training, maintenance – become the 'hows.'

Benchmarking

One aspect of a TQM effort that is instrumental in gaining or maintaining a competitive advantage is the comparison or benchmarking of key business processes with other best-of-breed companies and organizations. Processes can be defined as key business activities that are needed to run an enterprise.

Processes are activities that convert inputs, such as materials, resources, information, etc., into outputs (products and services) for the customer. In order to evaluate and assure that one has the best processes (and decide what improvements are needed), it is necessary to make comparisons with other best-of-breed companies and organizations. Comparisons should be made with the best regardless of industry membership or geography. Finding out what other companies are doing to operate their key business processes, setting the right goals, and achieving these goals, is a key strategy that will help put an enterprise on the road to being best.

It is important to thoroughly understand processes that are to be benchmarked before contacting companies with which to make comparisons. Without proper preparation, each member of a benchmarking team would have their own list of priorities to focus on and the utility of the results would be minimal. In order to maximize the return on benchmarking resources and achieve significant results, a consensus has to be developed as to what it means to be "best". This involves the evaluation and synthesis of many factors, both quantitative and qualitative. The AHP methodology was used by the IBM Rochester Minnesota's computer integrated manufacturing (CIM) process team to articulate what needed to be accomplished to be the best.

AHP helped provide structure to the benchmarking effort. It not only helped identify what had to be done to be best, but also helped prioritize (on a ratio scale) the importance of each critical success factor and

requirement. Lacking this structure, each benchmarking member would have had their own list of priorities, or no list at all, making the teams much less effective. The AHP hierarchical model articulated what was required to become best. In addition to giving the benchmarking teams focus, AHP also assisted with identifying the best companies to benchmark and with setting benchmarking agendas. Finally the AHP results provided a framework to summarize the benchmarking teams' findings. A maturity index facilitated comparison with other companies, making gaps clearly visible. Without a maturity index, it would have been difficult to make these comparisons from team notes, especially when comparing multiple companies. The maturity index also helped identify what companies to approach for follow-up visits.

Rochester model was used in making comparisons with leading companies around the world. The goals set and achieved from the benchmarking process enhanced IBM's ability to be the best in mid-range computers and played a significant role in IBM's winning the Malcolm Baldrige National Quality Award in 1990.

Quality Circle - Changing the thinking of all employees through education and training

An AHP model of a decision or process must, by its very nature, entail all relevant parts of an organization. Thus, AHP necessitates that employees think about synthesizing what they must do in conjunction with what others in the organization must do to produce quality products and services. Just forming quality teams, or quality circles is not enough. The synthesis of data, knowledge, and experience from all parts of an organization is extremely difficult because of the various, often, conflicting objectives of different parts of the organization. AHP provides a way to achieve a systems orientation through its structuring, measurement and synthesizing capabilities.

Cause and Effect or Fishbone diagrams

A cause-and-effect diagram (also known as an Ishikawa diagram or Fishbone chart) is a tool for identifying possible causes of quality problems. Each 'bone' represents a possible source of error. Certain 'bones' can have sub-bones. In essence, this is just

an AHP diagram. The fishbone diagram has four main categories applicable to many problems – these four 'M's are: material, machinery/equipment, manpower, and methods. Whereas fishbone diagrams are often used only as check lists, an AHP model of a fishbone diagram can be used to elicit expert judgment in order to derive priorities for the possible causes or to allocate resources if there are several causes, each requiring some intervention.

Acknowledgement

The editor gracefully acknowledges all the sources used in this article to link the quality management and Analytic Hierarchy Process (AHP), specially the Expert Choice Inc., using the information available along with its software *ExpertChoice 9.5* CD, which was made available to me on complementary basis and the authors associated with the information and article on the CD.

References

- Expert Choice Inc. (1997), Reference Section on Expert Choice 9.5 Software CD, Total Quality Management.
- Karpak, B., O. Bayazit (2001) A dynamic Model for "Should Turkish Industry Apply TQM or Not?" (Department of Management, The Warren P. Williamson, Jr. College of Business Administration, The Youngstown State University, USA) International Symposium on AHP, Switzerland.
- Meixner O., S. Pöchtrager, R. Haas (2001) Determining the Success Factors for the Introduction and Maintenance of Quality Management in the Austrian Food Industry Using the Analytic Hierarchy Process (University of Agricultural Sciences Vienna, Institute of Agricultural Economics, Austria), International Symposium on AHP, Switzerland.
- Russo, A. M. (2001) A Quality Decision Making Process: An Application for the Decision of new Products Release to the Market (EROQUAL Institute, Sion, Switzerland), International Symposium on AHP, Switzerland.
- United States Department of Commerce (1996) The Malcom Baldrige National Quality Award, Technology Administration, Gaithersberg, MD.

SUBJECTIVE ASPECT OF MANAGEMENT

Binod Rajbhandari

Joint Secretary, NAAS

The system of world itself is based on management, which seems self-regulatory but in true sense some force is responsible for regulating it. That very abstract latent factor, something other than an objective but having function, is subjective. And subjective means subtle subjective self-growth and self development that ultimately ends in self-discovery is spiritualism. Therefore, the spiritual development through intelligent training of his inward impulses and verdict controls and guides his outward actions and behaviors in such a way that a harmonious integration of his personality is achieved. One's own effective personality discovered through spiritualism is what is required for the optimal use of one's own life and working place, the output as a whole.

Spiritual Perspectives

The business organizations as they exist today have failed to sustain in spite of viable economic status and political safeguarding because they have failed to create and maintain socially desirable values. One needs to understand that deeper human awareness and drives are better incentives than money, machine and materials. The spiritual perspective comes out from a level of consciousness where a person or an organization elevates through a universal path of Dharma (Right Action), Artha (Pursuit of wealth and Happiness), Kama (Desires and Aspirations) and Moksha (ecstasy).

Dharma

It is not merely righteousness of goodness but it indicates essential nature of all do's and don'ts of an individual and of an organization which is governed by its creed, philosophy and culture. The method of achieving are either envisage or management dogma. Benefaction for its constituent members and loyalty of each one towards the organization is the ultimate dharma. On the other hand, one should be loyal to one's own life and have full confidence on what one is doing. The melodious tuning between the doer and doing is dharma. This universal precision has created

the culture, the fundamentals of do's. It shows the direction to deserving person as the job demands. This incessant tuning necessitates to philosophy of an organization compressing a group of individuals. Since HRD comprises of different philosophies such as the human philosophy, the social philosophy, the traditional philosophy, the national philosophy and so on, the palatable amalgamation of rituals and philosophy makes up the dharma that is being followed knowingly or unknowingly. And this is the only way of achieving targeted goal.

Artha :

It is the materialistic basic infrastructure comprising of material, machine and money. As one's daily life needs food cloth shelter and other objects of amenities for one's comfort, so does the organization to have a good working environment, the organization requires optimal gadgets in factories, suitable machine and raw materials according to the prescribed format of conspirator. Apart from this the organization needs the ability for optimum mobilization of these resources where the economic value of each component is accounted. The value is not merely indicated by unit figure, but in real sense, by the total value of utility. That is why only the income dose not determine the status of life. The inner capacity of one's ability cannot be rendered by the amount of fee one gets, but by making one aware of the value of the fee one is receiving. Let it be felt by individuals as well as by group of working members.

Kama :

Success is our birthright. Happiness is our heritage. Joy our wealth. Peace ours by the status of manhood. All the present aims that arise from desire evoked by different causes are kama. It might be of an individual, or of an organization, or of a community. Basically human actions are motivated by two impulses: revulsion to sorrow, and yearning for joy.

To get rid of sorrow, people become busy in acquiring,

accumulating and aggrandizing wealth, property and all sorts of affordable materials for comfort. Thus they manage their time, intelligence and effort in gaining materialistic prosperity only, and feel that they are imperative to overcome sorrow.

Next he goes for joy, which differs from person to person. Some become joyful when they have acquired that materials like land, house, car, jewelleries etc. that they have yearned for some others enjoy counting money and piling then up in the treasure rooms. Some other enjoy by involving in business houses or by establishing chain of business organizations. But some enjoy by However, this selfish desire differs among three different categories of people:

1. Laborer – one who have only materialistic profit motive and works selfishly for oneself and family only.
2. Worker – one who works for materialistic profit with pride and look at other forms of subjective profit such as recognition. He works for the society and nation for example the entrepreneur, social worker, political worker, religious worker etc.
3. Man of Achievement – one who has unselfish desire and works for the noble cause, persons like Lord Krishna, Gautam Buddha, Jesus Christ, Mohammad, Mahatma Gandhi, Mother Teresa etc.

Hence, to achieve the set goal, the aspiration of an individual or a community should be considered with high priority in the context of their subjective ambition.

Moksha:

After the aspiration is achieved, one will experience peace and tranquility, which, one is seeking for. Thus management gives highest importance to human resource development and its management. Their capabilities should be elevated to make them accept and execute further challenges through *moksha*.

Some basic spiritual tools to activate

Bhakti :

By exercising spiritualism, one can develop the essence of devotion towards one's own life or towards those attached to the organization and vice versa. Normally, this is brought about by a prayer in the

individual or group or by some slogan in the organization. The feeling of allegiance upon oneself, upon work and upon the organization generates the feeling or love. The feeling or love and affection widens coordination. It is the positiveness that brings better result and ready-made solution. Even with the objective materials, the more you love them, the better the performance and longer the life of the material whether it is your body, clothing, shelter, gadgets, machines, vehicles or even environment. In other words, life of any article depends on love and care, in true sense, bhakti to that very object.

Japa :

It is a method of bringing rhythm of mind in order. Agitated mind is the devil's workshop and thus cannot think justifiably, which leads to interrupted actions and disobedience. Clear mind is the sign of sound health. The periodic gathering and in-house training in Japa, which works as a vitalizing agent. It is the process in which the objective and function are periodically retrieved, and the factors attention are being identified. Most successful persons do this by recalling the day's activity at bedtime or keeping a personal diary. Similarly, the organizations re-evaluate their activity, performance and implementation of the plan periodically. Some perform it at daily pray or time when all members of the family or organizations gather before their duties start. So, it is obvious that japa chastens the turbulent mind and wave of the mental impediment to make each action productive.

Tapa :

It is the tool for opening up the bonnet of the inner equipments for purposes of repair and adjustments. Here, the craving for the unproductive desire is being eliminated. It is the process to control the executing indriyas (five presiding deities of the organ of the action, i.e. speech, hands, legs, genital organs and excretory organs) to the limitation of positive directives of unruffled mind. It is, therefore, tapa that fetches quality of life, quality of work, quality of product, quality of product quality of utility etc. The technique of living a happy and ideal life can be taught, but happiness is something has to be experienced by one something that does not have standard measurement. Similarly, the process and method of making things can also be taught yet, skill cannot be taught. That is why the quality of printout from the same printing machine differs as the hand changes. Tables made by ten

equally qualified carpenters using the same prescribed materials will differ in their quality and look even if the measurements are perfect. It is because the skill applied is different although knowledge is same. It is therefore necessary to develop a vacation in one's own mind and induce him strong commitment and environment in revealing ones skill veiled in.

Swadhayaya :

It is a periodic meeting when the chaotic matters are discussed to edify the mind and elucidate the grievances. Each one comes to invigorate their feelings and relieve and integrated solution. The process to mitigate the trinity doer, do and done is swadhayaya, when we perceive nothing physical but feel mental movement as we entertain to intellectual thoughts.

The ultimate goal of management is to establish harmony in one's life for the betterment of an individual as well as the organization. Knowing self, inducing others to understand self, and motivating self in spiritual aspect is a powerful catalyst to the

modern theory of materialistic management. Allow some room to understand the difference between the standard of living and standard of life. Wealth can elevate standard of living because it is an external exposure only, whereas standard of is purely internal because it is eternal and cannot be embodied by wealth. An ill-clad peasant singing and dancing in the muddy field is much happier than a wealthy eminent person in the air-conditioned room, sweating. The former had scaled the standard of life while the second scaled the standard of living only, but standard of life is in misery. The study of subjective management in holistic spiritual discipline teaches to reward life with ethical behavior and emerge the organizations with ideal social status. It preaches not to suppress desire, the very want of life, but to sublimate a major portion of it so that there is less to be fulfilled to obtain happiness. It is worthwhile to follow the three tributes of subjective doctrine of the Vedanta, i.e. Sat, Chit, Ananda meaning

1. Live and let others live
2. Know and let others know
3. Be happy and let others be happy

HARI OM TAT SAT

**With Best Compliments on the Occasion of
Second Regional Quality Convention**

29-30 September 2001,

Kathmandu

=====

Pawan Packaging Industry

(Corrugated Box Manufacturer)

Tahachal, Kathmandu, Nepal

Tel : 271740

Japanese Experience while Learning Activity Based Management

Shashi Bhattarai

Chief, IT Branch, Nepal Industrial Development Corporation

Experiencing Japan to learn activity-based management is a unique combination of the country and course, many thanks goes to the Association for Overseas Technical scholarship (AOTS), Japan, Center for the International Cooperation for Computerization (CICC), Japan, Nepal AOTS Alumni Society (NAAS), Computer Association of Nepal (CAN) and Nepal Industrial Development Corporation (NIDC). I was in Japan during the very first nine weeks of the new millennium (8th January to 15th March 2001) to learn about Japan (two weeks) and to complete a short course of Business Process Analysis (seven weeks). The course on Business Process Analysis (BPA) was specifically dealing with Activity Based Costing (ABC), Business Process Analysis (BPA) and process re-engineering utilizing information technology tools and techniques. The course was based on the principle of activity-based management.

My first journey to explore Japan started with self-proceeding to Yokohama Kensu Center (UKC) from Narita Airport. However, I could share the openness, positive attitude and friendly nature of Japanese people on my flights from Kathmandu. The exploration to reach YKC by changing one bus and two trains, asking people around at the Yokohama station was itself a unique experience, which along with the warm welcome at YKC reception, were never to be forgotten.

From the very next morning, the two-week long orientation-training program started to enhance participants' knowledge on the breadth and heights of Japanese cultural, managerial, social, economical and technological advancement. The program coverage included understanding of the Kimono, Tea Ceremony, Flower Decoration to Japanese style service at Rio-kan (Japanese style hotel); riding the famous Bullet Train (Shinkansen) and visiting the techno heights at the NTT DoCoMo R&D Center, Fujitsu, NEC and Toyota production centers. The

orientation program detailed with the real life experience of eating Okonomiyaki, the famous food of Osaka, visiting world-renowned temples and forts at Kyoto, Nagoya and Osaka. The activity of study tours were optimized showing Japanese style of management and quality principle videos on the buses wherever possible.

Being well oriented with the two-week compact program, the real course work started at CICC training center near Tamachi station, Tokyo while staying at YKC, Yokohama. The daily traveling to and from Tokyo for seven weeks like typical Japanese salary men was a great opportunity to share the true feelings of the Japanese people. The other interesting part was visiting various places en route from Tamachi to Yokohama while coming back from CICC. This way, I could visit many places which were unknown to visitors, not to mention, the places famous from the tourist point of view, like Imperial Palace, China Town, Kamakura, Ashikaga, Shinjuku, Harajuku, Ginza, Akihabara (the electronic town) etc.

The training program on the BPA was the subject first of its kind offered by CICC. The compact course covered in detail not only the basis of activity-based management, but also the concept and application of data warehousing, data mining, work flow and process flow analysis and design, e-commerce applications, web applications, enhanced development and presentation skills. The training was in truly multicultural environment; eight participants from eight countries (Nepal, Thailand, Bangladesh, Philippines, Pakistan, Myanmar, Vietnam and Indonesia) were instructed by Japanese and Singaporean faculties. The course not only widened my horizon of knowledge, but also blended well with my academic qualification and practical experience for better application to real life problems in the days to come.

Japanese Experience

Pranab Ghimire

Participant of the Network / Internet System Development Course (AOTS/CICC)

First of all I would like to thank Nepal AOTS Alumni Society (NASS), Center of the International cooperation for the computerization (CICC) and Association for Overseas Technical Scholarship (AOTS) for giving me an opportunity to visit in Japan for the two and half months training on Network / Internet System Development Course.

My journey to Japan began on May 14, 2001 via Japan Airline (JAL) to Tokyo. I arrived in Tokyo around 9 A.M the next day and reached at the Yokohama Kenshu Center (YKC) around 11 A.M. YKC is the place where we stayed for the whole training period. YKC is located in Yokohama, which is the one of the major port city of the Japan. In our group there were 36 trainees for the four different courses: Intranet Development Course, Client / Server Database System Development Course, Multimedia System Development Course and Network / Internet System Development Course. The group consists of participants from 15 different countries.

First two weeks we had orientation, at YKC, on Japanese cultures, technology, Japanese economy and study tours to different cities. During the Orientation period we went for three days study tour to four major cities of the Japan: Nagoya, Kyoto, Osaka and Kobe. First we have visited Toyota Motor Corporation in Nagoya where we observed how the passenger car are assembled. It was quite an amazing fact to know that it takes only twenty hours to finish a car in assembly line. We have also seen how the human and robots works together at the plant.

Next day we went to Kyoto city tour where we have visited Golden Pavilion Rokuon-ji temple and Ninan-Ji temple, both were designated as UNESCO world Cultural Heritage Site. We had Japanese style tea ceremony at Ninan-Ji temple site, which was new experience for all of us, and we enjoyed it. After Temple visit, we went to Sewerage Science Museum at Osaka where we saw how sewerage water are treated till it is discharged to the rivers. Finally, we went Kobe to visit the Akashi-Kaikyo Bridge, world's

longest suspension bridge that took 10 years to construct and it cost 500 billion yen.

After two weeks of orientation at YKC we started the technical training at CICC. CICC is located in Tokyo, which is one and half hour train ride from YKC. At the beginning we had hard time during the train ride but later on we learnt to sleep on the train like Japanese people. In my course, Network / Internet System Development, there were nine participants from nine different countries. Our training course consists of following topics:

- LAN Technology
- Server System Management
- WAN and Internetworking
- Internet Technology
- Animated Technology
- Workshop

I have gained in depth knowledge of Networking / Internet through the course. Our class participants were from different networking background. We were able to share/exchange real life experience to each other. Individual workshop was very effective, where we were able to design / improve networking system of our respective institutions.

Besides, training we enjoyed our stay in Japan by going for sightseeing and shopping. During my stay in Japan I was able to observe the behavior of the Japanese people. I found out that Japanese people are very hardworking, honest and law bidding citizen. They are very helpful even with the language problem. I have seen that Japanese people are private; they do not bother others in public place, they seldom talk each other. Besides hardworking, Japanese enjoy their life by going out after work and family outing on weekends. I was surprised to see that in a developed country like Japan they tend to spend cash more than using the credit card transaction. Further, I have also found that Japanese people are very much brand conscious and most people like to color their hair blonde. Overall, my experiences in Japan is very good which I will treasure for the rest of my life.

Life Member List

S.No.	Name	Office	Off. Tel.	Res. Tel.	E-mail	Fax
1	Adhakari Bhola Prasad	Swastika Copy Udyog	021-26094	21-27051	swastika@swastika.brt.wlink.com.np	
2	Amatya Keshab Man	Nepal Consult P. Ltd.	524379	493630	nc@wlink.com.np	
3	Amatya Lochan Lal	Nepal Telecommunications Corp.	537475	524645	lochan@mos.com.np	
4	Amatya Sanam			521444		
5	Aryal Ashok Kumar	Fish Tail Enterprises	415356	413507	ashok@aarval.enet.com.np	413507
6	Bajaj Gopal	Deepak Garment Industries	250018, 249493	249493	bajaj@bajaj.wlink.com.np	249865
7	Bajaj Narayan	Deepak Garment Industries	249493, 249102	250018	bajaj@bajaj.wlink.com.np	249865
8	Bajaj Shrawan	Deepak Garment Industries	495768, 488463	249493	bajaj@bajaj.wlink.com.np	488463
9	Bajracharya Indra	Smile Wear	529219		smilewear@alpavista.com	
10	Bajracharya Rabinda Mananda	NIDC	228322	229340	nidc@wlink.com.np	351654
11	Bajracharya Ushan	Explorer Nepal	224553, 246590		transworld_export@yahoo.co.uk	224553
12	Bania Asoka Man Singh	Sako Engineering & Trading	227488	227488	sako@mos.com.np	223187
13	Bania Ram Badan Shrestha	Sako Engineering & Trading	242442	227488	sako@mos.com.np	223187
14	Bania Suraksha Man Singh	Balaju Auto Works (P) Ltd.	350994	271090	surb@enet.com.np	242390
15	Bastola Khem Raj		470719	470719		
16	Bhattarai Chinta Mani	Lumbini Finance & Leasing Co. Ltd.	423443	473554	lufli@col.com.np	425655
17	Bhattarai Madhusudan	Nepal AOTS Computer Training Center	478467	471118	madhusudanbhattarai@hotmail.com	476561
18	Bhattarai Manoj Kumar	NIDC	228322	428353	nidc@wlink.com.np	
19	Bhurte Mirigendra	Tibetan Rugs P. Ltd./ Kathmandu Dying	526916, 534177	536685	nepal_looms@wlink.com.np	523706
20	Bista Pradeep Kumar			524319		
21	Chalise Raju Nath	Nepal Industrial & Commercial Bank	227305	432009	sneh@htp.com.np	227507
22	Chapagain Dinesh Prasad	BISCONS Consulting Firm	227470	241658	DINESH@biscons.wlink.com.np	
23	Chapagain Shanti	BISCONS Consulting Firm	227470	241658	DINESH@biscons.wlink.com.np	
24	Chhetri Dhiraj Kumar Karki	Hotel Seema	057-20191	57-20124	seema@mos.com.np	057-20655
25	Dali Amira	Sanpo International Corporation	521295	270763	sanpoktm@mos.com.np	525417
26	Dali Durgesh Raj	Royal Nepal Airlines Corporation	248626	270763		225348
27	Dhoju Devendra Prasad	Butwal Finance Ltd.	071-44288	071-40691	butwal@finance.btw.wlink.com.np	071-44488
28	Dhungana Shekhar Prasad	Kathmandu University	528812	430974	shekhar_dhungana@hotmail.com	
29	Gautam Puspa Pani	Podrej Steel Industry	470818	370094		
30	Giri Fandindra Raj	BTC Private Limited	520187, 524539	520214	btcc@ccsl.com.np	536698
31	Joshi Bhawani Bhakta	Trans Everest Enterprises Pvt. Ltd.	224538	227065	tee@ccsl.com.np	246173
32	Joshi Sushiel	Himalayan Bank Ltd.	250201, 227749		hbl@hbl.com.np	
33	Jyoti Padma	Jyoti Group of Companies	225490, 226327	221290	piyoti@mail.com.np	226314
34	K. C. Krishna Bahadur	Nanda Battery Industries	7140774	7160091	nanda@battery.wlink.com.np	
35	Kachhipati Chandra Prasad	Sana Hastakala	522628	610401	sanahast@wlink.com.np	526985
36	Kafle Tanka Mani	Gorkha Brewery (P) Ltd.	056-20741	56-25815		56-20994
37	Kansakar Naveen Bir Singh	Bir Singh Auto Centre	270243, 276880	270749	note@casnov.atnmail.com	
38	Khanal Bidur Kumar	PEPSI Cola International		470115		

Life Member List

S.No.	Name	Office	Off. Tel.	Res. Tel.	E-mail	Fax
80	Shakya Bindu	Hotel Ambassador P. Ltd.	410432	417041	ambassador@ambassador.com.np	418832
81	Shakya Kiran Narsing	Subash Printing Press	533191, 429041	533191	salin@ccsl.com.np	533603
82	Shakya Mani Ratna	Deurali-Janta Pharma Pvt. Ltd.	371061	532667	djpl@ccsl.com.np	435166
83	Shakya Raju	Otard International Pte. Ltd.	413933	414378	otard@mos.com.np	416720
84	Sharma Hari Bhakta	Deurali-Janta Pharma Pvt. Ltd.	435167, 435168	418297	djpl@ccsl.com.np	435166
85	Sharma Himalaya Prasad	Himali Bakery Co. P. Ltd.	350848	521682	himal_sharma@hotmail.com	430413
86	Shrestha Bijendra	Pacific Commercial Co. P. Ltd.	430525, 431525	278721	pcc@wlink.com.np	225524
87	Shrestha Imojini	Modern Printing Press	253195	253195	modprint@infoclub.com.np	225524
88	Shrestha Krishna Mohan	Surya Confectionery P. Ltd.	061-30900	061-25090		
89	Shrestha Prabin Krishna	Machhapuchhre Bank Ltd.	061-30900	533009	mb@mos.com.np	61-30500
90	Shrestha Prakash Rudra	Nepal Consult P. Ltd.	524379, 536827	246449	nc@wlink.com.np	536824
91	Shrestha Pratul Lal	Orbit International Pvt. Ltd.	524944, 524844	265653	orbit@mos.com.np	526098
92	Shrestha Rajoj Man	Central Finance Co. Ltd.	522289, 536420	522289	rajoj@wlink.com.np	523526
93	Shrestha Radhika Ranjitkar	Quality Printout	247730	432509		240118
94	Shrestha Ramesh Bahadur	Ajima Wool Carding & Spinning Udhhyog	474679	355395	sematravels@wlink.com.np	412746
95	Shrestha Rohini	Sana Hastakala	436631	428640	sanahast@wlink.com.np	526985
96	Shrestha Sanjoj Man	Shiva Nirman Company	270518	271438	shiva@sanjoj.wlink.com.np	271251
97	Shrestha Shashindra	NEBICO Pvt. Ltd.	350541, 350130	372346	shashi@nebico.wlink.com.np	350527
98	Shrestha Suman Bahadur	Ace Finance Company Limited	249396, 249388	491176	ace@mos.com.np	249477
99	Shrestha Surendra Bahadur	Kathmandu Maida Mills Pvt. Ltd.	350221, 350385	249170	sajas@ccsl.com.np	
100	Shrestha Surendra Das	Balaju Engg. & Structure Works (P) Ltd.	350302			354373
101	Shrestha Urmila	Sherpa Cooperative Trekking Pvt. Ltd.	224068	520466	shepaco@mos.com.np	227983
102	Shrestha Yogendra Prasad	Nepal Share Markets Co. Ltd.	267606	223564	yogen@mail.com.np	248845
103	Silwal Subash	Japan Auto-Techno Nepal Pvt. Ltd.	275714, 224553		subas5@hothail.com	224553
104	Singh Prabendra Lal	Nepal Biotech Nursery	541349	256529	nbn@mail.com.np	525417
105	Singh Ram Kumar	Lazimpat Metal Engg. Works	428506	415404		
106	Singh Ramesh Man	BISCONS	227470			
107	Subedi Purushottam	Karma Tara Carpet Ind. Pvt. Ltd.	270275, 271015	244515	rmsingh@biscons.wlink.com.np	271693
108	Subedi Ramesh Prasad	Sharma & Co. (P) Ltd.	260210	275324	zafar@kfc.wlink.com.np	260628
109	Suwal Mahendra	Prasuma's Delicatessen (P) Ltd.	310336, 310672	271226		310671
110	Suwal Prakash Raj Singh	Blue Chip International (P) Ltd.	225811	312035	prasuma@ccsl.com.np	
111	Tamang Dev Raj	Hyonjan Elect. Engg. Fabricator P. Ltd.	270991, 284014	247491	suwalprakash@hotmail.com	
112	Tandukar Jyoti	Institute of Engineering	534070	355648	hyonjan@wlink.com.np	279543
113	Thapa Bhagat Bahadur	NIDC	228322	259059	iyoti@coremag.net	
114	Tuladhar Indu Ratna	International Motorcycle Spare Parts	418161	472812	nidc@wlink.com.np	227428
115	Tuladhar Janak Raj	Kathmandu Repair Centre	226344, 246518	272038	emailenet@indo.com.np	242625
116	Upreti Prajesh Nath	Nepal Chemical Works P. Ltd.	415753	523964	csb@ccsl.com.np	245835
117	Vaidya Binod	Institute of Engineering	532235	415753	ncchem@wlink.com.np	422387
118	Vaidya Brajesh	Nepal Biotech Nursery	541349	229374	bi_vaidya@hotmail.com	
119	Vaidya Ramesh Nanda	Professional Computer System (P) Ltd.	244626, 244475	271073	nbn@mail.com.np	525417
120	Yadav Shivjee Roy	Nepal Industrial Dev. Corporation	228322	374082	rameshv2@yahoo.com	242518
				480415	shivjeeR@yahoo.com	227428

Member List

S.No.	Name	Office	Off. Tel.	Res. Tel.	E-mail	Fax
1	Adhikary Puspa Raj	Bhandary Garment Industry	473279	473616		
2	Adhikari Ratnakar	New Everest Construction	227568			
3	Agrawal Ratan Lal	Inter-Tech P. Ltd.	071-40147	071-40471		071-43471
4	Aryal Suman Raj	Biswash Garment	437241	420357		
5	Bajracharya Prakash	Bajra & Bajracharya Enterprises	524851		machendra@ntc.nep.np	
6	Bajracharya Tri Ratna	Institute of Engineering	542054	253565	bairacharya_triratna@hotmail.com	
7	Bhagat Radhe Shyam	R.S. Bhagat & Ass. Consulting Artitech	21-26597, 24695	425247	rsbhagat@cworld.com.np	021-26597
8	Bhandari Keshab	NPEDC	350522	495791	keshab@ccsl.com.np	350530
9	Bhandari Mukunda Ram	NPEDC	350567, 350566	247062	sandeep@wlink.com.np	350530
10	Bhandari Narayan Prasad	Nepal Telecom. Corporation	226004			
11	Bhandary Kishore Ram	Royal Drugs Ltd.	227210	415563	kishore_rb@hotmail.com	226116
12	Bhattarai Narendra	Nepal Bangladesh Bank Ltd.	492231	434130		490824
13	Bhattarai Shashi	Nepal Industrial Dev. Corporation	228322	473925	shashibhattarai@yahoo.com	
14	Bishet Hitler	Narayani Feed Industries	057-20231	57-20463		
15	Dahal Basu	Himalayan Bank Limited	225399		hbl@hbl.com.np	
16	Dhakal Shiromani	Hetauda Cement Industries	057-20020	21-27194	hciiptd@mos.com.np	057-21023
17	Ghimire Kapil Dev	Small Business Promotion Project	223361	415473		223361
18	Ghimire Pranab	Nepal Industrial Dev. Corporation	228322	350198	ghimirepr@hotmail.com	
19	Hada Anil	Super Biscuit Industry		226463		
20	Hada Purna Prakash			270043		
21	Joshi Kush Kumar	Nepal Ektrat Engineering Co.	243436, 244857		kush@neek-transformer.com	253612
22	Joshi Surendra Raj	Style Trade Line	355880, 388867	352785	sugan@mos.com.np	355348
23	Kachhapati Bhawati Lal	Panda Cab	981022521			
24	Kansakar Triratna	Himal Cement Company Ltd.	330184	422578		330136
25	Karanjit Saurab	Nepal Pasma Industry	273354	533342	npi@mos.com.np	270092
26	Karki Dasrath	Millennium Marketing Nepal	521078	524821		
27	Karmacharya Chandra K.	Karmacharya Trading	061-25529	61-23016	kbh@mos.com.np	061-21571
28	Khanal Sarita Karki	Lomus Pharmaceuticals	354027	351861		436395
29	Kharel Gourish K.	K-too Health Food Inc.	31-20108	410647		
30	Maharjan Asha Lal	Nepal Telecom. Corporation	213944	526379		
31	Maharjan Ashok	Palpali Lable Industries	414772	414772	nmmill@wlink.com.np	424168
32	Maharjan Babu Raja	Kathmandu Repairing Center	246518		csb@ccsl.com.np	
33	Maharjan Suresh			540101		
34	Manandhar Leesa	Lomus Pharmaceuticals	354027, 420060	263501	leesamanandhar@hotmail.com	436395
35	Mathema Kishor Bhakta	Harissiddhi Brick & Tile Factory	521451, 521178		nbgroupp@mos.com.np	522776
36	Nakarmi Narayan	Radymade Garment Training Center	256931	258270		
37	Piya Jiwan Lal	Chirag Foam Ind. Pvt. Ltd.	430773, 350384	420773	piya@ccsl.com.np	430945
38	Pokharel Arun	Shangrila Tours (P) Ltd.	226138, 226139	420018	arunp@mos.com.np	418182
39	Pokhrel Sanjeeb Chandra	Nepal Rubber Udhog Pvt. Ltd.	221123	221123		223145
40	Poudyal Upendra Keshari	NRB. Mint Dept. Sundhara	226965	474144	nrbmint@ntc.net.np	
41	Pradhan Banshee Ram	Blue Chip International	256481	354043		
42	Pradhan Kishor Kumar	Birat Pharma Lab (P) Ltd.	021-27191	21-27144		21-27082
43	Pradhan Prabhu Keshar M.	NIDC	228322	272650	prabhupradhan@nidc.wlink.com.np	227428
44	Pradhanang Tara Bahadur	Prefab Concrete	220046	220046	prefab@infoclub.com.np	
45	Prajapati Rupesh	Chandeswori Auto Engineering	485862	011-61671		
46	Rana Ashoke S. J. B.	Himalayan Bank Ltd.	227749	222245	hbl@hbl.com.np	
47	Rimal Rabi Lochan	Himal Iron & Steel P. Ltd.	51-80078			51-80053
48	Roy Ram Darshan	Pashupati Vanier Udhog	46-20016	46-20095		
49	Shah Balendu Bikram	Himalayan Brewery Ltd.	290555	536288		
50	Shakya Arun Kumar	Shimizu Corporation	227568, 223178			

Member List

51	Shakya Surya Bahadur	Shambala Garments (P) Ltd.	522433	522433	shambala@wlink.com.np	522433
52	Shrestha Amar Lal	Doree Printers	415399	415399	sematravels@wlink.com.np	412746
53	Shrestha Bhusan Krishna	Pape Inc. Traders	246303, 253404	533809	pape.inc@mail.com.np	225524
54	Shrestha Geeta	Readymade Garment Train. Center	256931	226526		
55	Shrestha Gopal Krishna	Himal Cement Company Ltd.	331762, 331764	526531	ksgopal@wlink.com.np	330136
56	Shrestha Guna Raj	PD Consult	491475	229190	pdconsult@wlink.com.np	
57	Shrestha Hari Gopal	Hitesh Garments	221262	221262		
58	Shrestha Jyoti	Ayusha Garment Industries	470542	470542		
59	Shrestha Keshab	Natural History Museum	271899	272578		
60	Shrestha Laxmi Bahadur	Harishiddhi Brick & Tile Factory Ltd.	240698	418862	nbgroup@mos.com.np	240665
61	Shrestha Madhav Narayan	Nepal Water Supply Corporation	419585, 411194			
62	Shrestha Rajan Babu	Aero Care Air Conditioning Service	474072	412903		
63	Shrestha Ratna Man	Shakti Hume Pipe Udhog	270518	271438		
64	Shrestha Ruby Laxmi	National Dairy Development Board	525400	491334	kdshr@ccsl.com.np	532096
65	Shrestha Sabin Lal	High Land Distillery	231316	521797		
66	Shrestha Umesh	Anupum Foods Pvt. Ltd.	539012	522676	afpl_ktm@wlink.com.np	527586
67	Stapith Hira Ratna			226774		
68	Sithapit Ajaya Ratna	New Hotel Crystal Pokhara P. Ltd.	061-20035	228013	ajsthapit@mos.com.np	228028
69	Subedi Mukti Nath	Rakhu Bhagwati Const.	220520	61-20967		
70	Tamang Ladhuram	Hyonjan Elect. Engg. Fabricator P. Ltd.	270991, 284014	355648	hvonjan@wlink.com.np	279543
71	Todi Subodh H.	Godawari Marble Industries P. Ltd.	411187	412268		412961
72	Tuladhar Subarna Das	N.B. Group	240698	228444	nbgroup@mos.com.np	
73	Upadhaya Ganesh Prasad	Wagle Trading Co.	353136, 355365	353136	sugan@mos.com.np	353348
74	Upadhaya Sarad Chandra	Janak Education Material Center Ltd.	630787	473284	Janakedu@col.com.np	630788
75	Vaidya Anand	Vaidya Electronics	480041	480041		
76	Vaidya Pradeep Man	Vijayadeep Pharmaceuticals	525515	521448	vaidya@upharma.wiink.com.np	535367

*With Best Compliments
on the Occasion of
Second Regional Quality Convention*

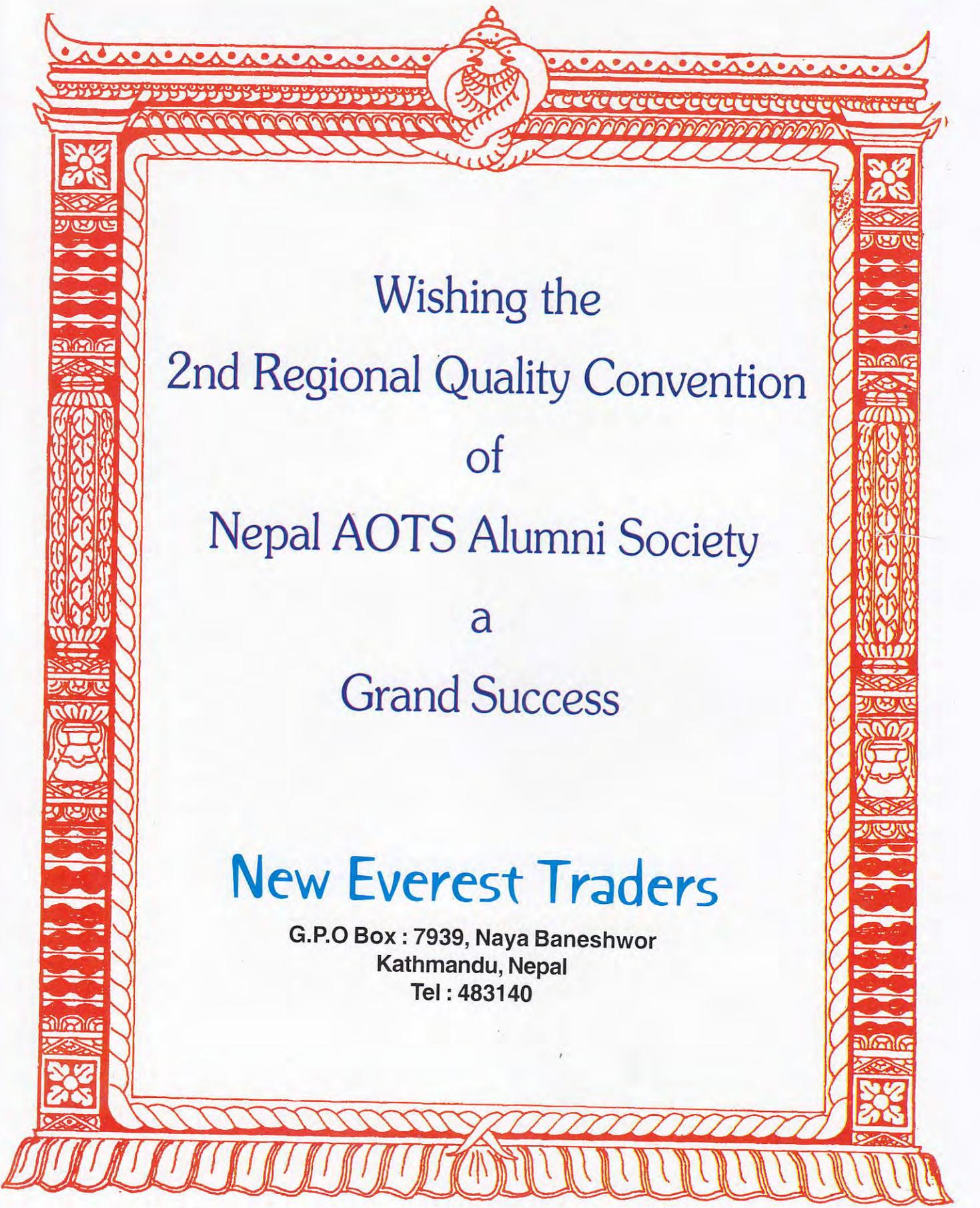


Central Finance Company Limited

(Authorised by Nepal Rastra Bank)

Kupondole, Lalitpur
P.O. Box : 7062
Nepal

Phone : 977-1-522289
536420, 544517
Fax : 977-1-523526



Wishing the
2nd Regional Quality Convention
of
Nepal AOTS Alumni Society
a
Grand Success

New Everest Traders

G.P.O Box : 7939, Naya Baneshwor
Kathmandu, Nepal
Tel : 483140

8^{to}8
BANKING



BANKING FACILITIES AT YOUR CONVENIENCE

The 8 to 8 banking facility lets you enjoy these features:

- Deposit
- Limited Withdrawal
- Foreign Exchange Encashment
- Traveller's Cheques*
- Credit Card Cash Advance

This facility is available at the following branches:

- Main Branch, Thamel
- New Road Branch (Evening Counter)
- Patan Branch (Evening Counter)*
- Birgunj Branch (Evening Counter)*
- Bhairahawa Branch (Evening Counter)*

* during normal hours at Main Branch & Patan Branch;
up to 8 p.m. at New Road Branch.
+ Travellers Cheques facility not available



हिमालयन बैंक लिमिटेड
Himalayan Bank Limited

(A Joint Venture with Habiba Bank Limited - Pakistan)

Head Office & Main Branch

Tridevi Marg, Thamel Telex: 2789 HIBA NP/2526 HIBA NP
P.O. Box 20590, Kathmandu SWIFT: HIMANPKA
Tel: 227749, 250201 E-mail: hbl@hbl.com.np
Fax: 977-1-222800 Website: www.south-asia.com/hbl

New Road Branch
Bishal Bazar
New Road, Kathmandu
Tel: 224787, 241479

Maharajgunj Branch
Teaching Hospital Complex
Maharajgunj, Kathmandu
Tel: 424292

Patan Branch
Pulchowk
Lalitpur
Tel: 535556, 535579

Nagarkot Branch
Nagarkot
Bhaktapur
Tel: 680070

Birgunj Branch
Mahabir Road
Birgunj, Parsa
Tel: 24678

Bharatpur Branch
Bharatpur
Chitwan
Tel: 24240

Tandi Branch
Tandi
Chitwan
Tel: 60750

Hetauda Branch
Main Road
Hetauda
Tel: 20119

Bhairahawa Branch
Prahari Tole
Bhairahawa
Tel: 24395

Banking with a Difference

Biratnagar Branch
Goswara Road, Biratnagar
Tel: 24653

Credit Card Center
Pulchowk
Lalitpur
Tel: 544351, 544352