# ENHANCING COMPETITIVENESS through TOTAL QUALITY MANAGEMENT

**Training Manual** 

NETWORK FOR QUALITY, PRODUCTIVITY AND COMPETITIVENESS-NEPAL

Kathmandu

2005

## Foreword

A lot of training has been provided with a view of enhancing quality, productivity and competitiveness to different organizations in Nepal since decade. Similarly, a lot of activities on organization development have been going on to improve performance of organizations. These days Total Quality Management (TQM) and ISO 9000 are being advocated as important approaches of enhancing competitiveness and implemented by many forward looking organizations throughout the world. In Nepal too, a number of professionals and managers associated with quality management and productivity management have been adopting the Total Quality Management approach in their respective areas of work.

Despite so much dissemination and numerous quality enhancement programs, a standard training manual on the subject of quality and competitiveness seems to greatly wanting in Nepal. The lack of such a standardized manual has given rise to repetitions and made the work of trainers in the subject tedious. At times, trainees become confused when they are presented with different approaches and different methods by different trainers in different forums.

This training manual *Enhancing Competitiveness through Total Quality Management* has been prepared with the objective of fulfilling such a gap. The contents and slides are taken from different sources by the resource persons who have used them in previous training programs and which have been highly accepted by the participants. The slides and the contents included in this manual may be reproduced by resource persons and other users for their uses. Acknowledgement of the use of materials shall be appreciated. Users of the manual are requested to provide constructive suggestions to make the manual more applicable to Nepalese context.

The purpose of bringing out this training manual would have been served if it could be fruitfully used by practicing managers and professionals, and by teachers, consultants and other resource persons in disseminating knowledge on enhancing competitiveness through Total Quality Management. This will contribute to improve the overall performance of organizations, and bring about a climate of economic development in the nation.

> Prof. Dinesh P. Chapagain Chairman Network for Quality, Productivity and Competitiveness-Nepal

Kathmandu 12 July 2005

## Introduction

Nepal's membership to the World Trade Organization (WTO) has opened a global market where the country could really benefit from the multi-lateral trading system. This opens up potential export markets for Nepalese products and trade on fair grounds in developed countries provided the products meet standards imposed by those countries. Nepalese stand in the global market is possible only through conscious and continuous efforts to improve quality of products, delivery schedules, services and price – that is, unrelenting focus on total quality management. The customer being the king is truer today than it ever was before. Enterprises that have adopted a human oriented approach to satisfy customers most economically by fostering an attitude of continuous improvement are more likely to be successful in the highly competitive markets. Management by quality is such an approach that integrates the concept of total quality management.

This march through quality cannot really bear fruit without organizations and individuals moving towards the positive image since positive images create positive futures. Appreciative Inquiry is an emerging concept that projects on these positive images of an organization and has been effectively applied in developing new approaches, address and resolve wide range of issues including quality, competitiveness and human resource of organizations which were well accepted by organizational members and lead to positive change.

One facet of positive image of an organization is the demonstration of the commitment to quality through the implementation of a quality management system under the family of ISO Standards. ISO certification could be of immense value for enterprises entering the international markets. ISO (International Organization for Standardization) has been developing voluntary technical standards over almost all sectors of business, industry and technology since 1947. A lot of misconceptions about ISO abound among people that view ISO as 'product standards' rather than 'quality management' systems. Such misconceptions need to be cleared before considering the implementation of relevant ISO standards understanding the elements of ISO standards.

Whether it is for the effective implementation of ISO standards or for other quality management systems, the top management has to remain committed for it and work through team/s. The inherent strength of employee participation in quality improvement programmes is aptly demonstrated by quality control circles which are recognized as the forte of Japanese management system. The Japanese have successfully utilized the employee participation approach to motivate and bind groups/teams around their organizational goals. Different people behave in different ways and respond differently to situations. A good understanding of the group dynamics and its interplay in the organization is essential to channel the efforts of the groups/teams to solve workplace problems creatively and thus contributing positively in the organization.

The contents of this manual cover seven topics. *Standards in the WTO Regime: Opportunity and Threats* highlights the background of WTO, its specific standards and their requirements, the opportunities and threats borne out of Nepal's entry into WTO and the way forward. *Principles of Management by Quality* deals with the human oriented approach and mindset for quality, and relates with implementation of total quality management. *Discovery through Appreciative Inquiry* highlights the creation of more effective organizations by focusing on their positive facets and images. Facts on ISO standards and requirements are given in

Demystifying ISO Standards and Certification Process and Elements of ISO 9001:2000 Standards to ally common misconceptions about ISO and to provide general information on the ISO implementation process respectively. Employee Participation and Quality Circle explains the how participation can benefit the management and the organization with specific reference to quality control circle as a successful approach to improve quality in the organization. In the end, a successful example of participation, brainstorming, is highlighted along with group dynamics in An Approach to Group Dynamics.

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Bibliography

## **Standards in the WTO Regime: Opportunities and Threats**

Navin Dahal

The World Trade Organisation (WTO) is the only international organisation dealing with global rules of trade between nations. It's main function is to ensure that trade flows as freely, smoothly and predictably as possible. The establishment of the WTO in 1995 marked the conclusion of the Uruguay Round of negotiations of the General Agreement on Tariffs and Trade (GATT).

The GATT is the post-war multilateral agreement that provides a framework for the conduct of international trade. Its main thrust is to liberalize trade; meaning, tariffs and other restrictions to the entry of exported goods into an importing country must be reduced and removed. The GATT went through several rounds of negotiations, the most ambitious of which is the Uruguay round, launched in Punta del Este in 1986 and concluded in mid-1994 in Marrakesh, Morocco.

In the Uruguay Round, industrialized countries insisted on expanding the principle of "free trade" not only on traditional goods but also in the area of services and investment measures. At the same time, the Uruguay Round highlighted the protectionist stance of industrialized countries when they imposed the rules on intellectual property.

The Uruguay Round brought forth key GATT-WTO Agreements: Agreement on Agriculture (AoA), General Agreement on Trade in Services (GATS), Agreement on Trade-related Intellectual Property Rights (TRIPS), Agreement on Trade-related Investment Measures, Agreement on Sanitary and Phytosanitary Measures (SPS), Agreement on Technical Barriers to Trade (TBT) and the Agreement on Textiles and Clothing.

WTO is about liberalising trade by removing tariff and non-tariff barriers to the movement of goods and services between nations. However, it allows members to restrict the import of goods if it likely to affect the health and safety of plants, animals and human beings. WTO's standards related agreements allow members to do this. It needs to be noted that the WTO does not require members to have standards.

### **Standards Related WTO Agreements**

Two agreements of the WTO, Agreement on Sanitary and Phytosanitary Measures (SPS) and Agreement on Technical Barriers to Trade (TBT) deal with standards. These agreements allow members to formulate rules and standards to protect plant, animal and human health and the environment. It needs to be understood that the WTO does not set standards. It only allows members to set standards depending on their needs. These standards have to be based on scientific research and should not be higher that what is required for the protection of plant, animal and human health and the environment. The WTO urges members to follow international standards wherever such standards are available.

SPS deals with agricultural and food products and TBT deals with machineries and manufactured products. The TBT Agreement aims that technical regulations and standards, including packaging, marketing, and labeling requirements do not create unnecessary obstacles to international trade. Its provisions apply to product standards (product characteristics, quality, design, and performance). Process standards would be covered only when they have an effect on the product quality. The agreement provides for conformity assessment to see that all requirements on regulations and standards are fulfilled. Products

that are often subjected to technical regulations include machinery and equipment such as boilers, electrical and medical equipments, and consumer articles such as pharmaceuticals, cosmetics and toys.

Fresh fruits and vegetables, fruit juices and other fruit preparations, meat and meat products, dairy products and processed food products are subject to SPS measures.

Nepal became a member of the WTO on 23 April 2004. WTO allows members to impose standards and regulations to Nepal's exports. Unless Nepalese entrepreneurs upgrade the standards of their products, they are unlikely to be able to export to developed and advanced developing countries. This is possible only through conscious and continuous efforts the improve quality.











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IN	
	Applied for membership to the GATT in 1989 after trade stalemate with India
	After the renewal of the Indo-Nepal transit treaty and restoration of democracy momentum was lost
	Obtained 'observer' status in 1995
	Formally applied for membership in June 1998
	On 11 September 2003, WTO granted membership to Nepal
	Nepal submitted the instrument of ratification on 23 March 2004
	Became 147th member of the WTO on 23 April 2004





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A B	greement on Technical arriers to Trade
	TBT Agreement aims that technical regulations and standards including packaging, marketing, and labeling requirements do not create unnecessary barriers to international trade
	Intends to
	Protect national security
	Prevent deceptive practices
	<ul> <li>Protect human health and safety, and animal and plant health</li> </ul>
	Preserve the environment





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C	nalienges
P	ositive: promotes a system whereby products are 'once tested, once certified, accepted everywhere'
C	facilitate market transaction
C	I reduce the cost of uncertainty
C	increase elasticity of substitution
C	promote economies of scale
C	provides guidelines for production process
Ē	benchmark for technological capabilities

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legative: r	means of non-tariff barriers
Structur	al problem
higher co	ompliance cost
loose de	finition of standard
unclear i	risk assessment
non-mar	ndatory equivalence



## **Principles of Management by Quality (MBQ)**

Prof. Dinesh P. Chapagain

All types of organizations, whether operating with profit or not-for-profit motives, falling under agro-farming, manufacturing, service or trading sector, or whether formalized as private, public, or civil society or government organizations, can be explained with an enterprise model having a process comprising of management and employees to serve customers working with information and availing inputs from suppliers. There is a measurement and standards which is called Metrics that monitors and balances the processors and customers. Quality is, thus a balancing force in enterprises between processors and customers.

Management by Quality is a practice and human oriented approach to satisfy customers most economically inculcating an attitude of mind for continuous improvement in enterprises. In MBQ customers are redefined as internal customers for employees and departments within enterprises, and external customers for service offices, consumers and buyers.

Creating quality mindset in an enterprise with the principle of Management by Quality is promoting organization with a tightly knit group of people having shared purpose and philosophy – Quality comes first, productivity follows and profitability (serviceability) is their logical sequence. Total Quality Management (TQM) approach is defined in short as "Scientific, Systematic and Company-wide activity in which an organization is devoted to customers through its products and services". TQM helps to create the quality mindset in the organization.

The TQM common goal is to achieve the quality that the customers need most economically. The TQM common languages are put quality first, next process is your customer, work with facts, give importance to the process, always prioritize your action, prevent recurrences of the problems and respect humanity. And, the TQM common approaches are the P-D-C-A cycle, the QC story, the QC circles, the QC tools.

The famous performance measurement models and awards- Malcolm Baldridge Quality Award, European Foundation for Quality Management, Deming Application Award, and FNCCI National Excellence Award exits in many countries and regions which help enterprises to develop their performances with the principles of Management by Quality or Total Quality management.





## Productivity Improvement Approaches

- Innovation & System Oriented Approaches
   Western approach
   Invention and using technology
- Practice & Human Oriented Approach
   a Eastern approach
   b Using unlimited capability of employees

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#### 1.200 1.500

- What is Productivity?
- Technical Definition:
- Output/InputPsycho-social Definition:
- Attitude of mind for continuous improvement
- Economic Definition: Satisfying customers most economically



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FNCC	CI National I	Excellence s (40%)	Award ⊳Results (40%)
1. Institutional Policy, Planning and Commitment 100 points (10%)	2. Organization Form, Work Plan Development & Deployment 100 points (10%)		6. Customers Satisfaction & Relationship 150 points (15%)
	3. Operational Information Dissemination & Utilization 100 points (10%)	S. WORK System & Standardization 100 points (10%)	7. Employees Satisfaction 100 points (10%)
9. Future Plan 100 points (10%)	4. Employees Development 100 points (10%)	-	8. Performance Results 150 points (15%)

## Discovery through Appreciative Inquiry Mahesh Gongal

The theory of Appreciative Inquiry was developed by David Cooperrider and Suresh Srivastava in a paper they published in 1986. Appreciative Inquiry (AI) is an imaginative approach to organizational study and learning. It is intended to discover, understand and foster innovation in the internal social relationships and processes of the organization. Appreciative Inquiry is a paradigm shift (from a problem-focused model) for creating organizational change and expanding the realm of the possible in the arenas being explored. Whether the inquiry is about organizations or individuals, a tangible result of the process is a series of propositions that describe the preferred future, based on the high moments of a repeatable past and present. Because the statements are grounded in real experience and history, people know how to repeat their success. Appreciative Inquiry contrasts the commonplace notion that, "organizing is a problem to be solved" with the appreciative proposition that, "organizing is a miracle to be embraced".

Appreciative Inquiry approach is considered to be closer to human nature, because it integrates different ways of knowing. Appreciative inquiry allows room for emotional response as well as intellectual analysis, room for imagination as well as rational thought. The principles namely constructionist principle, principle of simultaneity, poetic principle, anticipatory principle, and positive principle help to explain the power behind the appreciative approach.

A basic belief of Appreciative Inquiry is that organizations and individuals, like plants are heliotropic in nature, that is they move toward the light or the positive image. A result from research (placebo studies, the Pygmalion effect studies, and positive imagery for athletes) has confirmed that positive images create positive futures.

Appreciative Inquiry is based on a different set of assumptions like one creates more effective organizations by focusing on: what one wants more of, not what one wants less of; whatever one wants more of already exists, even if only in small quantities; to create change by amplifying the positive qualities of a group or organization is easier than by trying to fix the negative qualities. Appreciative Inquiry also assumes that we create the social realities we are trying to understand through the act of inquiry; and getting people to inquire together into the best examples of what they want more of creates it's own momentum toward creating more positive organizations

There are four phases in the Appreciative Inquiry approach. The core task in the discovery phase is to appreciate the best of "what is" by focusing on peak moments of community excellence – when people experienced the organization in its most alive and effective state. Participants then seek to understand the unique conditions that made the high points possible, such as commitment, leadership, relationships, technologies, values, capacity building or external relationships. They deliberately choose not to analyze deficits, but rather systematically seek to isolate and learn from even the smallest victories. In the discovery phase, participants share stories of exceptional accomplishments, discuss the core life-giving conditions of their community and deliberate upon the aspects of their history that they most value and want to enhance in the future. In the dream phase, participants challenge the status quo by envisioning more valued and vital futures. This phase is both practical, in that it is grounded in the history of organization, and generative, in that it seeks to expand the potential of organization. In the design phase participants create a strategy to carry out their

provocative propositions. The final phase involves the delivery of new images of the future and is sustained by nurturing a collective sense of destiny. It is a time of continuous learning, adjustment and improvisation in the service of shared organizational ideals. The momentum and potential for innovation is high by this phase of the process. Because they share positive images of the future, everyone in a organization re-aligns their work and co-creates the future. Appreciative Inquiry is a continual cycle. The destiny phase leads naturally to new discoveries of community strengths, beginning the process anew.

Appreciative Inquiry has been effectively applied for many purposes. It has been successful in developing new approaches address and resolve to strategic, quality, competitiveness, human resource and other issues of organizations which were well accepted by organizational members and lead to positive change. Appreciative Inquiry has helped in building common vision where one is currently lacking; creating openness and rapport between people and groups who don't trust each other; creating a positive work climate where a negative one previously prevailed; and discovering, understanding and amplifying the positive forces already existing in organizations.



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### Introduction of AI (Contd.) What is AI? Ap-pre'ci-ate, v.

valuing

to act of recognizing the best in people or the world around us

- affirming past and present strengths, successes, and potentials
- perceive those things that give life (health, vitality, excellence) to living systems
- to increase in value

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### Introduction of AI (contd.)

In-quire, v.

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- the act of exploration and discovery
- to ask question
- to be open to seeing new potentials and possibilities

### Introduction of AI (contd.)

- An organization, which inquires into problems will keep finding problems but
- An organization, which attempts to appreciate what is best in itself will discover more and more that is good.
- Organizing is a miracle to be embraced and organizing is not a problem to be solved

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### Introduction of AI (contd.)

- Al is about the co-evolutionary search for the best in:
  - people
  - organizations
  - relevant world around them

Introduction	of AI (contd.)
Differences in Appreciative	Inquiry and Problem Solvin
Appreciative Inquiry	Problem Solving
Appreciating	"Felt Need"
'Valuing the best of What is"	Identification of Problem
↓ Envisioning "What Might Be" ↓ Dialoguing "What Should Be" ↓ Innovating "What Will Be"	Analysis of Causes Analysis of Possible Solutions Action Planning (Treatment)
Basic Assumption:	Basic Assumption:
Organizing is a	Organizing is a
Mystery to be Embraced.	Problem to be Solved.

### Principles of Al

- The Constructionist Principle
- The Principle of Simultaneity
- The Poetic Principle
- The Anticipatory Principle
- The Positive Principle

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## Principles of AI (contd.) <u>Beliefs</u>

 Organizations are not like machines - they don't have an objective reality the way a table or a rock does

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### Principles of AI (contd.)

2. Organizations are a social reality and social reality is coconstructed - we create the social systems we are in through our interactions with each other;

### Principles of AI (contd.)

 Important human processes like communication, decision-making, and conflict management are effected more by how the people involved make meaning out of their interactions than by skillful application of any particular technique

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### Principles of AI (contd.)

4. Attempts to find or develop the right formula for successful leadership and change are a misguided attempt to treat social reality as if it were objective reality

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### Principles of AI (contd.) Assumptions

1. You create more effective organizations by focusing on what you want more of, not what you want less of.

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### Principles of AI (contd.)

2. Whatever you want more of already exists, even if only in small quantities

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### Principles of AI (contd.)

 It's easier to create change by amplifying the positive qualities of a group or organization than by trying to fix the negative qualities

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### Principles of AI (contd.)

4. Through the act of inquiry we create the social realities we are trying to understand

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### Principles of AI (contd.)

5. Getting people to inquire together into the best examples of what they want more of creates it's own momentum toward creating more positive organizations

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### Successful Applications

 Building common vision where one is currently lacking

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## Successful Applications (contd.)

Developing new approaches to:

human resource issuesquality issues

> competitiveness issues

> strategic issues

that are well accepted by organizational members and lead to

positive change

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Successful Applications (contd.)

 Discovering, understanding and amplifying the positive forces already existing in organizations

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### Successful Applications (contd.)

 Creating a positive work climate where a negative one previously prevailed

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Successful Applications (contd.)

 Accelerating the development of new teams

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Successful Applications (contd.)

 Creating openness and rapport between people and groups who don't trust each other

## Demystifying of ISO Standards and Certification Process

### Surendra Shrestha

ISO (International Organization for Standardization) has been developing voluntary technical standards over almost all sectors of business, industry and technology since 1947.

With the exception of ISO 9000 and ISO 14000, the vast majority of ISO standards are highly specific. They are documented agreements containing technical specifications or other precise criteria to be used consistently as rules, guidelines, or definitions of characteristics to ensure that materials, products, processes and services are fit for their purpose.

To take just one example, ISO standards for such seemingly humble items as bolts, nuts, screws, pins and rivets literally help stop much in the world around us from falling apart - but you're not likely to come across references to them in the business and economic press, nor see companies proudly advertising that they implement them.

Then, in 1987, came ISO 9000, followed nearly 10 years later by ISO 14000, which have brought ISO to the attention of a much wider business community. These are very different from the majority of ISO's highly specific standards.

Both ISO 9000 and ISO 14000 are known as generic management system standards. ISO 9000 is primarily concerned with "quality management" and ISO 14000 is primarily concerned with "environmental management". Both ISO 9000 and ISO 14000 require organizations that implement them to improve their performance continually in, respectively, quality and environmental management. However, neither ISO 9000 nor ISO 14000 are product standards.

Like all ISO standards, ISO 9000 and ISO 14000 are voluntary standards. ISO is responsible for developing, maintaining and publishing the ISO 9000 and ISO 14000 families of standards but ISO does not itself audit or assess the management systems of organizations to verify that they have been implemented in conformity with the requirements of the standards. ISO does not issue ISO 9001:2000 or ISO 14001 certificates.

The auditing and certification of management systems is carried out independently of ISO by more than 750 certification bodies active around the world. ISO has no authority to control their activities. The ISO 9000 and ISO 14000 certificates issued by certification bodies are issued under their own responsibility and not under ISO's name.

### **The Certification Process**

The Top Management has to remain committed for the effective implementation of Quality Management System for Certification Process of respective standard. Either the Top Management should make a team and provide training on ISO and its processes or hire a consultant relevant to the nature of the organization.

There are six steps to ISO 9001:2000/ISO 14001:2004 Certification Processes – identify key processes; design & document system; implement and operate system; internal audits; certification audit; and, maintain registration.

1. **Identify Key Processes:** "You must focus on the process if you are to continually improve your ability to meet your customers' needs and expectations. There is no substitute for knowing your processes and improving them." (W. Edwards Deming) ISO 9001:2000 refers to all the processes needed for the organization's quality management

system and not only to the product realization processes. The quality management system processes include, for example, the management review process, the internal auditing process, and the document control process, among others. The product realization process includes Marketing, Design and Development, Purchasing and store, Production, Quality, Dispatch among others.

- 2. Design and documentation system: Many ISO certified organizations are still "document-driven" rather than "process-driven". It has been common to hear criticisms of the type "Our organization has a lot of documents, because ISO 9000 requires them". In fact ISO 9001:2000 has very few explicit requirements for documented procedures. The onus is on the organization to decide where such procedures are needed in order to manage its processes, and to achieve the planned results.
- 3. **Implement and operate system:** Top Management should take the lead into effective implementation and operate the quality management system to understand its need, importance and benefits to the organisation and should transfer the same message to the employees
- 4. **Internal audits:** After effective implementation, the organisation should undergo internal audits by the trained internal auditors. Audits are fact-finding process, so if the internal in-house people are trained the resulting benefits goes to the organisation. The report of internal audits should then be discussed with other inputs to the Management review chaired by the top management.
- 5. Certification audit: After the successful internal audits and management review, the organisation should invite the certification body for the Certification Audit. The auditors from certification body shall assess the effective implementation and compliance with the requirements of the standards. If audit results are satisfactory, the audit recommends your organisation for Certification of respective standard.
- 6. **Maintain registration:** After the issuance of ISO certificate, the auditors come for surveillances on the planned intervals (six or nine monthly) to ensure the compliance with stated requirements and effective continual improvement.






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Generic management system standards

- ISO 9000 and ISO 14000 are known as generic management system standards
- Generic means that the same standards can be applied to any organization, large or small, whatever its product including whether its "product" is actually a service in any sector of activity, and whether it is a business enterprise, a public administration, or a government department.



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Eight Management Principles of ISO 9001:2000 & 14001:2004 (contd.)

- Principle 1 Customer-Focused Organization
  - Organizations depend on their customers and therefore should understand current and future customer needs, should meet customer requirements and strive to exceed customer expectations.

### Eight Management Principles of ISO 9001:2000 & 14001:2004 (contd.)

 Principle 2 — Leadership
 Leaders establish unity of purpose and direction of the organization. They should create and maintain the internal environment in which people can become fully involved in achieving the organization's objectives.

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Eight Management Principles of ISO 9001:2000 & 14001:2004 (contd.) Principle 4 — Process Approach A desired result is achieved more efficiently when activities and related resources are managed as a process.



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### ISO 9000 and ISO 14000 -Introduction

- ISO 9000 is primarily concerned with "quality management system".
   "Quality management system" the organization shall ensure that its products or services satisfy the customer's, statutory and regulatory requirements.
- ISO 14000 is primarily concerned with "environmental management system".
  "Environmental management system" means what the organization does to minimize harmful effects on the environment caused by its activities.

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### ISO 9000..before 15th Dec 2003

- ISO 9000:1994 Fundamental & Vocabulary
- ISO 9001, 9002 & 9003 (1994) were series of certification standards
- ISO 9001:1994 [Design, Mfg, Installation]
- ISO 9002:1994 [Manufacturing, Installation]
- ISO 9003:1994 [Lab, Inspection, testing]
- ISO 9004:1994 Guidelines for performance

### ISO 9000.. after 15th Dec 2003 Quality Management System

- ISO 9000:2000 Fundamentals and vocabulary ISO 9001:2000 – Standard Requirements for Certification
- ISO 9004:2000 Guidelines for performance improvements
- ISO 9001:2000 the standard which has replaced 1994 versions of ISO 9001, 9002 and 9003.
- ISO 19011:2002 Auditing Quality & Environmental systems

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### Why ISO 9000?

- When the first output of ISO/TC 176 was nearing completion, ISO was already approaching an total of some 9000 published standards. To have significant impact it was decided to give the series the next available round figure - 9000 - as a designation because round figures are more memorable.
- At the end of 2002, ISO had 13 544 standards in its portfolio.

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#### What is ISO 14000?

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- ISO 14001:2004 Environmental Management Systems Requirements with guidance for use (certification Standard)
   ISO 14004:2004 Environmental management systems General guidelines on principles, systems and supporting techniques.
- The second edition of Environment management system standard cancels and replaces the first edition (ISO 14001:1996), which has been technically revised on 15 November 2004 by Technical Committee ISO/TC 207, Subcommittee SC 1.

ISO 9000 & 14000 are **NOT** Product standards

<u>Neither</u> ISO 9000 <u>nor</u> ISO 14000 are product standards.

- Both ISO 9000 and ISO 14000 concern the way an organization goes about its work, and not directly the result of this work.
- Both standard concern processes, and not products at least, not directly. Nevertheless, the way in which the organization manages its processes is obviously going to affect its final product.

### Slide 20

### Certification, Registration & Accreditation

- "certification" refers to the issuing of written assurance (the certificate) by an independent, external body that has audited an organization's management system and verified that it conforms to the requirements specified in the standard. Examples of Certification Bodies are Llyods, SGS, TUV, DNV, ICL etc

# Slide 21

### Certification, Registration & Accreditation (contd.)

- "Registration" means that the auditing body then records the certification in its client register.
- Examples of Registration Bodies are RvA, UKAS, JAS ANZ etc

### Certification, Registration & Accreditation (contd.)

- "Accreditation" refers to the formal recognition by a specialized body an accreditation body -that a certification body is competent to carry out ISO 9000 or ISO 14000 certification in specified business sectors. In simple terms, accreditation is like certification of the certification body. using "accreditation" as an interchangeable
- alternative for certification or registration is a mistake.

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### Certification is not compulsory

- An organization can implement ISO 9001 or ISO 14001 without seeking certification.
- Some of the reasons for certifications for independent third-party audit: if it is a contractual or regulatory requirement
- if it is a market requirement or to meet customer preferences
   or if you think it will motivate your staff by setting a clear goal for the development of your management system.

# Slide 24

#### Steps to ISO 9001:2000 and ISO 14001:2004 Certification 1. Identify key processes 2. Design & document system 3. Implement and operate system Internal audits 4. 5. Certification audit 6. Maintain registration

Steps to Certification: 1. Identify key processes

- *Process*: series of connected actions; each has a beginning & ending point
   "Process map" shows relationship between processes throughout
- organization

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Quality Manual with Quality *Policies & Objectives*

- Each process is documented into a *Procedure*
- Procedures refer to *Work Instructions Records* demonstrate conformance to
- system

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### Steps to Certification: 3. Implement and operate system Communicate throughout organization Departments perform work as described in procedures

Steps to Certification: 4. Internal Audits

- Trained Internal Auditors
- Documented internal audit plan
- Audit results reviewed by management
- Make corrections & improvements to quality system









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### Choosing a certification body

- Another point to clarify is whether or not the certification body has been accredited and, if so, by whom.
   evaluate several certification bodies,
- bear in mind that the cheapest might prove to be the most costly if its auditing is below standard.
- establish whether the certification body has auditors with experience in your business sector.

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ISO does not carry out ISO 9001:2000 or ISO 14001:2004 certification

- ISO does not issue ISO 9001:2000 or ISO 14001:2004 certificates.
  ISO is responsible for developing, maintaining and publishing the ISO 9000 and ISO 14000 families of standards.
  The auditing and certification of management systems is carried out independently of ISO by more than 750 certification bodies active around the world, although the organization does develop voluntary standards and guidelines to encourage good practice by these certification bodies



### Slide 35

### Transition to ISO 14001:2004

ISO & IAF have agreed an 18 month transition period between from ISO 14001:1996 to ISO 14001:2004. As a result, no certificates according to ISO 14001:1996 will be valid after May 15 2006. The revision to the standard would be limited to:

- The revision to the standard is limited to: Enhancing compatibility between ISO 14001 and ISO 9001:2000 and
   Improving the clarity of ISO 14001 based on experience to date without resulting in additional or diminished requirements in comparison







# Elements of ISO 9001:2000 Standard

# Surendra Shrestha

There are many elements of ISO 9001:2000 Standard, however, to make the understanding clear to the top management; only those relevant elements are shared for effective implementation back in the business. Only six elements are discussed, viz. Quality Policy and Objectives; Levels of ISO Documentation; Record Management; Internal Audit Process; Management Review Process; and Suppliers Evaluation.

The quality management system comprises the methods used by top management to establish an organization with the appropriate objectives and policies to ensure that customer' needs and desires can be met. Customers can include different interested parties such as the purchaser of ones product, the employees, the stockholders, the community to which the organization belongs, etc. Organizations cannot survive unless the needs of the customers are determined and satisfied.

Since 1987, the ISO 9000 family of international standards has been used to define the requirements for the management of the quality system. Under the first two revisions of these documents, top management appointed a management representative to oversee the quality management system and to report periodically on its status. Top management was not specifically held responsible for the well being of the quality management system. However, the 2000 revision of the ISO 9000 standards brings a different way of viewing the management of the quality system, which will certainly affect the management of the organization as a whole.

Under the 2000 revision, the entity responsible for ensuring that the quality management system operates as planned is *top management*. Although the new standard requires the appointment of a management representative, top management clearly retains the overall responsibility for the well being of the organization.

# Management Responsibility

One entire section of ISO 9001:2000 is entitled "Management responsibility", but other responsibilities of top management can be found elsewhere in the standard. Let's examine the specific items, which according to the new standard, must be driven, evaluated, and monitored by top management:

- 1. **Overall commitment:** Top management bears the responsibility to provide evidence of its commitment to the requirements of the quality management system through a series of specified activities:
  - a) Communicating the importance of meeting requirements, whether stated by the customer or from other sources
  - b) Establishing the quality policy and objectives
  - c) Conducting reviews of the performance of the quality system
  - d) Ensuring that the organization can meet the specified policy and objectives by supplying the resources necessary for those in the organization to carry out tasks.
- 2. Customer satisfaction: The ultimate responsibility for customer satisfaction belongs to top management. Since without customer satisfaction, the organization cannot survive, ISO 9001:2000 places this responsibility directly on top management, and not on a

delegate. Top management must ensure that the customers' requirements are defined and understood, with the goal of not only meeting the stated requirements but even exceeding customers' expectations.

3. **Quality policy:** Top management has the responsibility to ensure that the defined quality policy includes specified items: The quality policy must be appropriate to the organization, must show a commitment to meeting requirements and to continual improvement, must provide for reviewing quality objectives, must be disseminated throughout the organization, and must be reviewed periodically to ensure continuing suitability.

(Note that "quality policy" as used by ISO can be defined as top management's formal expression of the organization's overall intentions pertaining to quality.)

- 4. **Quality objectives:** Making the generalized goals stated in the Quality Policy more specific, measurable quality objectives must be defined as appropriate throughout the organization.
- 5. **Management review:** At periodic intervals, top management must review the performance of the quality management system. Among the specified outputs of top management's review of the quality management system: decisions about whether the quality management system requires updates or changes, the need for continual improvement of the product/service supplied to the customer, and decisions concerning allocation of the organization's resources to attain the quality policy and objectives.
- 6. **Supplier evaluation:** The quality of goods and services supplied is critical to the success of certain types of business. Some of today's businesses are very dependent on agency personnel or sub-contractors, yet my experience indicates that their reevaluation is not undertaken with the rigour of staff appraisals. Many organisations could benefit with reconsidering supplier relationship management.

Under ISO 9001:2000, top management must obviously drive these issues. While the ISO standard does not specifically say, "You SHALL make a good product", meeting customer expectations and achieving customer satisfaction could mean the same thing in the long run.

Customer satisfaction belongs ultimately to top management. As the organization moves toward compliance with the 2000 revision of ISO 9001, one should not lose sight of ones responsibilities not only to the financial and business development aspects of the organization, but also to the needs of the quality management system as well.

# Elements of ISO 9001:2000 Standard Understanding & drafting of Quality Policy & Objectives Levels of ISO Documentation

- Record Management
- Internal Audit Process
- Management Review Process

### Slide 2

### Clauses of ISO 9000:2000

CLAUSE 4: QUALITY MANAGEMENT SYSTEM CLAUSE 5: MANAGEMENT RESPONSIBILITY CLAUSE 6: RESOURCE MANAGEMENT

CLAUSE 7: PRODUCT REALIZATION

CLAUSE 8: MEASUREMENT, ANALYSIS AND IMPROVEMENT

### Slide 3

### Understanding ISO 9000......

- The ISO 9000:2000 standards represent realistic approach to Quality Management
- Success of the standards depends on CREDIBILITY
   Of the standards themselves
  - Of the people and organizations who teach, implement, audit, certify and accredit.
- Need to ensure people who use the standards are competent to do so.



### Slide 5







- is communicated and understood within the organisation; and
- is reviewed for continuing suitability.

### Slide 8

### Quality Objectives (Clause 5.4)

- Top management shall ensure that quality objectives, including those needed to meet requirements for product are established at relevant functions and levels within the organisation.
- The quality objectives shall be measurable and consistent with the quality policy.





• Records required by this International Standard

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Documentation Requirements – Lessons to learn Ensure that an organisation's quality management system accurately describes the way the business works in practice. Implementing ISO 9001:2000 provides a rationale to: • review all documentation, slimming down where desirable • eliminate systems duplication; and • harness IT for more efficient document control. Business benefit: improved efficiency

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### Control of Records (4.2.4)

- Records shall be established and maintained to provide evidence of conformity to requirements and of the effective operation of the quality management system.
- Records shall remain legible, readily identifiable and retrievable
- A documented procedure shall be established to define controls needed for the identification, storage, retrieval, protection, retention time and disposition of records.



Internal Audit (Clause 8.2.2)

- Conduct periodic internal audits to ensure whether the system has been effectively implemented and maintained.
- Plan the audit program taking into consideration the status and importance of the activities and areas to be audited as well as the results of previous audits. The audit scope, frequency & methodologies shall be plannet •
- be planned.
- Internal audit shall be conducted by personnel other than those who performed the activity being audited ٠

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#### Internal Audit (Clause 8.2.2) contd.

- Documented procedure shall include the responsibilities and requirements for conducting audits, ensuring their independence, recording results and reporting to management.
- Management shall take timely corrective action on deficiencies found during the audit.
- Follow-up actions shall include the verification of the implementation of corrective action, and the reporting of verification results.

# Slide 18

Internal audit – Lessons to learn

- Make better use of internal quality audits by upgrading the skills of your in-house quality auditors.
- Quality audits need to change from being a chore with standard checklists and tick boxes to becoming a constructive dialogue between auditors and Auditee(s) that improve the ways of working.

Business benefit: continuous improvement

# Management Review (Clause 5.6)

- Top management shall review the quality management system, at planned intervals, to ensure its continuing suitability, adequacy and effectiveness.
- The review shall include assessing opportunities for improvement and the need for changes to the organisation's quality management system, including quality policy and quality objectives.
- Records from management reviews shall be maintained.

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- Management Review Inputs (Clause 5.6.1) The Input to management review shall include information on: • results of audits; • customer feedback; • process performance and product conformance; • status of preventive and corrective actions; • follow-up actions from earlier management reviews;
  - changes that could affect the quality management system, and
  - Recommendations for improvement

# Slide 21

Management Review – Lesson to learn Management reviews is the key element in QMS. Top management has to conduct management review (through meeting or analyzing input reports) It is to evaluate effectiveness of the QMS and to be "platforms for the exchange of new ideas". Top Management (with his team) has to plan the interval for Management review. Review could be on periodic basis or need base in normal management meeting but should cover the inputs and outputs required by ISO 9001:2000. Business henefit: Effective monitoring for continuous

Business benefit: Effective monitoring for continuous improvement



# **Employees Participation and Quality Circles**

Prof. Dinesh P. Chapagain

TQM asks to respect humanity to make use of unlimited human capability to motivate employees to use their heads and hearts together with their hands. TQM utilizes three approaches of decision making at the organization- the Top-down approach as policy management, bottom-up approach as small group activities (QC) and horizontal approach as cross functional team works, besides the regular and routine management.

Small group activities or Quality Circle (QC) is a small group of volunteer employees who meet together at regular interval at their workplace for about an hour to identify, analyze and solve problems that have to do with their work and work places.

The QC story is 7 steps of systematic problem solving- Identifying problem, observing the features of the problem, planning activities to solve problem, analyzing the root causes of the problem, implementing countermeasures to root causes, evaluating the implementation and standardizing and establishing the control.

The 7 basic QC tools for problem solving are- check sheets, graphs and charts, Pareto analysis, cause and effect analysis, histogram, control charts, scatter diagram, or regression analysis.

The 7 advanced or managerial QC tools for problem solving are- affinity diagram, relations diagram, matrix diagram, tree diagram, arrow diagram, data matrix analysis, and process decision planning chart.

TQM implementation at any enterprise needs to plan its programs in 4 phases. They are- trial and preparation phase, introductory phase, promotion phase and the consolidation phase. The top-managers and middle level managers have to play important roles in making the TQM success in their enterprises.



Slide 2







Slide 5









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Slide 12



4. Decide on targets and time limits for their achievements



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Slide 20

Check Sheet	s to collect da	ata	
<ul> <li>A paper form on which items to be checked are printed already so that data can be collected easily and concisely</li> </ul>	Absenteeism		
	Days Absent	Frequency	No off
	No absent	+++4	5
	1~5 days	1++L 1++L II	12
	5~10 days	HHL HHL HHL	15
	10~15 days	7##~7##~	9
	> 15 days	//	2





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### An Approach to Group Dynamics

Ramesh M. Singh

#### **Group Dynamics**

Small groups have functioned since the time of the first human family, and today, groups are widely recognized as an important sociological unit of analysis in the study of organizational behaviour. The social process by which people interact with one another in small groups is called *group dynamics*. They are the interactions and forces among group members – members of both formal and informal work groups, and, now teams in organizations. Groups have properties of their own that are different from the properties of the individuals who make up the group. The synergy that emerges through the relationship among members makes the understanding of group dynamics important for managers as well as team leaders.

Today's social environment surrounding groups is changing. For example, there is the assumption that today's young generation are difficult to manage in groups because they have low needs for group affiliation and high needs for individual achievement.

The term *group* can be defined in a number of different ways, depending on the perspective that is taken. A comprehensive definition of a group in an organization is that its members:

- are motivated to join
- perceive the group as a unified unit of interacting people
- contribute in various amounts to the group processes (that is, some people contribute more time or energy to the group than do others)
- reach agreements and have disagreements through various forms of interaction

Just as there is no one definition of the term *group*, there is no universal agreements on what is meant by *group dynamics*. Views of group dynamics:

- 1. *Based on how a group should be organized* stress is on democratic leadership, member participation, overall cooperation
- 2. *Set of techniques* equated with role playing, brainstorming, focus group, group therapy, sensitivity training, team building, transactional analysis, self-managed teams. A recent example is that of "creative abrasion" (the search for a clash of ideas) rather than "personal abrasion" (clash of people). The goal is to develop greater creativity from the group
- 3. *Perspective of the internal nature of groups* how they form, their structure and processes, how they function and affect individual members, other groups and the organization

There are also a number of theories as to why individuals form into groups. They are as follows:

- 1. *Propinquity*: Individuals affiliate with one another because of spatial or geographical proximity.
- 2. *Elements of activities, interactions and sentiments*: According to this, the more activities persons share, the more numerous will be their interactions and the stronger will be their sentiments; the more the interactions among the people, the more will be their shared activities and sentiments; and, the more the sentiments persons have for one another, the more will be their shared activities and interactions

The major element is interaction. Persons in a group interact with one another not just in the physical propinquity sense, but also to achieve many group goals through cooperation and problem solving.

- 3. *Balance theory*: Individual X will interact and form a relationship with Individual Y because of common attitudes and values, Z (religion, politics, lifestyle, marriage, work, and authority). Once this relationship is formed, participants strive to maintain a symmetrical balance between the attraction and the common attitudes. Both propinquity and interaction play a role in balance theory.
- 4. *Exchange theory*: Group dynamics is based on reward-cost outcomes of interaction. A minimum positive level (rewards greater than costs) of an outcome must exist in order for attraction or affiliation to take place. Rewards from interactions gratify needs, whereas costs incur anxiety, frustration, embarrassment or fatigue. Propinquity, interactions and common attitudes all have roles in exchange theory.
- 5. *Practical reasons of group formation:* 
  - Economic: workers form groups to work on a project that is paid for on a group incentive plan such as gain-sharing; they form unions to demand higher wages.
  - Security: united front against indiscrimination, unilateral treatment etc. (adage of strength in numbers)
  - Social needs: strong affiliation desire belonging to a group or team (belongingness)

### Brainstorming

Brainstorming is a technique popularized in the 1950s for creative thinking in small groups. It is a technique for helping a group to generate a wealth of ideas in a short span of time about.

The main beauty of brainstorming in a group is deferred judgement or encouraging all kinds of ideas – even unusual and impractical ones – by avoiding criticism, judgement and evaluation. The purpose of deferred judgment is to encourage people to come up with bold, unique ideas without worrying about what others think of them. As a result, the process typically produces more ideas than the conventional approach of alternately thinking and judging. Very little preparation is required for brainstorming. The members of the group participating in brainstorming are enthusiastic, participation is broader than normal, and the group maintains a strong task orientation. Ideas are built upon and extended, and members typically feel that the final product is a team solution.

The members present ideas and clarify them with brief explanations. Each idea is recorded in full view of all members, usually a flip chart. To avoid self-censoring, no attempt to evaluate the ideas is allowed. Group members are encouraged to offer any ideas that occur to them, even those that seem risky or impossible to implement. In a subsequent session, after the ideas have been recorded and a brief period of incubation, the ideas are evaluated.

The success of brainstorming depends on each member's capacity and willingness to listen to other's thought, to use these thoughts as a stimulus to spark new ideas of their own, and then to feel free to express them. When this happens, a large number of new and different ideas can emerge. Today, the development of ICT has made it possible for electronic brainstorming. Brainstorming sessions should be designed to be fun and when groups are relaxed, they produce more ideas.



- e in small group ict face-to
- Different kinds d different Lewin (193
- Mayo & associates (1920s to 30s) kers tend to establish informal os that affect job satisfaction and

### Slide 2

## Group Dynamics (contd)

- rties diff Groups have prop
- In groups, no two people can be conceived without their relationship which makes *three*

### Slide 3

### Understanding of Groups

- Members : are motivated to join perceive group as unified unit of interacting people contribute in various amounts in group processes
- reach agreements and disagreements



 Perspective of internal nature of groups:
 Focus on formation, structure & processes, how they function and affect others

Slide 5

# Why individuals form into groups?

- Affiliation due to proximity of individuals
  Closer the physical location more likely the affilia
- Sensitivity
   More the shared activities, more interactions and stronger the sentiment
   Greater the number of interactions, more the
- activities and sentiments

  More the sentiments persons have for other persons more will the shared activities and interactions





Slide 8





**Barriers to Creative Thinking** Fear of looking foolish

- Tendency to assume the way things have always been done Tendency to evaluate too quickly What-I-say-is-right attitude Tendency to accept there is only one right answer to every problem

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Slide 14

- Positive notes (contd.) Deferred judgement avoids self-censoring
- censoring Encourages innovative and comprehensive ideas and solutions; creative thinking Brainstorming rules minimizes negative conflict among members

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### Steps in Running a Successful Brainstorming

- Step 1: Re-state or write up the Rules of Brainstorming
- Step 2: tion to the
- as flowing one by one. if stuck

Steps in Running a Successful Brainstorming (contd.) Step 4: Record the ideas, even repetitions. (Full list visible to the whole group all the time) Step 5: Incubate the ideas. (Process of sleeping on it) Step 6: Evaluate the wealth of ideas generated. (Grouping, extending, deleting, splitting) Step 7: Minuting/reporting the result of brainstorming



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### **Contributors**



Prof. Dinesh P. Chapagain, an industrial engineering and management graduate having 30 years of industrial experience is currently engaged at Kathmandu University School of Management (KUSOM). His major interest is process reengineering and human resource development with special focus on productivity and total quality improvement in organizations. He teaches and conducts research in the subjects like TQM, leadership, industrial analysis and competitiveness. He is a senior OD consultant, involved in the institutional development of various private and public sector organizations in Nepal. He has presented papers in international conferences in Mauritius, Sri Lanka, Bangladesh and India on quality and productivity. In addition to publication of various articles in prominent Nepalese journals on labour relations, productivity and quality management, he has also authored a handbook on quality circle in Nepalese language - Quality Circle: Ek Chinari (Quality Circle: An Introduction). He has been a regular resource person of Nepal Administrative Staff College, National Productivity and Economic Development Centre, Management Association of Nepal, Public Administration Association of Nepal and other national institutions for training in quality and productivity management. He has been three times Jury for awarding the FNCCI National Excellence Award. He is Director General of World Council for Total Quality and Excellence in Education, Nepal Chapter (WCTQEE-Nepal), Chairman of the Network, Productivity and Competitiveness - Nepal, and life member of Nepal Engineers Association and Management Association of Nepal. He is decorated with prestigious national awards like the TU Vice-chancellor Medal (1964), Mahendra Bidya Bhusan (1968) and Prabal Gorkha Dakshin Bahu Padak (1986) for his academic and professional excellence.



Mr. Mahesh Gongal is a Division Chief of the National Productivity and Economic Development Centre (NPEDC), Kathmandu. Concurrently, he is also the Director of the Centre for Gender and Management (CGM), Kathmandu He obtained his M. Sc. in Chemistry from the Tribhuvan University, Kathmandu; MBA from the Faculty of Management Studies (FMS), Delhi University, India; and MS in Economics from the University of Mannheim, Germany.

Mr. Gongal has undertaken extensive research and study in the field of organization development, productivity management, and in other functional areas of management, and institutional and socio-economic developments. He has more than two decades of experience in research and consulting services in productivity management and enhancement, human resources development, organization development, project formulation, implementation and monitoring; strategic planning, industrial policy research and planning; enterprise development and others. As a national expert, he has carried out a basic research on productivity, competitiveness and quality jobs for the Asian Productivity Organization (APO), Japan.

Mr. Gongal is qualified for certification of individual Auditors under the IRCA/IATCA QMS Auditor Certification Scheme since he has successfully completed the program on ISO 9000:2000 Series Auditor/Lead Auditor and passed its examination in 2004.



Navin Dahal presently works as Research Director in SAWTEE (South Asia Watch on Trade, Economics and Environment), Kathmandu, Nepal. He has more than 12 years experience in the private, public and development sector. He has the experience of starting and managing a small enterprise for four years. He has also worked extensively in the area of small enterprise development. He has an MBA degree from Asian Institute of Management, Manila, Philippines. He has edited two books and published several research work and writes regularly in the area of international trade and trade related issues.

Ramesh M. Singh is the Director of BISCONS Development and Management Consultants, Kathmandu. An MBA graduate, Mr. Singh has undertaken extensive research and study in various fields of management and development. He has almost 15 years of experience in research and consulting services in quality and total quality management, organizational development, human resources development, labour policy research and socio-economic development working for the private sector, government as well as non-government sectors. He is also involved as a trainer in human resource development, Japanese style management and total quality management. As a resource person, he has made presentations on home-based women workers, labour welfare and total quality management in Nepal, India and Bangladesh. He is also a faculty member of College of Applied Business, Kathmandu teaching Organizational Management and Human Resource Management to bachelors level management students, and assisting in research and project works.

Mr. Singh has been actively involved in human resource development in the country through Nepal AOTS Alumni Society of which he is currently the general secretary. He is also a member of Productivity and Quality Committee of Federation of Nepalese Chambers of



Surendra Shrestha is Manager of ICL Certifications Nepal Pvt. Ltd., an ISO Standards Certification Company. He has an educational background of Bachelor of Production Engineering from Birla Institute of Technology, Ranchi, India and Masters of Business Administration from Roorkee, India both under scholarships of Colombo Plan and Silver Jubilee Scholarship Scheme respectively. Earlier he had worked with Colgate-Palmolive Nepal Pvt. Ltd. and OSRAM India Pvt. Ltd. By profession he is a Lead Auditor of ISO 9001:2000 and has completed more than 100 maydays of certification audit experiences. He also is a registered co-tutor for ISO 9001:2000 Lead Auditor Course (LAC). His interest is to enhance the productivity and competitiveness of an organisation.

