**OCCASION**

This publication has been made available to the public on the occasion of the 50th anniversary of the United Nations Industrial Development Organisation.

**DISCLAIMER**

This document has been produced without formal United Nations editing. The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Industrial Development Organization (UNIDO) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries, or its economic system or degree of development. Designations such as "developed", "industrialized" and "developing" are intended for statistical convenience and do not necessarily express a judgment about the stage reached by a particular country or area in the development process. Mention of firm names or commercial products does not constitute an endorsement by UNIDO.

**FAIR USE POLICY**

Any part of this publication may be quoted and referenced for educational and research purposes without additional permission from UNIDO. However, those who make use of quoting and referencing this publication are requested to follow the Fair Use Policy of giving due credit to UNIDO.

**CONTACT**

Please contact publications@unido.org for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at www.unido.org

UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

Expert Group Meeting to Discuss the
Potential Effects of ISO 9000 and ISO 14000
(Draft International Standard) Series and
Environmental-Labelling on the Trade of Developing Countries
Vienna, 23-25 October 1995

# TRADE IMPLICATIONS OF INTERNATIONAL STANDARDS FOR QUALITY
## AND ENVIRONMENTAL MANAGEMENT SYSTEMS
### (ISO 9000/ISO 14000 Series)

**Survey results***

Prepared by

Industrial Sectors and Environment Division
and
Human Resources, Enterprise and Private Sector Development Division

---

* This document has not been edited.

V.96 80768

# CONTENTS

## *I. General*

### *A. Description of the questionnaire*

The United Nations Industrial Development Organization (UNIDO) has carried out a survey of developing countries and emerging economies in Latin America and the Caribbean, Africa, Asia and eastern Europe on the subject of ISO 9000 and ISO 14000 series of standards. At the time the survey was done, June 1995, the draft version of ISO 14000 had been circulated to member bodies of the ISO for review, prior to voting on its adoption. The purpose of the survey was to identify the specific perceived impacts of the above-mentioned standards on the trade relations of those countries. Special attention was paid to the situation of small and medium enterprises (SMEs).

The questionnaire comprised three sections: one about the respondent's organization, one about the experience with the ISO 9000 standards for quality management systems and one about the proposed ISO 14000 series of standards. The structure of the questionnaire was as follows:

1.  Details of the respondent's organization.

2.  Perception of the ISO 9000 series of management systems standards for manufacturing and services:

    - General awareness

    - Perceived importance of ISO 9000 by business

    - Popular perceptions of ISO 9000

    - Implementing the ISO 9000 series

    - National infrastructure for conformity assessment

    - Quality systems assessment and recognition (QSAR)

    - ISO 9000 series and international trade

3.  Perception of the proposed ISO 14000 series:

    - Significance/development of environmental issues

    - Awareness/perception of the ISO 14000 series

    - Cost of compliance

    - Infrastructure

    - International trade

    - Environmental labelling

The questionnaire itself is reproduced in annex 1.

## B. Methodology of distribution

Approximately 200 questionnaires were distributed by mail. Government departments, accreditation bodies, certification bodies, standards bodies and industry associations were encouraged to express their views and suggestions to return the questionnaire, even if their awareness or knowledge was not sufficient to answer all the questions.

## C. Response rate

The respondents are listed in annex 2. Due to the very low initial response rate, the cut-off date for replies had to be extended from 16 June 1995 to 14 August 1995. The final response rate was from 69 per cent of the countries surveyed, from which 33% of the dispatched questionnaires were returned to UNIDO.

## II. Description of respondents

### A. Geographic distribution

UNIDO received questionnaires from three countries out of twelve in eastern Europe, namely Turkey, Romania and the Russian Federation. From Africa, ten countries out of fourteen responded to the questionnaire; authorities from eleven out of fourteen Asian countries responded. In Latin America and the Caribbean (LAC), the response rate was seven out of ten countries.

The number of responses per country was highest from Asia. Up to six different bodies (India, Pakistan) returned the questionnaire in each country; a lack of infrastructure in some of the African countries made it difficult to identify appropriate bodies. Thus, bodies from Asian countries dominate, making up 43 per cent of total respondents, followed by those from Latin American and Caribbean countries with 24 per cent, Africa with 24 per cent, and eastern Europe with 9 per cent (figure 1).
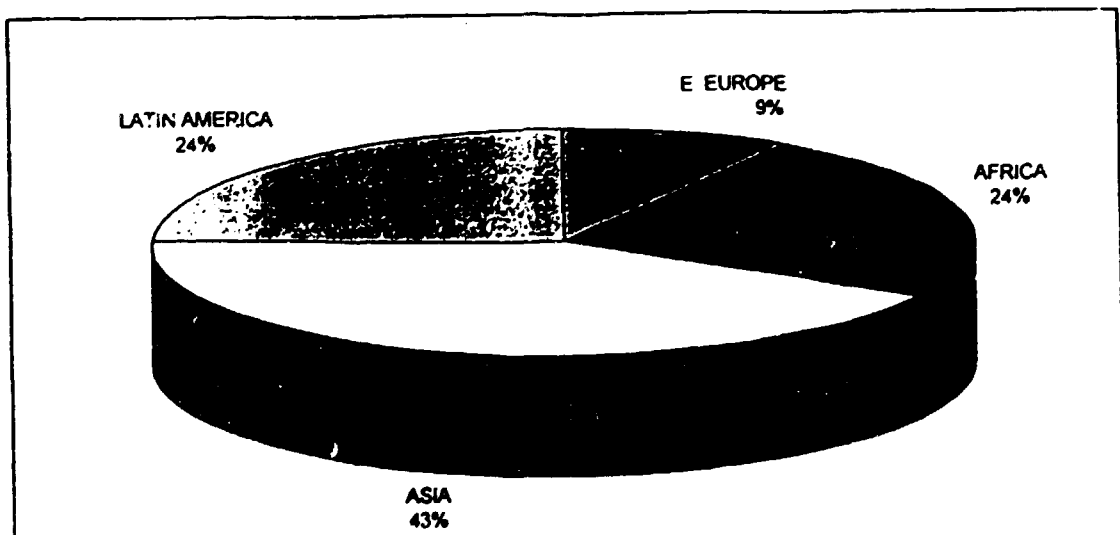


Figure 1. Geographic distribution of respondents

## B. Organizational structure

National standards bodies were dominant among the respondents, accounting for 34 per cent (figure 2). They were easy to identify as appropriate respondents, and they naturally had great interest and competence in the subject matter. They were, moreover, willing to spare personnel to respond and did not have difficulties in answering the questions.
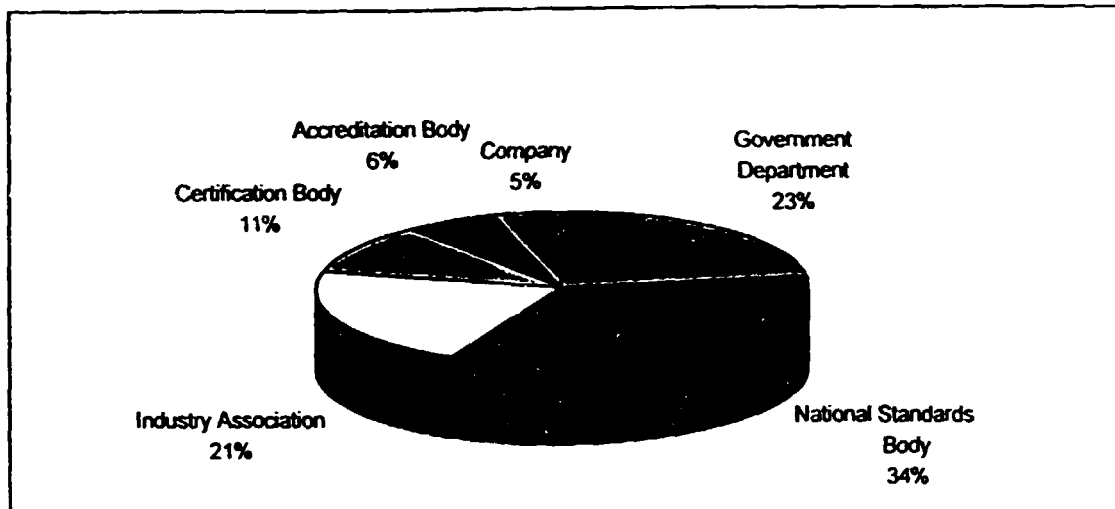


Figure 2. Organizational structure of respondents

Various government departments, ministries of industry, ministries of environment and departments for quality promotion or export promotion, to name just a few, accounted for 23 per cent of the respondents. The third largest group was industry associations, with 21 per cent. Certification bodies (national and international ones with affiliates in the particular country) and accreditation bodies made up 11 per cent and 6 per cent, respectively. Finally, 5 per cent of the respondents were representatives of large companies, either large national companies or local plants of multinational companies.

In the analysis of survey results, industry associations and companies are jointly called " industry representatives" (they are the ones who have to comply with the standards under consideration), and their point of view is contrasted with that of national standards bodies, government departments, accreditation and certification bodies, which are concerned with the administration of the standards.

### *III. Experience with ISO 9000*

### *A. Awareness of ISO 9000*

Awareness of ISO 9000 by the respondents was highest in Brazil, and Thailand. While the awareness in Nigeria is also shown to be at a "high" level, it has to be treated with caution, since there was only one respondent from that country. Awareness was also relatively high in China, Sri Lanka, Taiwan Province of China and Turkey. At the other end of the scale was Ghana, where awareness was apparently extremely low. Similarly, business hardly knew about ISO 9000 in the United Republic of Tanzania, Zambia, Antigua, Bolivia, Pakistan and Romania. On an average, awareness was highest in Latin American countries and lowest in African countries (figure 3).

Unsurprisingly, in all countries, awareness was lowest among SMEs and highest among multinational companies, but also quite high among large national enterprises.

Figure 3. Awareness of ISO 9000
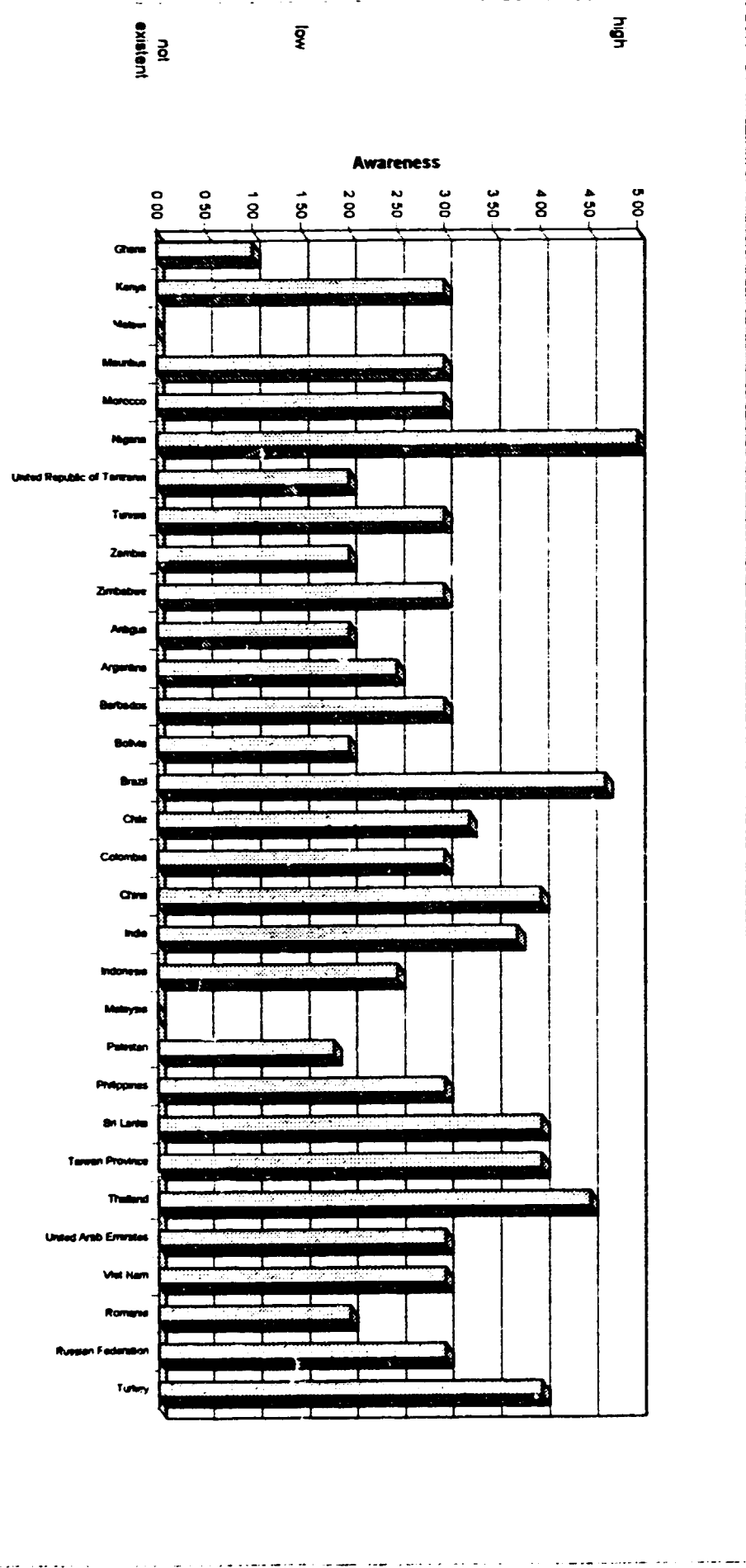
## B. Importance of ISO 9000

ISO 9000 was perceived to be of most importance for exporters, particularly in Latin America and Asia, less in Africa. It was of hardly any importance for SMEs and importers and of little relevance for producers for the domestic market. Even though its importance for all sectors was growing, it was especially the domestic producers for whom ISO 9000 was expected to gain in importance in the future. Judgment on whether ISO 9000 would become important over the short-term or long-term, depended on the time horizons of the respondent. The judgment of importance also depended on the trading partners of the exporter. Export markets like the European Union, the United States, Switzerland and Canada were considered as demanding ISO 9000 registration.

## C. Implementation of ISO 9000

### 1. Number of ISO 9000 registered companies

The number of ISO 9000 registrations per country was lowest in Africa, where the average number of registrations, per responding country, was seven. In Latin America, three countries did not have any ISO 9000 registered companies at all. On the other hand, Brazil had 730 registered companies, so that the average for the countries responding from for Latin America was 119. In Asia, the leaders were Taiwan Province of China and India, where there were 487 and 800 ISO 9000 certified companies, respectively. In eastern Europe, Turkey played a leading role, with 185 registered enterprises.

### 2. Reasons for applying for ISO 9000 certification

Everywhere, the main reason for a company to apply for ISO 9000 registration was the demand of overseas customers (figure 4). This explains why ISO 9000 certification was most important for exporters. Similarly, an ISO 9000 registration was considered a means to removing barriers to trade, to open marketing opportunities and to strengthen market share. Furthermore, pressure came from competitors who had already obtained a certificate. Since the pressure from domestic consumers for ISO 9000 certification was very weak, producers for this market did not have enough incentive to implement the standard. It was definitely not considered an instrument for reinforcing management authority or improving staff morale.
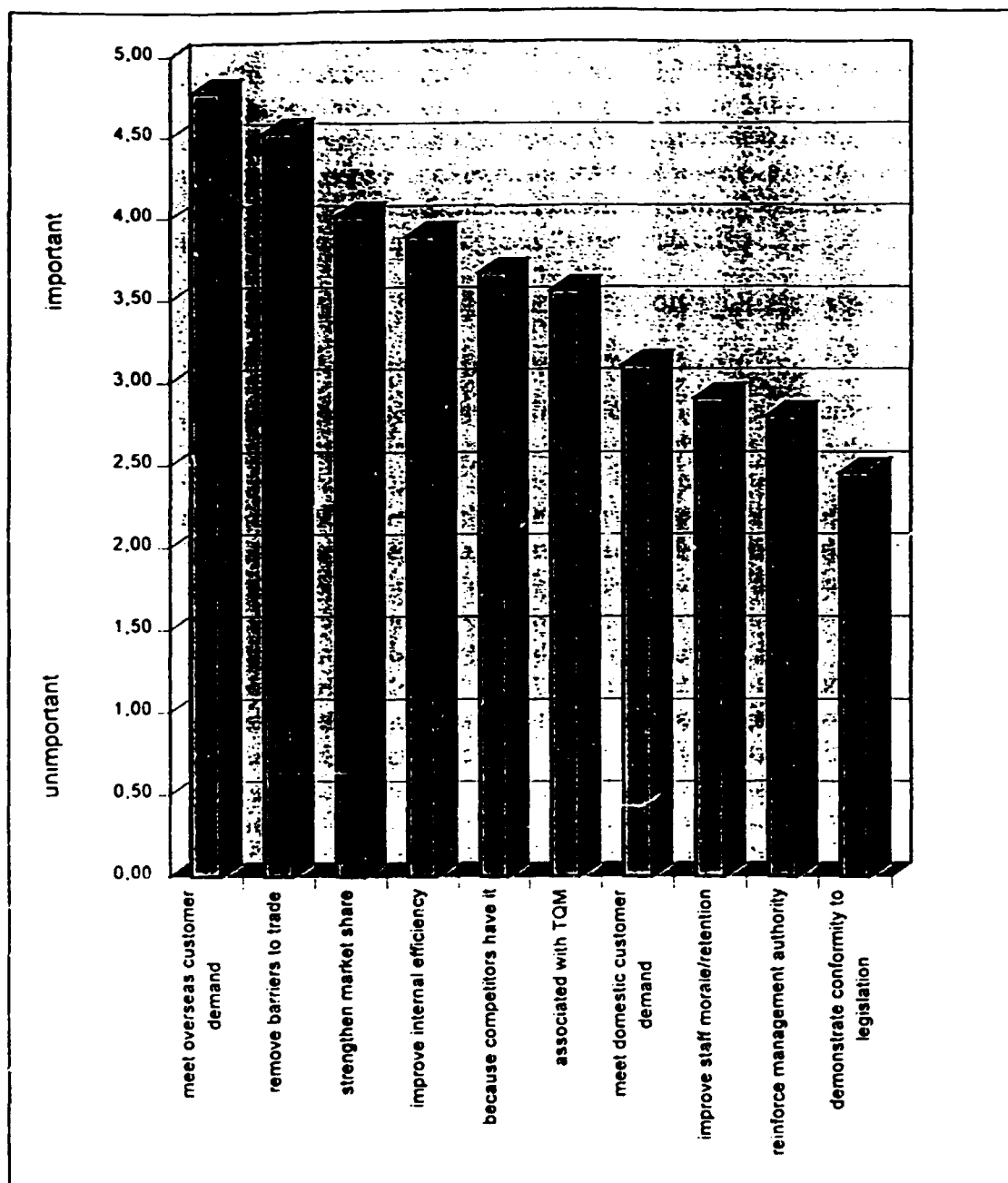
Figure 4. Reasons for implementing ISO 9000

## 3. Incentives for SMEs to obtain ISO 9000 certification

About one third of the respondents could not give any reasons for SMEs to implement ISO 9000. This implies that overseas customer demand and strengthening of market share were the main reasons for SMEs to apply for ISO 9000 certification. The other motives that were considered important for larger firms did not influence the decisions of SMEs.

### 4. Counter-arguments

Generally, a lack of awareness and the costs of introducing the system were the major counter-arguments to adoption of the ISO 9000 standard. In Africa, the relatively low awareness of the standard was the main factor deterring companies from ISO 9000 registration. In all the other regions, it was the costs of introducing the system. Costs of registration were also considered to be an important counter-argument, especially in Asia. Some respondents saw insufficient commercial benefit, which was related to a lack of demand from customers and export users, as a reason for not implementing ISO 9000.

### 5. Counter-arguments of SMEs

As was true for business in general, the costs of introducing the system were the major obstacle for SMEs. The lack of awareness was more important for SMEs than for other enterprises. Costs of certification also strike SMEs harder than other companies. The great complexity of the standard was also considered to be more of a counter-argument for SMEs than for other businesses. Furthermore, demand for ISO 9000 certification was less among SME customers than among customers of larger enterprises.

## D. Government support

### 1. Promotion of quality awareness

In most of the responding countries, the Governments were promoting quality awareness for business in general. The way in which they did this varied greatly. In some countries (Ghana, Kenya and the United Republic of Tanzania for example), Governments confined themselves to operating through organizations or a national standards body. The Government of Pakistan was closely cooperating with the Pakistan Standards Institute and the Export Promotion Bureau on monitoring developments related to the standard and on organizing seminars and workshops. Other countries (Bolivia, Chile, Indonesia, Morocco, Nigeria and Viet Nam, for example) had organized seminars and congresses or were providing training facilities. The Governments in Malawi, the Philippines and Thailand had sent out newsletters and broadcast radio and television programmes on the subject; Morocco had also organized national and regional "quality days". The Governments of Argentina, Brazil and Tunisia had executed national plans for quality. Barbados, Brazil, India and the United Arab Emirates had sponsored competitions in quality management as an incentive for businesses. Mauritius was cooperating with the World Bank, issuing brochures and organizing seminars.

## 2. Awareness raising for SMEs

Only one fifth of the responding countries had launched special awareness programmes for SMEs. In the others there was no focus on SMEs or the respondents simply did not know of any such campaign (about half of the responding countries).

## 3. Funding

African governments were seen to concentrate on funding awareness campaigns, but they also provided financial means for training and consultancy. In Latin America, government financial support was relatively meagre, with only two out of seven governments known to support training financially and three of them funding awareness campaigns for quality assurance. Governments in Asia seemed to be particularly active in promoting and funding activities for quality assurance. More than half of them also provided financial support for training; almost half of them also funded consultancy, and some even funded implementation. Taiwan Province went furthest in supporting compliance with ISO 9000: its Government promoted registration by taking over all costs and offering it free of charge. Of the European countries surveyed, only Turkey provided financing for awareness campaigns, training and implementation.

## 4. Funding for SMEs

In only three countries, Brazil, India and Taiwan, was there special funding for SMEs. Respondents in half of the countries said there was no such funding and those in the remaining countries did not know whether or not funding was available.

# E. Infrastructure for ISO 9000 certification

The infrastructure for ISO 9000 certification is shown in annex 3. The question was also posed as to whether ISO 9000 should be mandatory. Out of 27 countries, only the respondents from Brazil stated that the ISO 9000 standard was mandatory for certain manufacturers. Respondents from two countries said their governments were about to make the standard mandatory. In eight countries, it was thought that the standard should be mandatory.

## 1. National accreditation bodies

According to the survey there were 12 national accreditation bodies in the responding countries, half of them in Asian countries. So far there were only two each in Africa, Latin America and eastern Europe. Two more were going to be set up in Latin America, one more in Africa. In about half the countries where there was no national accreditation body, the respondents thought that one should be established.

Only the Brazilian respondents said that their accreditation body had signed mutual recognition agreements with accreditation bodies in Europe. Two more intended to execute such agreements. In half the countries where accreditation bodies did not have mutual recognition agreements, respondents believed that such an agreement should be considered. The accreditation bodies of Brazil, China and the Russian Federation were members of the International Accreditation Forum (IAF), a multilateral forum of national bodies for assessing and accrediting certification bodies.

Almost 80 per cent of the bodies accredited domestic certification bodies and 72 per cent accredited domestic laboratories. Only 28 per cent accredited overseas certification bodies.

## 2. National certification schemes

Half of the responding countries (17) had established a national certification scheme; six countries were setting one up. Respondents from the one third of countries where no such scheme existed were of the opinion that a national certification scheme should be established.

Of those countries where certification bodies existed, Kenya and Pakistan did not have domestic certification bodies but rather had affiliates of certification companies based in Europe. In the other countries where there were such bodies, they were both international and domestic.

Most certification bodies were under pressure to be accredited. Pressure came mainly from overseas customers but also, to a lesser extent, from domestic customers and legislation. Neither the Standards Association of Zimbabwe nor the National Standards Organization of Sri Lanka were accredited.

Domestic certification bodies from developing countries often faced difficulties in obtaining recognition from trading partner countries. In most of the countries, only some of the foreign trading partners accepted certification by domestic bodies. The domestic certification body in Zimbabwe was not recognized by any of that country's overseas trading partners. The respondents in almost one third of the countries could not comment at all on this issue.

On the other hand, very few domestic certification bodies had signed mutual recognition agreements with foreign bodies. According to the ISO Directory of Quality System Registration Bodies (third edition, 1995), none of the African bodies had signed such agreements. In Latin America, INMETRO (Brazil) and IRAM (Argentina) had entered into bilateral recognition agreements. In Asia, BCC (China), SIRIM (Malaysia) and BPS (Philippines) had signed bilateral agreements. In the European countries under consideration, only Turkey had signed such an agreement. In this respect, certification

bodies that are based (and thus recog ;ized) in developed countries and that operate affiliates all over the world have a clear advantage in the market.

### 3. Product tests

Most certification bodies also carried out product certification. Respondents generally found it hard to tell the difference between product certification and ISO 9000 certification. According to them, certification bodies in Asia and Africa generally did not demand compliance with both.

### F. Technical support

The availability of technical support is shown in figure 5. Among the services needed for ISO 9000 implementation, such as information, training and consultancy, information on the standard was the service most available. Still, about 40 per cent of the respondents were not satisfied with the information offered. Certification to domestic requirements was an issue that had been neglected in many countries, even though businesses needed it. The lack of trained assessors was another constraint on the implementation of ISO 9000.
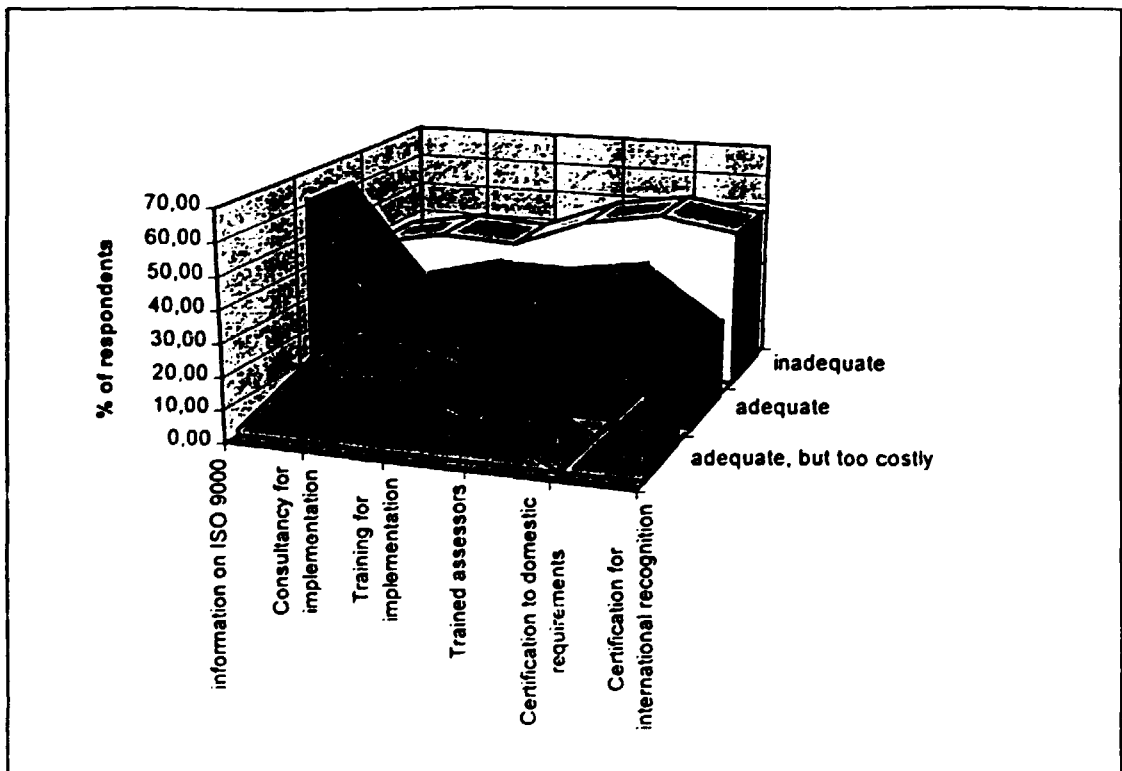


Figure 5. Availability of technical support

Difficulties in obtaining technical support for ISO 9000 implementation were seen to be greatest in Africa. The availability of consultancy was viewed as inadequate by all respondents. The majority of them also considered the availability of training and trained assessors to be inadequate. Information on ISO 9000 was characterized as easily accessible by 40 per cent of the African respondents.

In Latin America, information was available in most of the countries that responded. A lack of trained assessors was a problem in some countries. The number of satisfied and dissatisfied respondents was equally distributed for all the other issues. Respondents thought some services were adequate but too costly.

In Asia, the cost factor was much more important than in any other region. Information was the only service regarded by the majority of the respondents as being easily accessible. Consultancy for implementation, on the other hand, was generally seen as adequate but too costly. Similarly, about one third of the respondents criticized the high costs of training for implementation. Asian respondents cited a lack of technical assistance for certification to domestic requirements. They also called for improved technical support for certification for international recognition, which was either too costly or inappropriate

Respondents in eastern Europe generally appeared to be satisfied with the supply of technical assistance; only support for certification for international recognition needed to be made available at more reasonable prices.

Responses on the issue of cost sharing give a clear idea of how to distribute the costs for promoting awareness, consultancy, implementation and registration of ISO 9000 (figure 6.)
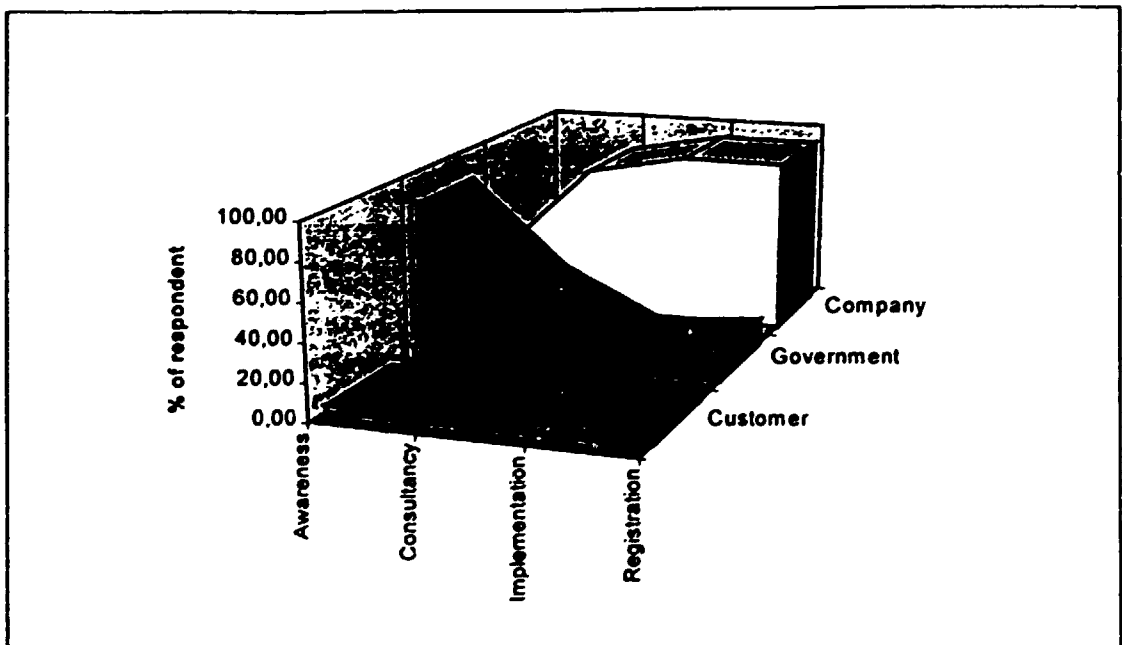


Figure 6. Suggested sharing of costs between various organizations

The majority of the respondents (82 per cent) were of the opinion that the government should bear the costs of promoting awareness. Fourteen per cent of them suggested that the government and companies should share the costs of awareness campaigns. Four per cent believed that customers should also be involved in bearing those costs of promotion.

An equal percentage of respondents (82 per cent) took the view that companies should pay for consultancy training. The remainder suggested that the Government and the companies share those costs.

It was generally felt that companies should take over the costs of implementation of the standard and the costs of registration. Only one respondent suggested that customers should bear part of the implementation costs.

## G. Business opinion on ISO 9000 and trade

A clear majority of 91 per cent of the respondents believed that overseas custon.ers were increasingly asking for ISO 9000 certification. Some of the reasons given for this increase are reported in table 1.

| Reason cited | Country |
|---|---|
| · Means to avoid multiple audits and certifications | Sri Lanka |
| · Fundamental element of modern trade | Russian Federation |
| · Increasing tendency towards quality products and a trend towards consumer protection | Most respondents |

Table 1. Reasons for the growing number of requests for ISO 9000 certification

Respondents from Brazil and Chile, on the contrary, suspected this increasing demand, which was coming mainly from developed countries, to be an instrument to protect producers in developed countries and to close national markets.

Ninety-three per cent of the respondents held that ISO 9000 registration helped to expand international trade. The reasons it did so are shown in table 2.

| Reason cited | Country |
|---|---|
| · Necessity for trade | Pakistan, Sri Lanka |
| · Strong overseas customer demand | Morocco, Argentina |
| · Proof of quality that is internationally recognized and thus inspires customers' trust and confidence. | Most other countries |

Table 2. Motives for ISO 9000 registration

Only Malawi and the United Arab Emirates thought that ISO 9000 did not help their businesses because of their very limited volume of exports.

About 40 per cent of the respondents felt that overseas customers were reluctant to accept ISO 9000 certificates not issued by their own certification bodies. The reasons for this are shown in table 3.

| Reason cited | Country |
|---|---|
| Lack of confidence due to little knowledge of the local certification schemes | Most countries |
| Fear of the unknown | Pakistan (one respondent) |
| Lack good reputation and a well known name | Pakistan and the Philippines |
| Domestic certification bodies are indeed unreliable | Sri Lanka |
| Protectionist motives | Brazil (one respondent) |

Table 3: Reasons for reluctance to accept foreign certificates

As long as trading partners were reluctant to accept certificates issued by bodies based in developing countries, the only way out, respondents felt, was to apply for certification with an overseas based certification body.

Securing an overseas ISO 9000 certification was perceived by 83 per cent of the respondents to be difficult and costly. African respondents were unanimously of this opinion.

The high costs of overseas certification came from travel costs, higher charges and the costs of inspection. In any event, all external services were relatively costly for developing countries. The Chinese respondents cited language problems as another reason for the high costs and difficulties.

According to 75 per cent of the respondents, a lack of mutual recognition for ISO 9000 certificates was hindering exporters. Argentina, China, India and Nigeria saw themselves as being forced to apply for multiple certification, and the costs involved hindered their exports. Tunisia also faced difficulties when importing countries refused to admit products that had not been certified in their own certification schemes.

## H. Quality systems assessment and recognition

One way to improve mutual recognition is participation in quality systems assessment and recognition (QSAR), a proposed global unified scheme to prove the competence of accreditation bodies. Recognition by the QSAR system would, according to 85 per cent of the respondents, facilitate international trade. But most of them expected accreditation bodies from developing countries to have particular difficulties in securing QSAR recognition. Thus they sought external help.

# IV. Prospects for ISO 14000[1]

## A. Development of environmental issues
### 1. Environmental policies and legislation

With few exceptions the respondents said that their countries had established environmental policies, but everywhere there were respondents who were not aware of all the environmental requirements. Indeed, only two thirds of the respondents were fully aware of the content of their country's environmental degradation. One standards body in Africa and one industry association in Latin America answered that the content of environmental laws was completely unknown to them and one third of the respondents admitted they were only partly aware of environmental legislation.

Even fewer respondents were well informed about voluntary agreements. Only 37 per cent claimed to be fully aware of voluntary agreements, with 54 per cent conceding that they were partly aware. The remainder, one respondent from Africa and three from Latin America, replied that they were not aware of the content of any voluntary agreements

### 2. Environmental awareness

In most of the responding countries the Governments had launched campaigns to promote general environmental awareness without focusing on particular sectors. China, however, concentrated its policy on large national companies

In most countries businesses faced pressure to avoid environmental damage. Environmental organizations and Governments were the main forces promoting environment-friendly production. Domestic customers and importers, however, exerted hardly any pressure. Consumer organizations were also very weak in this respect. Overseas customers were fairly important in Asia and less so in the other regions.

---

[1] Note that by the time the survey was carried out, only draft documents of the Technical Committee (TC) 207 were available.

About 90 per cent of the respondents recognized growing pressure to avoid environmental damage in their country. The remainder expected pressure to remain constant; none foresaw it declining. About 80 per cent believed that compliance with ISO 14000 would reduce pressure on companies, and about 10 per cent felt the opposite.

## B. Awareness of ISO 14000 Series

For all types of companies and institutions, awareness about the ISO 14000 series was highest in Asia and Latin America; in eastern Europe it was unevenly distributed. African respondents showed the lowest awareness levels. The Ghana Chamber of Commerce regretted having been badly informed about the development of the standards, making it unable to inform its members. Similarly, a respondent in Nigeria complained that the ISO 14000 draft should have been sent to all countries regardless of ISO membership.

Even though overall awareness differed greatly from one region to another, the relative awareness of the various types of companies and institutions did not vary greatly. (figure 7).
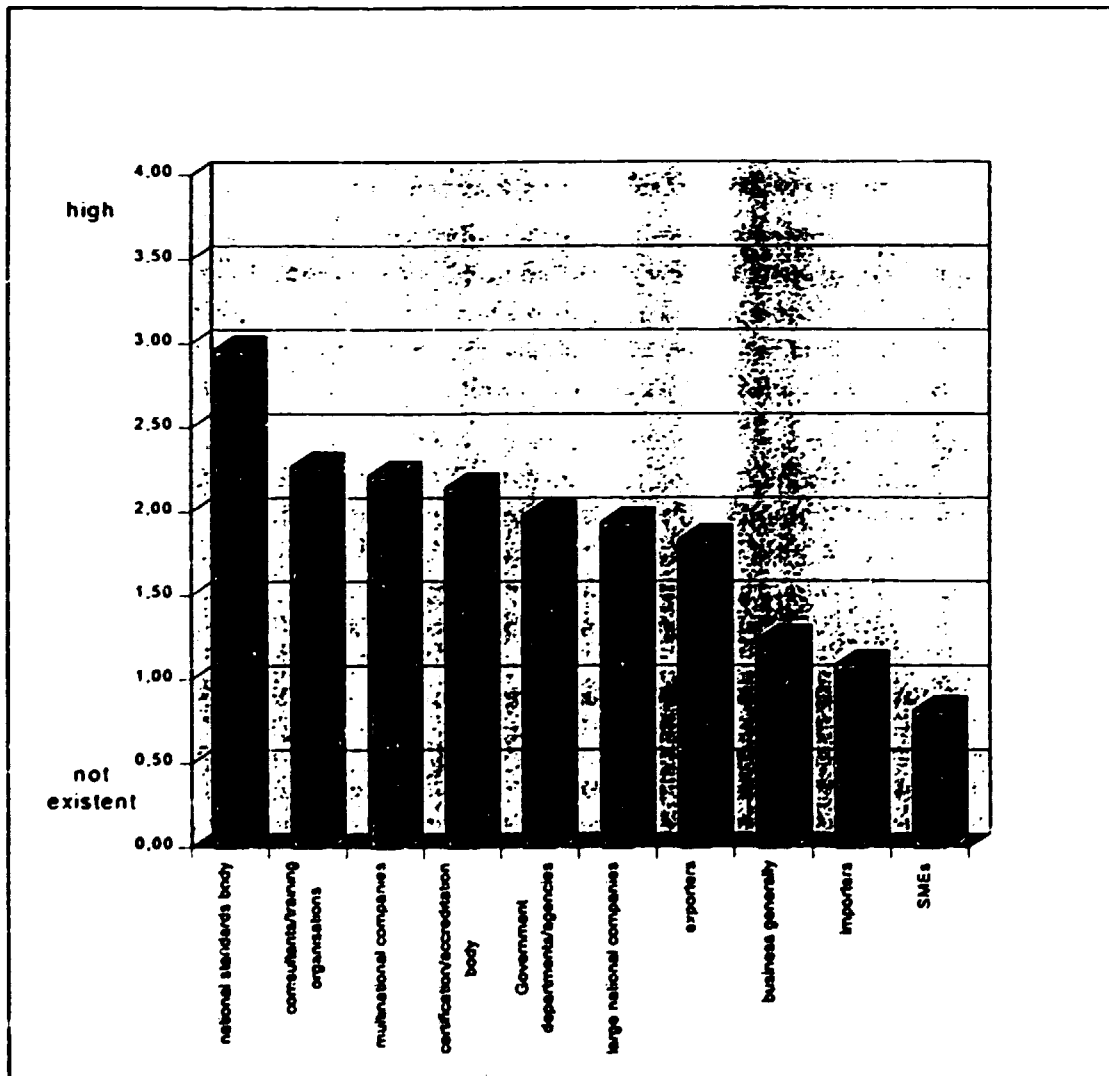


Figure 7. Awareness of ISO 14000 by type of company and institution

The groups that were most aware of the ISO 14000 draft were, naturally, national standards bodies On average, consultants and training organizations were in second place, multinational companies in third. Least aware were in all regions were SMEs and importers.

This result reflects the close relationship between either the need or willingness to implement the standard and the level of awareness. Those sectors and institutions that were not likely to be very affected by the standard were more or less unaware of its existence, partly owing to a lack of interest and partly to a lack of information.

### *1. Familiarity with the ISO 14000 draft*

Fewer respondents in Africa had seen a draft of the ISO 14000 series, whereas about 70 per cent in Asia and 80 per cent in Latin America and the Caribbean had seen it. None of the respondents from the Russian Federation and Romania had the opportunity to read the standard, whereas both respondents from Turkey were familiar with it.

Most institutional respondents had received a copy by virtue of their country's membership in ISO; industry had been informed by national standards bodies. Other bodies had the opportunity to learn about the ISO 14000 series through articles and publications.

### *2. Understanding of the ISO 14000 series*

Generally speaking, there appeared to be great difficulties in understanding the prospective ISO 14000 series. In Asia, however, Governments, consultants and accreditation and certification bodies seemed to have a fairly good understanding of the prospective standard. In Latin America and Africa even those bodies that had been most involved with the standards said that they did not understand the draft very well.

Understanding was particularly poor in Africa, but only slightly better in Latin America, where only accreditation- and certification bodies comprehended the standards at least partly. All in all, consumers were expected to be the groups with least understanding of the ISO 14000 series, but there were also very few SMEs who comprehended the standard. It should be noted, however, that consumers, just like SMEs, had not had the opportunity to learn about and to understand the standard.

## C. *Participation in the development of ISO 14000*

The proportion of countries participating in the development of the standard was 85 per cent in Latin America and the Caribbean and 60 per cent in Asia In eastern Europe and Africa only one third of the responding countries had participated in its development.

## D. Promotion of awareness about ISO 14000

Even though almost all Governments had supported the development of environmental consciousness, very few had publicized ISO 14000. In Africa and Latin America, only one respondent in either region had noticed any special government effort to promote awareness of ISO 14000. Yet awareness of the standard was relatively high in Latin America, and most respondents were familiar with its contents. In Africa, the lack of government commitment was reflected in the low level of awareness and the lack of knowledge and understanding of the standards. The Government of Turkey had promoted awareness for ISO 14000, but the Governments of Romania and the Russian Federation had not. Only the Asian Governments were relatively active in this respect. Five of the nine surveyed countries had launched an awareness campaign for the new standards.

## E. Implementation of ISO 14001
### (Environmental management systems)

### 1. Reasons for implementing ISO 14001

The reasons for implementing ISO 14001 are shown in order of importance in figure 8. The main reason for a company's readiness to implement ISO 14001 was to demonstrate conformity to environmental legislation. This reason was most important, in Asia whereas in Africa it was less so. The second most important reason was to reduce the costs of implementing mandatory environmental standards. In Latin America this reason was the decisive one. In Africa the most important reason was to meet overseas environmental legislation, an argument that was also very often forwarded in the other regions. Respondents generally were not sure if meeting self-imposed targets, improving staff morale or reinforcing management control could be reasons to implement ISO 14001. Asian respondents for the most part even denied that implementation would improve staff morale. Meeting the demand of domestic customers was the least important argument in favour of applying for ISO 14000 certification

Similarly, for SMEs, the most important reason by far was to demonstrate conformity to legislation. Achieving efficiency in implementing mandatory and voluntary environmental standards also appear to have been essential for SMEs. Least important were improvement of staff morale, meeting of self-imposed targets and strengthening of the market share.

### 2. Reasons for not implementing ISO 14001

Of the factors that were expected to deter companies from implementing ISO 14001, the lack of awareness of benefits was the most common. In Africa the lack of technical equipment was another important argument, just as it was in Asia; it was of far less relevance in Latin America or eastern Europe. The lack of consultants was more important in Africa than in any of the other regions. In Latin America, Asia and eastern Europe it was

a lack of management commitment that kept companies from applying ISO 14001. But the high costs of setting up an environmental management system also kept companies from participating in the scheme, especially in Latin America and eastern Europe. Few respondents cited impracticability of the standards as an argument against their implementation.

For SMEs, the most important reason for not applying ISO 1400i was the cost of setting up an environmental management system. The lack of consultancy and of awareness of the potential benefits were other weighty counter-argument. Just as for business in general, the ISO 14000 series was not considered impracticable for SMEs either.

Figure 8. Reasons for implementing ISO 14001

unimportant

important

demonstrate conformity to legislation
to meet overseas consumer demand
effiency in achieving voluntary standards
strengthen market share
effiency in achieving mandatory standards
meet self-imposed targets
improve staff morale
because competitors have it
to meet domestic consumer demand
reinforce management control
to meet overseas env. legislation

0.00  0.50  1.00  1.50  2.00  2.50  3.00  3.50  4.00  4.50  5.00

## F. Expected costs and benefits

### 1. Financial burden of existing mandatory standards

Perceptions on whether or not compliance with existing mandatory standards was a significant burden on business varied, depending on whether the respondent was a representative of industry or of administration; it varied also between the regions. Whereas about 10 per cent of the respondents did not see existing mandatory standards as a significant burden on business, about 50 per cent saw trouble in some cases and 40 per cent viewed legislation as an onerous charge.

### 2. Financial burden of voluntary agreements

Half of the respondents could not comment on the effects of voluntary agreements because such agreements did not exist in their country or the respondents were not aware of them. Among representatives of administrative bodies, only four believed voluntary agreements were a burden on companies, whereas most of the industry representatives thought they were. Companies in Latin America and eastern Europe seemed to have least problems with voluntary agreements, whereas African and Asian ones found compliance rather difficult.

### 3. Comparison of compliance costs

Systematic data on the costs of compliance with mandatory standards, voluntary agreements and, prospectively, ISO 14001 are not available, as fewer than half of the respondents answered the cost question. Most of those who answered, thought the costs of mandatory compliance were about 2 per cent of production costs. About 30 per cent of the respondents, primarily from Africa, thought that the costs of mandatory compliance would be over 5 per cent of production costs. Similarly, slightly more than half of the respondents thought that the costs of voluntary agreements would be less than 2 per cent of production costs, but about 10 per cent thought it would be greater than 5 per cent.

| | Estimated costs (% of production costs) | | | | |
|---|---|---|---|---|---|
| | No cost | < 1 | 1 -2 | 2 -5 | > 5 |
| Mandatory standards | 0 | 30 | 30 | 10 | 30 |
| Voluntary agreements | 0 | 56 | 6 | 25 | 13 |
| ISO 14001 | 17 | 28 | 11 | 11 | 33 |

Table 5. Distribution of responses (in per cent) on compliance costs

The respondents were less certain about the costs of complying with ISO 14001, given the distribution of their answers. About half of the respondents thought that the costs of meeting ISO 14001 would be less than 2 per cent of production costs, approximately 15 per cent (all administration bodies) thought there would be no costs at all and approximately one third from both from administrative bodies and industry expected the costs to be greater than 5 per cent of production costs.

### 4. Incorporating compliance costs into product prices

About 60 per cent of the respondents believed that compliance costs could, at least for the most part, be incorporated into product prices. Only 4 per cent of them thought that would be impossible.

### 5. Cost sharing

When asked about their suggestions for a distribution of the costs related to implementing ISO 14001, industry and administration bodies had a similar opinion: Governments should bear the costs of awareness campaigns, whereas companies should take over consultancy costs, implementation costs and certification costs (figure 9). Promotional costs should be shared equally between Governments and companies. Few respondents suggested that customers directly cover the costs.
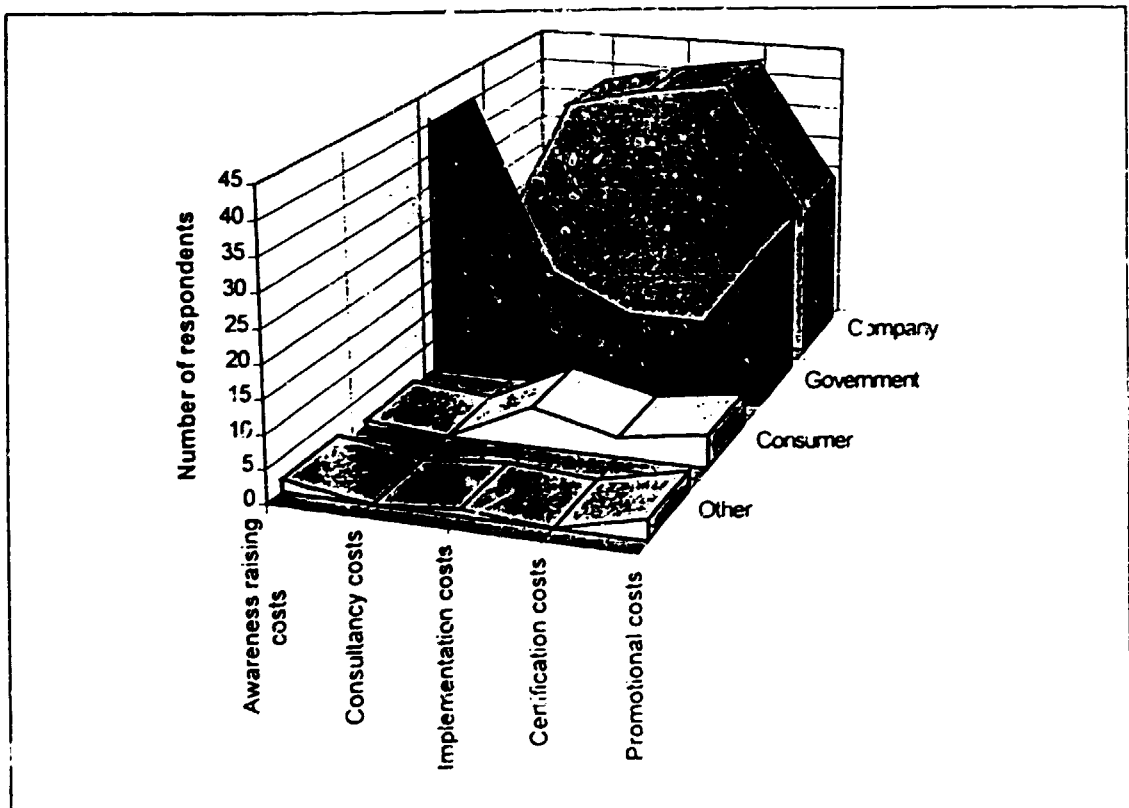


Figure 9. Cost sharing for ISO 14001

### 6. Industry migration due to compliance costs

Even though burdens may differ among countries, both industry representatives and administration bodies thought that costs of compliance with ISO 14001 would not cause companies to migrate. Only some Asian and Latin American respondents thought that it would cause companies to relocate to other regions.

### 7. Potential benefits of implementing ISO 14001

Administration bodies perceived greater benefits of applying ISO 14001 than industry representatives. The majority of administration bodies estimated the potential to save inputs at 10 - 30 per cent, whereas industry, on average, estimated less than 10 per cent. Only three African administration bodies were of the opinion that implementing ISO 14001 would not lead to any input saving at all. By contrast, the Indian standards body estimated the potential of input saving at more than 50 per cent. Figure 10 illustrates the input saving potential as estimated by all respondents.
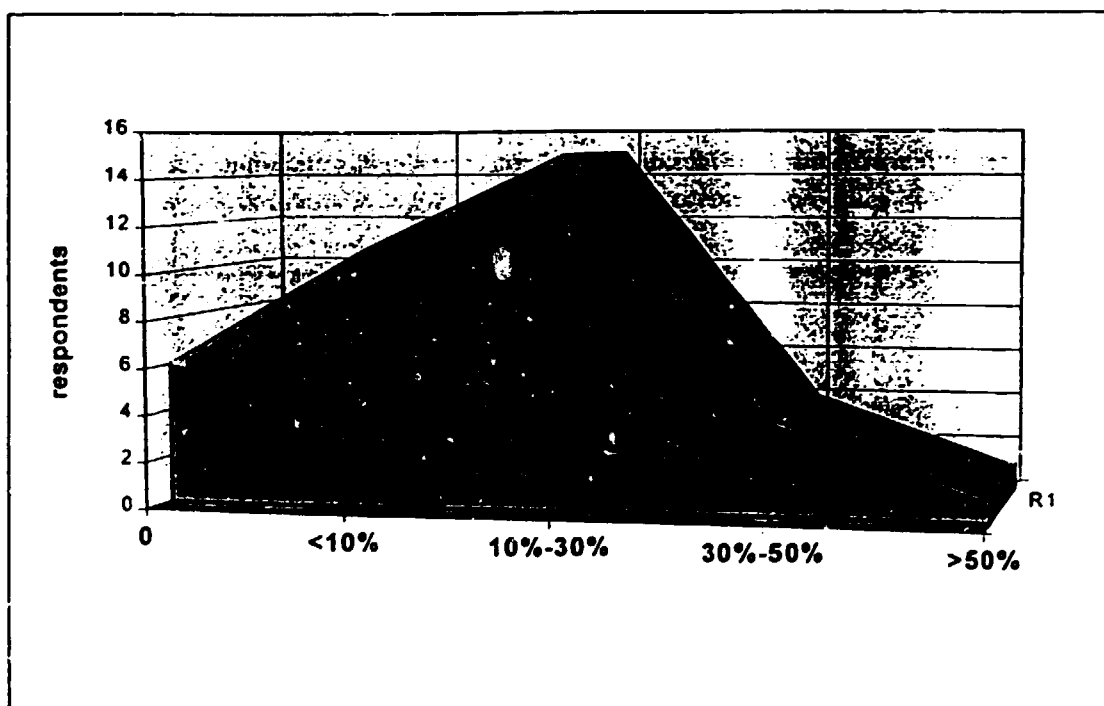


Figure 10. Input saving potential

Similarly, administration bodies held a more optimistic view of the possibilities of improving the market position by implementing ISO 14001. They unanimously expected a strengthening of the market position for companies, although to varying extents. The majority of the industry representatives also thought that their market position would be improved by adopting ISO 14001, but several expected very little positive effect or even none on their market position.

## G. Infrastructure for ISO 14001

### 1. Accreditation bodies

In all regions, respondents in about 50 per cent of the countries thought that a national accreditation body for ISO 14001 would be established. The respondents in one quarter of the countries did not know whether such a body would be set up or not. They envisioned the types of infrastructure shown in annex 4. The remainder said their countries would not have a national accreditation body. About 65 per cent of the respondents held the view that accreditation bodies should be public and 10 per cent (the respondents from Argentina and Ghana) thought they should be private. One quarter of the respondents did not have an opinion. All of the bodies would accredit domestic certification bodies. More than half of them would also accredit overseas and international certification bodies.

Respondents were convinced that most of their countries would seek mutual recognition agreements with other countries, but they considered it premature to suggest partner countries. Still, respondents from Argentina, Ghana, Indonesia and Pakistan thought that agreement would be sought with European and United States accreditation bodies. The respondent from Malawi suggested a convention on mutual recognition among all ISO member countries; a respondent from Bolivia suggested doing so with as many countries as possible. Nigeria would profit from an agreement with the Economic Community of West African States (ECOWAS).

### 2. Single accreditation body for ISO 9000 and ISO 14001

Three quarters of the respondents supported the view that there should be a single accreditation body for both ISO 9000 and ISO 14001 registration (figure 11). In Latin America all respondents except one shared this opinion. Only in Africa did most of the respondents speak in favour of establishing separate accreditation bodies.



no
26%

yes
74%
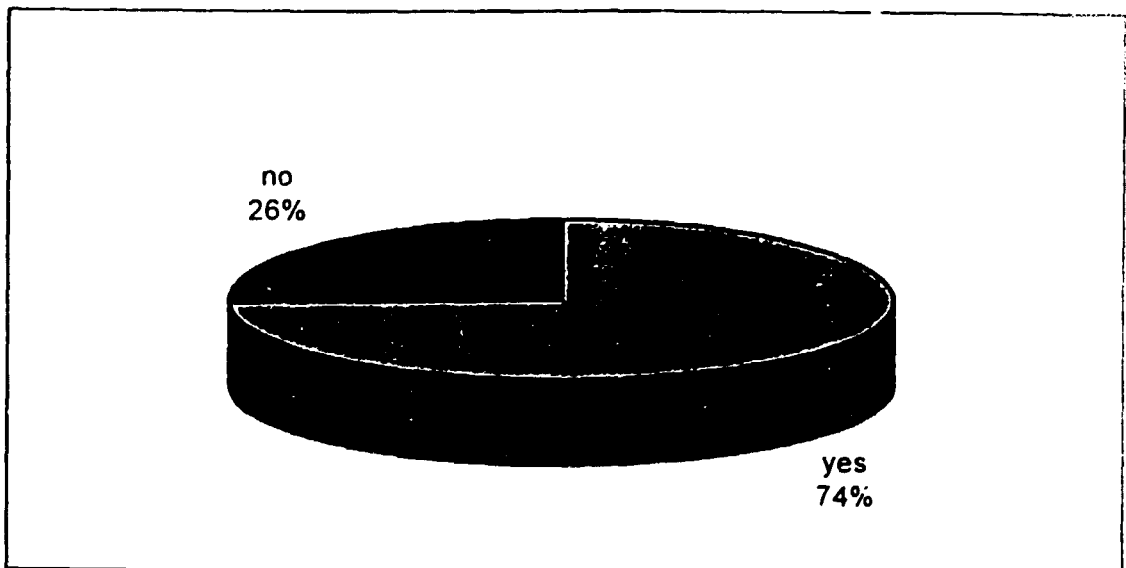
Figure 11. Single accreditation body for ISO 9000 and ISO 14001

Most respondents took the view that a single body would be useful because the standards were analogous. In that way, existing infrastructure could be used, taking advantage of experience, skills and synergies and thus saving costs. The system would be less complex and confusion could be avoided. Respondents from Barbados and the Philippines suggested that environmental management systems (EMS) should be completely integrated into total quality management (TQM) and thus be administered by the same institution. Other respondents, by contrast, feared that administering both standards would overload a single body and prevent it from being able to provide its services in a satisfying manner. The respondent from Indonesia argued that ISO 9000 and ISO 14000 belonged to different spheres of government, which would make it difficult to unify administration bodies. Still, others opposed the creation of a single body for both standards because there were substantive differences between quality and environmental issues.

Most respondents expected their national accreditation bodies to have difficulties in meeting the requirements for international acceptance. Only respondents from Pakistan, the Philippines, Sri Lanka and Taiwan Province did not foresee any problems at all. On average, Asia's prospective accreditation bodies seemed likely to be best equipped to meet international requirements. African respondents unanimously thought that their bodies would face great trouble in securing international recognition.

### 3. National certification schemes

There was some uncertainty as to whether countries would set up a national certification scheme for ISO 14000. From the national responses received, half the countries indicated that they would be putting a scheme in place, another 13% indicated that they had schemes in place and one third were unclear as to whether or not they would be developing a scheme. Of the individual respondents, two thirds expressed the view that a national scheme should be put in place.

One half of the respondents took the view that certification bodies should be public and one third supported private bodies. In Africa, Asia and eastern Europe, a majority spoke in favour of public certification bodies. Only Latin American respondents unanimously preferred private bodies. Almost 90 per cent of the respondents proposed that domestic certification bodies should register domestic companies, public or private. About 60 per cent held the view that they should also certify domestic companies based overseas, and approximately 45 per cent advocated the certification of overseas companies.

National certification bodies, like domestic accreditation bodies, were expected to face difficulties in meeting the requirements for international acceptance. African certification bodies were seen likely to have the greatest trouble in securing international recognition. Still, respondents from the Philippines and Taiwan Province did not expect their certification bodies to have any problems at all.

## 4. Single certification body for ISO 9000 and ISO 14001

As with accreditation bodies, about 70 per cent of the respondents suggested using the same certification bodies for ISO 9000 and ISO 14000 certification. Only in Africa did half of the respondents advocate separate bodies for these standards.

## 5. Resources and constraints

In general, respondents expected to have some difficulties in accessing the resources needed to meet ISO 14001 (figure 12). Especially in Africa, respondents faced trouble, whereas in Asia and Latin America a respectable number expected to have easy access to the necessary resources. A lack of local consultants was one of the major constraints on companies that would be willing to implement ISO 14001. In Africa the lack of consultancy was particularly striking. Only three respondents, from Argentina, India and Pakistan, were content with the availability of consultants. As a consequence, companies would have to rely at least partly on overseas expertise. African respondents in particular expected a high degree of dependence on foreign consultants.
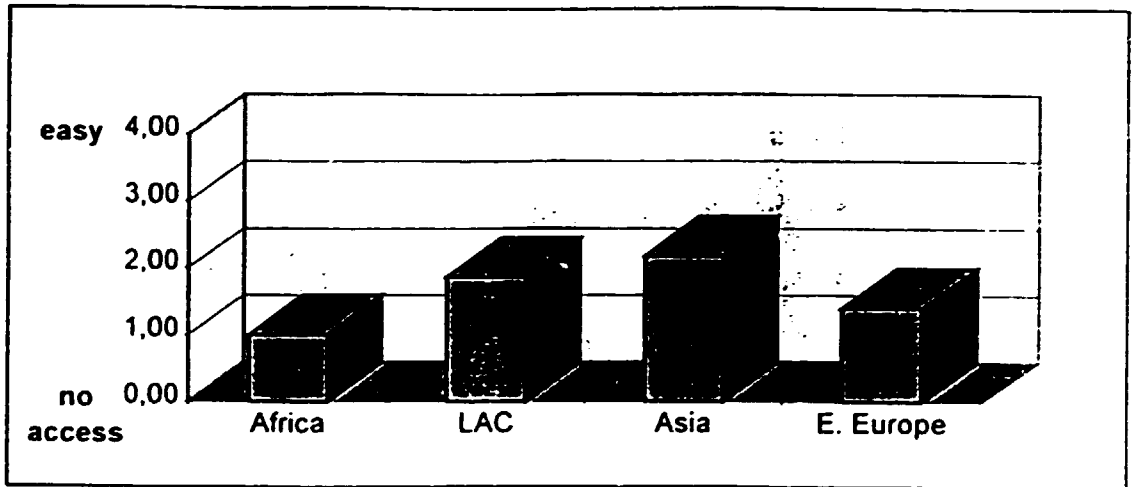


Figure 12: Access to resources

## H. ISO 14001 and trade

Existing overseas environmental requirements did not have the same effect on all responding countries or organizations. In each of the regions the number of those who felt exports had been hindered by overseas environmental legislation was almost equal to the number of those who felt it had not been. Only in African countries did a clear majority of organizations and companies consider overseas environmental standards an obstacle to trade. In particular, the European Union regulations (EMAS) as well as various product standards were considered to have a negative effect on trade.

By contrast, the majority of the respondents expected ISO 14001 to strengthen non-tariff barriers to trade (figure 13). In Asia, this fear was particularly widespread, even though most respondents also feared a loss of market if ISO 14001 was not introduced. Sri Lanka and Tunisia expected their products to be rejected by customers. Nigeria and Brazil foresaw a multitude of approaches, standards and regulations. Brazil had a particularly bad experience with the subjectivity of the European Union regulations and other national standards. A respondent from Pakistan feared it would be difficult to convince customers of the environmental efforts taken during production.
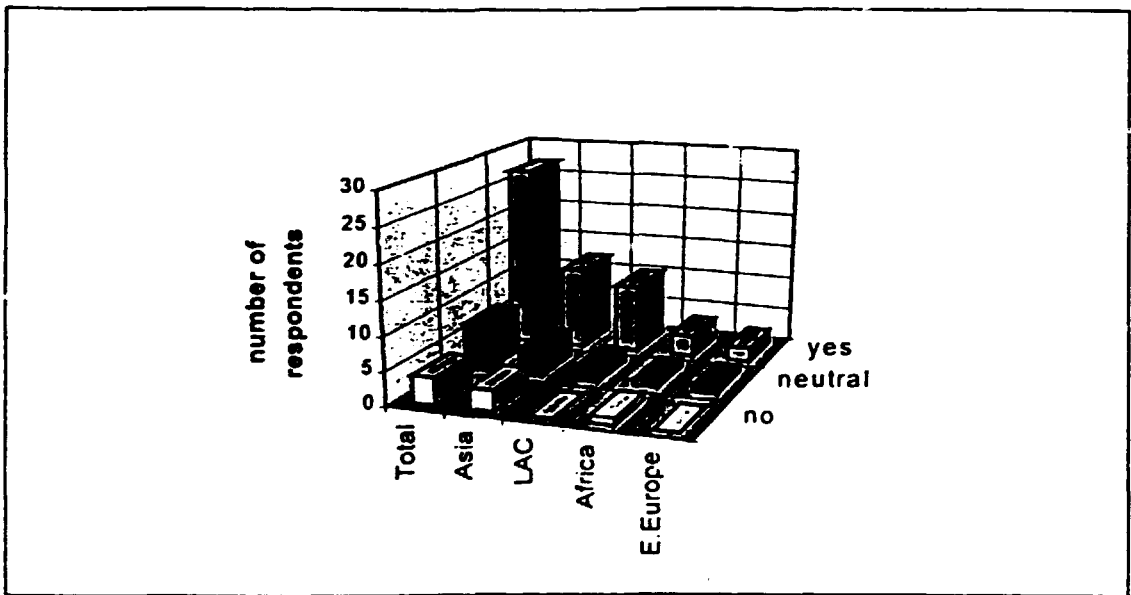


Figure 13. ISO 14001, barrier to trade?

The respondents identified a number of measures that could reduce the negative effects of ISO 14001 on international trade:

The respondents from Thailand and the United Arab Emirates emphasized that ISO 14001 had to be maintained on a voluntary basis. Making it obligatory would definitely raise a barrier to trade. Most other countries called for unification of the certification scheme, because the lack of recognition and differences between schemes were the main obstacle to obtaining equal opportunities for all participants.

One respondent from India suggested that international organizations like UNIDO, the World Bank or the World Trade Organization could grant financial help to developing countries. A Colombian respondent advocated worldwide promotion of awareness, provision of training and technical support for industry and up-grading of national environmental standards to accord with international requirements. An Indonesian respondent supported the latter idea. He said improvement and stricter implementation of national environmental legislation would help to overcome the disparities between developed and developing countries.

Chilean and Indian respondents spoke in favour of a phased introduction of the standard, to give sufficient time to adapt it gradually.

The respondent from Barbados thought that incorporating EMS into TQM and QSAR structures would be the appropriate way to avoid barriers to trade.

Quite a few respondents shared the opinion that the more common the standard became, the more barriers to trade would shrink. On the other hand, there were respondents who did not see any possibility of reducing barriers to trade within the framework of ISO 14001.

## I. Eco-labelling

Most respondents found that the diversity of national eco-labels hindered their export opportunities. Only one Pakistani company and one Pakistani industry association did not have any problems with overseas eco-labels. Eighty per cent of the respondents were therefore convinced that internationally recognized labels would improve export opportunities. Only two respondents from India were not so sure about the positive effects of international recognition. Altogether, 90 per cent of the respondents believed that an international environmental labelling guideline like ISO 14020 could indeed lead to harmonization.

## J. Conclusion

The biggest problem related to the introduction of ISO 14000 was the lack of recognition for local accreditation and certification bodies and local certificates. Such a lack would make the standard useless, and it would merely be a protectionist instrument for developed countries. Therefore the need to harmonize certification procedures was the top concern expressed by the respondents. International recognition institutions were suggested, but QSAR was not expected to work very effectively. Furthermore the process of awarding the certificate needed to be more transparent.

**UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION**

Expert Group Meeting
to Discuss the Potential Effects of
ISO 9000 and ISO 14000 (Draft International Standard) Series and
Environmental-Labelling on the Trade of Developing Countries
Vienna, 23-25 October 1995

# TRADE IMPLICATIONS

## OF

## INTERNATIONAL STANDARDS FOR QUALITY

## AND

## ENVIRONMENTAL MANAGEMENT SYSTEMS

### (ISO 9000/ISO 14000 Series)

### Survey results

Prepared by

**Industrial Sectors and Environment Division**
**and**
**Human Resource, Enterprise and Private Sector Development Division**

---

* This document has not been formally edited

Annex 1

# UNIDO
## United Nations Industrial Development Organisation

# Questionnaire

# Trade Implications of International Standards for Quality and Environmental Management Systems (ISO 9000/ISO 14000 Series)

**Implemented by Resource**

**On behalf of UNIDO**

# CONTENTS

Introduction

# INTRODUCTORY NOTES

The growing popularity of quality management systems for business activities has led to world-wide recognition of the benefits achievable through the implementation of the ISO 9000 series of quality management standards. Over 90 countries have now adopted the ISO 9000 series as the model for their own national standard for quality management. For many companies in developing countries, however, lack of awareness of these benefits and constraints on achieving and demonstrating conformity with the ISO 9000 series, particularly to overseas customers, may be an obstacle to achieving a company's trading potential.

UNIDO and ISO need your help in researching issues affecting the implementation of the ISO 9000 series in developing countries and whether similar considerations are likely to arise with the introduction later this year of the ISO 14000 series of standards for management systems to monitor and reduce the impact of business activities on the environment. This questionnaire seeks information required for an expert review of these issues. The findings will form the basis of a report to ISO, WTO, CSD that addresses the concerns of developing countries about ISO 9000 and 14000.

## The ISO 9000 Series of Quality Management Standards

The ISO 9000 series of standards provides criteria and guidelines for establishing systems to ensure consistent quality in both manufacturing and service activities. Demonstration of compliance with the Standard increasingly requires assessment and certification (or registration) of a company's quality management systems by an independent certification body, either domestic or international. To help secure international recognition of such certificates, most certification bodies are themselves accredited by a third party organisation, usually government appointed. Mutual recognition of the competence of accreditation and certification bodies facilitates international acceptance of company-held ISO 9000 certificates and thereby encourages the expansion of international trade. Conversely, difficulty in securing international recognition for locally issued ISO 9000 certificates may create a barrier to trade.

## Quality Systems Assessment and Recognition (QSAR)

QSAR is a global unified scheme, developed by ISO in association with the International Electrotechnical Commission (IEC), to enable certification bodies to obtain international acceptance of their competence and therefore the validity of the ISO 9000 certificates which they issue. It will operate a procedure for international recognition of accreditation bodies, each of which will be assessed by their peers in other countries against mutually agreed criteria derived from ISO/IEC guides. It is expected that a founding membership of 10 accreditation bodies will be in place later this year.

## Background Information on the Proposed ISO 14000 Series of Standards

Various parts of the proposed ISO 14000 Series of Standards are expected to be progressively published as Draft International Standards (DIS) from June 1995.

(a)     **ISO 14001 - Environmental Management System (EMS)**

ISO 14001 will provide organisations with a specification on how to implement and improve an EMS.

It will contain those system elements that <u>may be objectively audited for certification/registration</u> purposes and for self declaration purposes. It will not itself state specific environmental performance criteria, but will require a.i organisation to formulate a policy and objectives taking into account National legislative requirements and significant environmental impacts.

Establishment and maintenance of an EMS enables an organisation to anticipate and meet growing environmental performance expectations, to ensure ongoing compliance with national and/or international requirements and to support continual improvement of its environmental performance.

In order to ensure the effectiveness of such an EMS according to its objectives the following core elements of an EMS should be implemented:

- <u>Environmental Policy:</u>  Statement by the organisation of its intentions and principals in relation to its overall environmental performance.
- <u>Planning:</u>  including the identification of environmental aspects and legal requirements as well as the setting of objectives and an environmental management programme.
- <u>Implementation & Operation:</u>  of required actions, such as structures, responsibilities, training, awareness, communication, documentation, control and emergency preparedness.
- <u>Regular checking & corrective actions:</u> (eg monitoring, measuring and auditing)
- <u>Management review:</u>  check EMS' continuing suitability, adequacy and effectiveness according to its objectives and changing circumstances.

(b)     **ISO 14010, ISO 14011, ISO 14012: Environmental Auditing (EA)**

The general purpose of ISO 14010 will be to inform organisations about the general principles common to the execution of environmental audits.   Whereas the ISO 14011 will provide specific procedures for the conduct of EMS audits.   ISO 14012 will address the qualification criteria for auditors.

The main objectives of conducting an environmental audit will be to determine conformity with ISO 4001, as well as to identify areas of potential improvement within the EMS.

(c)     **ISO 14020: Environmental Labelling (EL)**

This international standard will contain guiding principles and practices, criteria procedure and guidance for certification procedures for the development of multi criteria-based, third party certified environmental labelling.  Note that, currently, it is not intended to create an international label for which an organisation could apply. ISO 14020 is at this point only a guidance for national labelling schemes aiming at harmonisation of National schemes world-wide.

Environmental labelling, in this context, means the use of labels in order to inform consumers that a labelled product is environmentally more friendly relative to other products in the same category. The criteria for the award of a label call for an overall assessment of the environmental impact of a consumer product during its life cycle.

## Small and Medium Sized Enterprises (SME)

The cost of compliance with international standards for quality management and environmental management may have a disproportionate impact upon SME's. The questionnaire therefore pays particular attention to the implications for SME's of certain issues raised by these international standards.

Definitions of SMEs vary from country to country. In completing the questionnaire you are invited to state and use your own national definition. Where none exists, we suggest that SME's are businesses of less than 200 employees.

## Accreditation

Accreditation is the process of approval of an organisation (certification body) wishing to certify other companies' quality systems (and probably environmental management systems). Usually a body of national standing acting on behalf of or as advisory to Government or government department.

## Certification (Also known as Registration)

Certification is the approval of public and private sector enterprises' management systems against those requirements stated in accepted standards for such management systems. For credibility purposes, certification should be carried out by third party bodies, essentially independent of any statutory influence or commercial interest and preferably, but not mandatorily, accredited by a recognised (either national or international) accrediting body

## Enquiries and Returns

Any queries or comments relating to this questionnaire and its return should be addressed to:

Barry Martindale (Regional Manager)
Resource (Science & Technology Expertise) Ltd
1-3 Birdcage Walk
London
SW1H 9JH

Tel: +44 171 222 5371
Fax: +44 171 222 0197

**Resource (Science & Technology Expertise) Ltd**
**March 1995**

## Section I: About Your Organisation

Name of Organisation:

Address:

Contact:

Telephone:

Telefax:

Nature of Organisation :

| | |
|---|---|
| Government Department | ☐ |
| National Standards Body | ☐ |
| Industry Association | ☐   Sector |
| Certification Body | ☐ |
| Accrediting Body | ☐ |

Is your Country associated with ISO:

| | |
|---|---|
| as a full member | ☐ |
| as a subscriber member | ☐ |
| as a correspondent member | ☐ |
| membership applied for | ☐ |
| membership under consideration | ☐ |
| not a member | ☐ |

## Section II: The ISO 9000 Series of Management Systems Standards
## for Manufacturing and Services

This section seeks information about perceptions the ISO 9000 series of quality management standards and your country's experience with implementation and related issues of conformity assessment. Even if experience of the standard is minimal (say less than 10 local registrations) your opinion in answer to more general questions would be most welcome.

### General Awareness

II.1   Is awareness of the ISO 9000 Series by all business

|  | high |  |  |  | low |
|---|---|---|---|---|---|
|  | ☐ | ☐ | ☐ | ☐ | ☐ |

Which sectors are most aware  _____

II.2   Is awareness of the ISO 9000 Series in

|  | high |  |  |  | low |
|---|---|---|---|---|---|
| Multinational companies based in your country | ☐ | ☐ | ☐ | ☐ | ☐ |
| Large National Companies | ☐ | ☐ | ☐ | ☐ | ☐ |
| Small/Medium National Companies | ☐ | ☐ | ☐ | ☐ | ☐ |

(Note: see definition for Small/Medium Enterprises)

### Perceived Importance of ISO 9000 by business

|  | Current | | | Expected Trend | | |
|---|---|---|---|---|---|---|
|  | High | Low | None | Greater | Same | Less |
| II.3   For exporters | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| II.4   For importers | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| II.5   For Domestic Producers (for domestic market) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| II.6   For SMEs | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

II.7   For exporters is importance related to specific export markets

Yes ☐     No ☐     Which markets  _____

**Popular Perceptions of ISO 9000 in:**

II.10 ISO 9000 is seen as appropriate by

| For: | Your Organisation | Business Community | SMEs | Consumers |
|---|---|---|---|---|
| Exporters only | ☐ | ☐ | ☐ | ☐ |
| Home markets suppliers only | ☐ | ☐ | ☐ | ☐ |
| Manufacturers only | ☐ | ☐ | ☐ | ☐ |
| Both manufacturers and service providers | ☐ | ☐ | ☐ | ☐ |
| All businesses | ☐ | ☐ | ☐ | ☐ |
| Private sector only | ☐ | ☐ | ☐ | ☐ |
| Public sector only | ☐ | ☐ | ☐ | ☐ |

**Implementing the ISO 9000 Series**

II.11 How many companies in your Country have registered an ISO 9000 system    _____

If more than 30

(a)    numbers of registrations by company size:

|  |  |
|---|---|
| Multinational | _____ |
| Large National | _____ |
| SME | _____ |

(b)    which sectors have most registrations    _____

II.12 Companies' reasons for implementing the ISO 9000 Series:

| | All businesses | | | SMEs | | |
|---|---|---|---|---|---|---|
| | Important | | Unimportant | Important | | Unimportant |
| To improve internal efficiency | ☐ ☐ ☐ ☐ ☐ | | | ☐ ☐ ☐ ☐ ☐ | | |
| Associated with TQM | ☐ ☐ ☐ ☐ ☐ | | | ☐ ☐ ☐ ☐ ☐ | | |
| To meet domestic customer demand | ☐ ☐ ☐ ☐ ☐ | | | ☐ ☐ ☐ ☐ ☐ | | |
| To meet overseas customer demand | ☐ ☐ ☐ ☐ ☐ | | | ☐ ☐ ☐ ☐ ☐ | | |
| To strengthen market share | ☐ ☐ ☐ ☐ ☐ | | | ☐ ☐ ☐ ☐ ☐ | | |
| To demonstrate conformity to legislation | ☐ ☐ ☐ ☐ ☐ | | | ☐ ☐ ☐ ☐ ☐ | | |
| To improve staff morale/retention | ☐ ☐ ☐ ☐ ☐ | | | ☐ ☐ ☐ ☐ ☐ | | |
| Because their competitors have it | ☐ ☐ ☐ ☐ ☐ | | | ☐ ☐ ☐ ☐ ☐ | | |
| To reinforce management authority | ☐ ☐ ☐ ☐ ☐ | | | ☐ ☐ ☐ ☐ ☐ | | |
| To remove barriers to export trade | ☐ ☐ ☐ ☐ ☐ | | | ☐ ☐ ☐ ☐ ☐ | | |
| Other _____ | ☐ ☐ ☐ ☐ ☐ | | | ☐ ☐ ☐ ☐ ☐ | | |

Is this information based on

Survey data    ☐    Can we have a copy?

or

Anecdotal evidence    ☐

II.13   Companies' reasons for <u>NOT</u> implementing the ISO 9000 Series

|  | All businesses | | | | | SMEs | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
|  | Important | | Unimportant | | | Important | | | Unimportant | |
| Lack of awareness of the ISO 9000 Series | □ | □ | □ | □ | □ | □ | □ | □ | □ | □ |
| Cost of introducing up an ISO 9000 system | □ | □ | □ | □ | □ | □ | □ | □ | □ | □ |
| Cost of registration/certification | □ | □ | □ | □ | □ | □ | □ | □ | □ | □ |
| Not needed for export users | □ | □ | □ | □ | □ | □ | □ | □ | □ | □ |
| No demand from customers | □ | □ | □ | □ | □ | □ | □ | □ | □ | □ |
| Too complex | □ | □ | □ | □ | □ | □ | □ | □ | □ | □ |
| Insufficient commercial benefit | □ | □ | □ | □ | □ | □ | □ | □ | □ | □ |
| Lack of management commitment | □ | □ | □ | □ | □ | □ | □ | □ | □ | □ |
| Other _____ | □ | □ | □ | □ | □ | □ | □ | □ | □ | □ |

Is this information based on

|  |  |  |
|---|---|---|
| Survey data | □ | Can we have a copy? |
| or |  |  |
| Anecdotal evidence | □ |  |

**Regarding your National Infrastructure for Conformity Assessment**

**Government Support**

II.14   Does the Government promote quality awareness in business

|  | Yes | No |
|---|---|---|
| For all businesses | □ | □ |
| SMEs only | □ | □ |

How   _____

II.15   Does the Government support compliance with the ISO 9000 Series with

|  | Yes | No |
|---|---|---|
| Funding for awareness campaigns | □ | □ |
| Funding for consultancy | □ | □ |
| Funding for training | □ | □ |
| Funding for implementation | □ | □ |
| Funding for SMEs only | □ | □ |

Other   _____

II.16   Is there legislation making conformity with the ISO 9000 Series mandatory for certain manufacturers

Yes   □   Pending   □   No □   Should be   □

**Accreditation**

II.17 Does your country have a National Accreditation Scheme

Yes ☐ Pending ☐ No ☐ Should do ☐

*If not, proceed to question II.22*

II.18 If so, what is the National Body's name _____

II.19 Is it associated with Government

Yes ☐ No ☐

II.20 Does your National Accreditation Body have mutual recognition agreements with other countries

Yes ☐ Pending ☐ No ☐ Should do ☐

With whom _____    To do what _____
         _____    (briefly)  _____
         _____               _____

II.21 Does your main National Accreditation Body accredit

Domestic Certification Bodies ☐
Domestic Laboratories ☐
Overseas Certification Bodies ☐

**Certification**

II.22 Does your country have a National Certification scheme for registration to ISO 9000

Yes ☐ Pending ☐ No ☐ Should do ☐

II.23 If so, how many:

Domestic Certification Bodies ____ Names _____
                                          _____
Overseas Certification Bodies ____ Names _____
(issuing certificates in                  _____
your country)
Overseas Certification Bodies ____ Names _____
(with an office in your country)          _____

II.24 Is certification from your domestic certification bodies recognised by trading partner countries

        Most partners            ☐  
        Some partners           ☐  
        Main partners           ☐  
        Only for certain sectors    ☐  Which?   _____

II.25 Are any of the certification bodies operating in your country accredited by:

                                      Yes    How many

        Domestic Accreditation body only         ☐    _____  
        Overseas Accreditation body only       ☐    _____  
        (Which body/country?   ____/____ )  
        Both Domestic and at least one overseas body   ☐    _____  
        (Which body/country?   ____/____ )  
        Not accredited at all               ☐    _____

II.26 Is there any pressure on Certification Bodies operating in your country to be accredited

        Yes  ☐  Sometimes ☐  No ☐  Should be  ☐

II.27 Where does this pressure originate

        Legislation requirement        ☐  
        Domestic customer requirement     ☐  
        Overseas customer requirement     ☐

II.28 Do any Domestic Certification bodies have mutual recognition agreements with overseas bodies

| Domestic Body | Overseas Body | To do what (briefly) |
| --- | --- | --- |
| _____ | _____ | _____ |
| _____ | _____ | _____ |

II.29 Does your main domestic certification body also test products

                               Yes   ☐     No ☐

II.30 If so, does it insist that conformity with ISO 9000 is necessary as well as compliance with the appropriate product standard itself

                               Yes   ☐     No ☐

II.31  In your opinion, is access in your country to the following

|  | Adequate | Inadequate | Adequate but too costly |
|---|---|---|---|
| Information on ISO 9000 | ☐ | ☐ | ☐ |
| Consultancy for implementation | ☐ | ☐ | ☐ |
| Training for implementation | ☐ | ☐ | ☐ |
| Trained assessors | ☐ | ☐ | ☐ |
| Certification to domestic requirements | ☐ | ☐ | ☐ |
| Certification for international recognition | ☐ | ☐ | ☐ |

II.32  Should the costs of improving quality management through the adoption of the ISO 9000 Series be borne by

|  | The Government | The Company | The Customer | Other |
|---|---|---|---|---|
| Promoting awareness costs | ☐ | ☐ | ☐ | ☐ |
| Consultancy training costs | ☐ | ☐ | ☐ | ☐ |
| Implementation costs | ☐ | ☐ | ☐ | ☐ |
| Registration costs | ☐ | ☐ | ☐ | ☐ |

**QSAR (Quality Systems Assessment and Registration)**

II.33  (a)  In your opinion will QSAR facilitate your country's international trade if your domestic accreditation body secures QSAR recognition (if applicable)

Very much            Not at all
☐       ☐       ☐       ☐       ☐

(b)  Do you expect difficulty in securing QSAR recognition for your certification bodies

Great difficulty            No difficulty
☐       ☐       ☐       ☐       ☐

(c)  Will it be harder for developing countries to meet QASAR requirements than developed countries

Much harder            No harder
☐       ☐       ☐       ☐       ☐

(d)  Should accreditation /certification bodies in developing countries be helped to gain QSAR recognition

Yes            No
☐       ☐       ☐       ☐       ☐

**ISO 9000 Series and International Trade**

II.34  In your opinion how would businesses in your country respond to the following propositions

|  |  | Agree |  |  |  | Disagree |
|---|---|---|---|---|---|---|

(a)  ISO 9000 registration helps to expand our
international trade
Why _____

☐ ☐ ☐ ☐ ☐

(b)  overseas customers increasingly request
an ISO 9000 certification
Why _____

☐ ☐ ☐ ☐ ☐

(c)  overseas customers are reluctant to accept
ISO 9000 certificates issued other than by
their national certification bodies
Why _____

☐ ☐ ☐ ☐ ☐

(d)  securing certification by an overseas
certification body is difficult/costly
Why _____

☐ ☐ ☐ ☐ ☐

(e)  lack of mutual recognition of ISO
registration certificates hinders exporters
Why _____

☐ ☐ ☐ ☐ ☐

(f)  small exporters benefit most from
ISO 9000 registration
Why _____

☐ ☐ ☐ ☐ ☐

(g)  ISO 9000 registration helps domestic
producers compete against imports
Why _____

☐ ☐ ☐ ☐ ☐

II.35  Any other comments

## Section III: The Proposed ISO 14000 Series

**Significance/Development of Environmental Issues**

III.1    Does your government have a declared policy on environmental issues

Yes ☐    No ☐

III.2    Are you aware of the contents of National environmental

| | Not available | Yes | Partly | Not at all |
|---|---|---|---|---|
| mandatory requirements | ☐ | ☐ | ☐ | ☐ |
| voluntary agreements | ☐ | ☐ | ☐ | ☐ |

III.3    Is your local business under pressure to avoid environmental damage and if yes where does this pressure originate from

Yes ☐    No ☐

originated from:

| | high | < Pressure > | | | low |
|---|---|---|---|---|---|
| government | ☐ | ☐ | ☐ | ☐ | ☐ |
| general public interest | ☐ | ☐ | ☐ | ☐ | ☐ |
| domestic customers | ☐ | ☐ | ☐ | ☐ | ☐ |
| overseas customers | ☐ | ☐ | ☐ | ☐ | ☐ |
| domestic/international companies | ☐ | ☐ | ☐ | ☐ | ☐ |
| importers | ☐ | ☐ | ☐ | ☐ | ☐ |
| organisations (trade) | ☐ | ☐ | ☐ | ☐ | ☐ |
| organisations (consumer) | ☐ | ☐ | ☐ | ☐ | ☐ |
| environemntal organisation | ☐ | ☐ | ☐ | ☐ | ☐ |

III.4    Are these pressures

growing ☐    constant ☐    declining ☐

III.5    Do you think compliance with the ISO 14000 series would lead to less pressure

Yes                                No
☐    ☐    ☐    ☐    ☐

**Awareness/Perceptions of the ISO 14000 Series**

III.6   Is present awareness of the proposed ISO 14000 series in

|  | high | | | | non existent |
|---|---|---|---|---|---|
| govt depts/agencies | ☐ | ☐ | ☐ | ☐ | ☐ |
| national standard body | ☐ | ☐ | ☐ | ☐ | ☐ |
| certification/accreditation body | ☐ | ☐ | ☐ | ☐ | ☐ |
| business generally | ☐ | ☐ | ☐ | ☐ | ☐ |
| multinational companies | ☐ | ☐ | ☐ | ☐ | ☐ |
| large national companies | ☐ | ☐ | ☐ | ☐ | ☐ |
| SMEs | ☐ | ☐ | ☐ | ☐ | ☐ |
| exporters | ☐ | ☐ | ☐ | ☐ | ☐ |
| importers | ☐ | ☐ | ☐ | ☐ | ☐ |
| consultants/training organisations | ☐ | ☐ | ☐ | ☐ | ☐ |

III.7   Has your organisation seen a draft of the ISO 14000 series (or any part of it)

Yes ☐   No ☐

Which? _____   Where from? _____

III.8   Is your country participating in developing/commenting on these standards

Yes ☐   No ☐

How _____

III.9   Does the government have an active policy to promote environmental awareness in industry

|  |  | All business | Large companies only | SMEs only |
|---|---|---|---|---|
| Yes, general awareness | for | ☐ | ☐ | ☐ |
| Yes, ISO 14000 series | for | ☐ | ☐ | ☐ |
| No | ☐ | | | |

III.10   Are the objectives of the ISO 14000 series standards well understood

as viewed by

|  | Fully | | | | Not at all |
|---|---|---|---|---|---|
| government | ☐ | ☐ | ☐ | ☐ | ☐ |
| business | ☐ | ☐ | ☐ | ☐ | ☐ |
| SME | ☐ | ☐ | ☐ | ☐ | ☐ |
| consumer | ☐ | ☐ | ☐ | ☐ | ☐ |
| consultants | ☐ | ☐ | ☐ | ☐ | ☐ |
| accreditation/certification bodies | ☐ | ☐ | ☐ | ☐ | ☐ |

III.11    Do you think that compliance with the requirements of the ISO 14001 management model would facilitate wider compliance with local environmental requirements

| | Definitely | | | Definitely Not |
|---|---|---|---|---|
| □ | □ | □ | □ | □ |

III.12    In your opinion, which factors are likely to influence business in favour of adopting the ISO 14001 specification

| | All business | | | | | SME | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | high | | | | low | high | | | | low |
| To demonstrate conformity to legislation | □ | □ | □ | □ | □ | □ | □ | □ | □ | □ |
| To improve internal efficiency in achieving voluntary environmental standards | □ | □ | □ | □ | □ | □ | □ | □ | □ | □ |
| To improve internal efficiency in achieving mandatory environmental standards | □ | □ | □ | □ | □ | □ | □ | □ | □ | □ |
| To meet domestic consumer demand | □ | □ | □ | □ | □ | □ | □ | □ | □ | □ |
| To meet overseas consumer demand | □ | □ | □ | □ | □ | □ | □ | □ | □ | □ |
| To meet overseas environmental legislation | □ | □ | □ | □ | □ | □ | □ | □ | □ | □ |
| To meet self imposed environmental targets | □ | □ | □ | □ | □ | □ | □ | □ | □ | □ |
| To strengthen market share | □ | □ | □ | □ | □ | □ | □ | □ | □ | □ |
| To improve staff morale/retention | □ | □ | □ | □ | □ | □ | □ | □ | □ | □ |
| Because competitors have it | □ | □ | □ | □ | □ | □ | □ | □ | □ | □ |
| To reinforce management control | □ | □ | □ | □ | □ | □ | □ | □ | □ | □ |
| Other _____ | □ | □ | □ | □ | □ | □ | □ | □ | □ | □ |

III.13    Similarly, which factors might <u>deter</u> business from adopting the ISO 14001 specification

| | All business | | | | | SME | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | high | | | | low | high | | | | low |
| Lack of awareness of benefits | □ | □ | □ | □ | □ | □ | □ | □ | □ | □ |
| Cost of consultancy | □ | □ | □ | □ | □ | □ | □ | □ | □ | □ |
| Cost of setting up an ISO 14001 EMS | □ | □ | □ | □ | □ | □ | □ | □ | □ | □ |
| Cost of registration/certification | □ | □ | □ | □ | □ | □ | □ | □ | □ | □ |
| Adoption of such standards will expose non-compliance to legislation | □ | □ | □ | □ | □ | □ | □ | □ | □ | □ |
| Adoption of standards will generate more legislation | □ | □ | □ | □ | □ | □ | □ | □ | □ | □ |
| Lack of local demand | □ | □ | □ | □ | □ | □ | □ | □ | □ | □ |
| Lack of overseas pressure | □ | □ | □ | □ | □ | □ | □ | □ | □ | □ |
| Impracticality | □ | □ | □ | □ | □ | □ | □ | □ | □ | □ |
| Low commercial return | □ | □ | □ | □ | □ | □ | □ | □ | □ | □ |
| No management commitment | □ | □ | □ | □ | □ | □ | □ | □ | □ | □ |
| Lack of technical equipment | □ | □ | □ | □ | □ | □ | □ | □ | □ | □ |
| Lack of competence/experience | □ | □ | □ | □ | □ | □ | □ | □ | □ | □ |
| Other _____ | □ | □ | □ | □ | □ | □ | □ | □ | □ | □ |

III.14    Do you believe ISO 14001 management systems should be adopted by:

|  | Always | | | | Never |
|---|---|---|---|---|---|
| exporters only | ☐ | ☐ | ☐ | ☐ | ☐ |
| manufacturers only | ☐ | ☐ | ☐ | ☐ | ☐ |
| public sector companies only | ☐ | ☐ | ☐ | ☐ | ☐ |
| private sector companies only | ☐ | ☐ | ☐ | ☐ | ☐ |
| all businesses | ☐ | ☐ | ☐ | ☐ | ☐ |
| retailers | ☐ | ☐ | ☐ | ☐ | ☐ |
| service providers | ☐ | ☐ | ☐ | ☐ | ☐ |
| none | ☐ | ☐ | ☐ | ☐ | ☐ |

**Cost of Compliance**

III.15    Is compliance with existing <u>mandatory</u> environmental standards a significant burden on business

Yes    ☐  In some ☐ Which? _____        No    ☐
               cases

III.16    Is compliance with existing <u>voluntary</u> environmental agreements a significant burden on business

Yes    ☐  In some cases    ☐  No, there aren't any ☐    No    ☐

III.17    How much in percent of annual production cost are/would compliance costs for:

|  | mandatory standards | voluntary standards | ISO 14001 |
|---|---|---|---|
| No cost | ☐ | ☐ | ☐ |
| Less than 1% | ☐ | ☐ | ☐ |
| 1% - 2% | ☐ | ☐ | ☐ |
| 2% - 5% | ☐ | ☐ | ☐ |
| more than 5% | ☐ | ☐ | ☐ |

III.18    Could the costs of compliance with ISO 14001 be incorporated into prices of products

| Yes | | | | No |
|---|---|---|---|---|
| ☐ | ☐ | ☐ | ☐ | ☐ |

III.19    Should the costs of the following facets of the ISO 14001 management model be borne by

|  | Govt | Company | Consumer | Other |
|---|---|---|---|---|
| Awareness raising costs | ☐ | ☐ | ☐ | ☐ |
| Consultancy costs | ☐ | ☐ | ☐ | ☐ |
| Implementation costs | ☐ | ☐ | ☐ | ☐ |
| Certification costs | ☐ | ☐ | ☐ | ☐ |
| Promotional costs | ☐ | ☐ | ☐ | ☐ |

III.20  Should the government support compliance with voluntary environmental standards
(including the proposed ISO 14001 model) by

|  | Full | Part | Not |
|---|---|---|---|
| Funding for awareness campaigns | ☐ | ☐ | ☐ |
| Funding for consultancy | ☐ | ☐ | ☐ |
| Funding for training | ☐ | ☐ | ☐ |
| Funding for implementation | ☐ | ☐ | ☐ |
| Funding for certification/registration | ☐ | ☐ | ☐ |
| Funding for accreditation | ☐ | ☐ | ☐ |

III.21  Would the costs of compliance to ISO 1400! lead to migration of companies to other
regions

Yes                                             No
☐        ☐        ☐        ☐        ☐

III.22  Do you think compliance with ISO 14001 could reduce your inputs of energy and raw
materials and therefore lessen your costs

| | |
|---|---|
| Yes, more than 50% | ☐ |
| Yes, between 30% and 50% | ☐ |
| Yes, between 10% and 30% | ☐ |
| Yes, less than 10% | ☐ |
| No | ☐ |

III.23  Do you think that compliance with ISO 14001 could help you access new markets or
strengthen your market position

Yes                                             No
☐        ☐        ☐        ☐        ☐

**Infrastructure**

**Accreditation**

III.24  Will your country have a National Accreditation Body for ISO 14000

Yes  ☐     No  ☐

III.25  Who will it accredit

| | |
|---|---|
| Domestic certification bodies | ☐ |
| Overseas certification bodies | ☐ |
| International certification bodies | ☐ |

III.26    Will your Accreditation Body have a more private or public character

                                                    Private                              Public
                                                    ☐        ☐        ☐        ☐        ☐

III.27    Will your Accreditation Body seek mutual recognition agreements with other countries

                                                    Yes    ☐        No    ☐

                           Which countries    _____

III.28    Would you expect developing countries to have difficulty in meeting requirements for
          international acceptance of National Accreditation Bodies

                                            Great difficulty              No difficulty
                                                    ☐        ☐        ☐        ☐        ☐

III.29    Should there be a single Accreditation Body accrediting Certification Bodies for both ISO
          9000 and ISO 14001 registration

                           Yes        ☐        No ☐    Why?    _____

## Certification

III.30    Will your country have a separate National Certification Scheme for ISO 14001

                                            Yes    ☐        No    ☐        Should do    ☐

III.31    Should your country have domestic Certification Bodies for ISO 14001

          Yes    ☐    How many?    ___    No ☐    Who registers instead?    _____

III.32    Who should they certificate/register

                                    Domestic private companies              ☐
                                    Domestic public companies               ☐
                                    Domestic companies based overseas       ☐
                                    Overseas companies                      ☐

III.33    Have your certification bodies a private or public character

                                                    Private                              Public
                                                    ☐        ☐        ☐        ☐    ,   ☐

III.34    Is certification by your domestic certification bodies recognised by trading partner
          countries

                                            Always                              Never
                                                    ☐        ☐        ☐        ☐        ☐

III.35   Would you expect developing countries to have difficulty in meeting requirements for international acceptance of National Certification Bodies

Great difficulty                     No difficulty
☐        ☐        ☐        ☐        ☐

III.36   Should certification be done by bodies already certifying against ISO 9000 series standards

Yes  ☐        No   ☐

III.37   Does local business have access to the necessary skills, experience and human and other resources to meet the requirements and guiding principles of the ISO 14000 series

Yes                                  No
☐        ☐        ☐        ☐        ☐

III.38   Will compliance with ISO 14001 specification be constrained in your country by shortages of qualified consultants, training and auditors

Yes                                  No
☐        ☐        ☐        ☐        ☐

III.39   Would business have to rely on overseas sourcing for such qualified expertise

Yes                                  No
☐        ☐        ☐        ☐        ☐

**International Trade**

III.40   Are overseas environmental requirements already a barrier to your exports

Yes                                  No
☐        ☐        ☐        ☐        ☐

If Yes, examples _____

III.41   Do you foresee circumstances in which the introduction of ISO 14001 could strengthen non-tariff barriers to international trade

Yes                                  No
☐        ☐        ☐        ☐        ☐

III.42   How could such barriers be avoided

_____

_____

_____

III.43  What would the consequences in terms of international trade and competitiveness for your exporting companies be if ISO 14001 was not introduced

_____

_____

_____

III.44  On balance will implementing an ISO 14000 EMS help or hinder

|  | Yes | | | | No |
|---|---|---|---|---|---|
| Exporters | ☐ | ☐ | ☐ | ☐ | ☐ |
| Importers | ☐ | ☐ | ☐ | ☐ | ☐ |
| Domestic companies trading internally | ☐ | ☐ | ☐ | ☐ | ☐ |
| SMEs | ☐ | ☐ | ☐ | ☐ | ☐ |

## Environmental Labelling

III.45  Does the existence of different national labels hinder your export opportunities

| Yes | | | | No |
|---|---|---|---|---|
| ☐ | ☐ | ☐ | ☐ | ☐ |

III.46  Do you think that internationally recognised environmental labels, for products, whether they are national or international ones, could improve or hinder your export opportunities

| Improve | | | | Hinder |
|---|---|---|---|---|
| ☐ | ☐ | ☐ | ☐ | ☐ |

III.47  Do you think that the introduction of an international environmental labelling guideline like ISO 14020 will lead to a worldwide harmonisation of national labelling

| Yes | | | | No |
|---|---|---|---|---|
| ☐ | ☐ | ☐ | ☐ | ☐ |

III.48  Any other comments

* NOTE:    PLEASE ATTACH ANY WRITTEN INFORMATION ON ANY OF THE ISSUES COVERED BY THIS QUESTIONNAIRE WITH YOUR RESPONSE.

THANK YOU FOR YOUR TIME

## Number and Structure of Respondents

| EASTERN EUROPE | | | | | | | |
|---|---|---|---|---|---|---|---|
| Country | No.of respondents | Government Department | National Standards Body | Industry Association | Certification Body | Accreditation Body | Company |
| Bulgaria | | | | | | | |
| Czech Rep | | | | | | | |
| Estonia | | | | | | | |
| Hungary | | | | | | | |
| Latvia | | | | | | | |
| Lithuania | | | | | | | |
| Poland | | | | | | | |
| Romania | 3 | 2 | 1 | | | | |
| Russian Fed. | 1 | | | | 1 | | |
| Slovenia | | | | | | | |
| Turkey | 2 | 1 | 1 | | | | |
| Ukraine | | | | | | | |
| Total | 6 | 3 | 2 | 0 | 1 | 0 | 0 |
| no countries | 12 | | | | | | |
| resp. ctries | 3 | | | | | | |

| AFRICA | | | | | | | |
|---|---|---|---|---|---|---|---|
| Country | No.of respondents | Government Department | National Standards Body | Industry Association | Certification Body | Accreditation Body | Company |
| Algeria | | | | | | | |
| Egypt | | | | | | | |
| Ghana | 4 | 2 | 1 | 1 | | | |
| Kenya | 1 | | | 1 | | | |
| Malawi | 1 | 1 | | | | | |
| Mauritius | 4 | 2 | 1 | 1 | | | |
| Morocco | 1 | | 1 | | | | |
| Nigeria | 1 | | 1 | | | | |
| Sierra Leone | | | | | | | |
| U R.Tanzania | 1 | | 1 | | | | |
| Tunisia | 1 | | | 1 | | | |
| Uganda | no quest. | | | | | | |
| Zambia | 1 | | 1 | | | | |
| Zimbabwe | 1 | | 1 | | | | |
| Total | 16 | 5 | 7 | 4 | 0 | 0 | 0 |
| no. countries | 14 | | | | | | |
| resp. ctries | 10 | | | | | | |

| ASIA | | | | | | | |
|---|---|---|---|---|---|---|---|
| Country | No.of respondents | Government Department | National Standards Body | Industry Association | Certification Body | Accreditation Body | Company |
| China | 2 | | 1 | | | 1 | |
| HongKong | | | | | | | |
| India | 6 | 1 | 1 | 2 | 1 | | 1 |
| Indonesia | 2 | 1 | | 1 | | | |
| Malaysia | 1 | | | | | 1 | |
| Oman | | | | | | | |
| Pakistan | 6 | 3 | 2 | 1 | | | |
| Philippines | 4 | | 1 | 1 | 1 | | 1 |
| South Corea | | | | | | | |
| Sri Lanka | 1 | | 1 | | | | |
| Taiwan Prov. | 1 | | | | | 1 | |
| Thailand | 2 | | 1 | 1 | | | |
| UAE | 2 | 1 | 1 | | | | |
| Viet Nam | 1 | | 1 | | | | |
| Total | 28 | 6 | 9 | 6 | 3 | 2 | 2 |
| no. countries | 14 | | | | | | |
| resp. ctries | 11 | | | | | | |
| LAC | | | | | | | |
| country | No.of respondents | Government Department | National Standards Body | Industry Association | Certification Body | Accreditation Body | Company |
| Antigua | 1 | | 1 | | | | |
| Argentinia | 2 | | | 1 | | 1 | |
| Barbados | 1 | | 1 | | | | |
| Bolivia | 3 | 1 | 1 | 1 | | | |
| Brazil | 3 | | | 1 | 1 | | 1 |
| Chile | 4 | | 1 | 1 | 2 | | |
| Colombia | 2 | | 1 | | | 1 | |
| Dominica | | | | | | | |
| Mexico | | | | | | | |
| Trinidad | | | | | | | |
| Total | 16 | 1 | 5 | 4 | 3 | 2 | 1 |
| no. countries | 10 | | | | | | |
| resp. ctries | 7 | | | | | | |
| | No.of respondents | Government Department | National Standards Body | Industry Association | Certification Body | Accreditation Body | Company |
| total resp. | 66 | 15 | 23 | 14 | 7 | 4 | 3 |
| total no. ctry | 50 | | | | | | |
| total resp.ctr. | 31 | | | | | | |

## Infrastructure for certification of ISO 9000

| Country | iso member acc to survey | number of ISO certifications acc to survey | ISO 9000 Nat Accr Body according to ISO list | acc. to survey | Cert Body ISO list | survey | nat/internat. | remarks |
|---|---|---|---|---|---|---|---|---|
| **AFRICA** | | | | | | | | |
| Ghana | full | 1 | 0 | | 0 | | | |
| Kenya | ? | 3 | 0 | | SGS | | int | |
| Malawi | correspondent | 0 | 0 | | 0 | say yes | nat | |
| Mauritius | full | 5 | 0 | | 0 | say SGS | int | |
| | | | | | | say MBS | nat | seeks accr. from Holland |
| Morocco | full | 8 | 0 | say pending | 0 | pending | nat | |
| | | | | | AFAQ | | int | |
| Nigeria | full | 1 | 0 | say yes | 0 | say Standards Org. | nat | |
| Tanzania | full | 0 | 0 | | TBS | TBS say no! | nat | ISO member |
| Tunisia | full | 20 | 0 | say yes | INNORPI | | nat | ISO member |
| | | | | | AFAQ | | int | |
| Zambia | not | 1 | 0 | | 0 | | | |
| Zimbabwe | full | 19 | 0 | | SAZ | | nat | ISO, say they are not accredited |
| | | | | | | say: SGS,DNV, | int | |
| **LAC** | | | | | | | | |
| Antigua | subscriber | 0 | 0 | | 0 | | | |
| Argentina | full | 36 | | say yes | IRAM | | nat | ISO,bilat. agreements |
| | | | | | BVQI,DNV,SGS | | int | |
| Barbados | correspondent | 0 | 0 | | 0 | | | |
| Bolivia | subscriber | 0 | pending | | SGS, pending | | int | |
| Brazil | full | 730 | INMETRO | IAF member | ABS | | int | |
| | | | | | FCAV,INMETRO.. | | nat | mutual recognition agreements |
| | | | | | SGS,BVQI.. | | int | |
| Chile | full | 11 | pending:INN | | SGS, BVQI | | int | |
| | | | | | | say CESMEC | nat | |
| Colombia | full | 53 | Superintendencia | | ICONTEC | | nat | ISO member |

| Country | iso member acc. to survey | number of ISO certifications acc. to survey | ISO 9000 | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Nat. Accr.Body | | Cert.Body | | | |
| | | | according to ISO list | acc. to survey | ISO list | survey | nat/internat. | remarks |
| **ASIA** | | | | | | | | |
| China | full | 500 | CNACR | IAF member | BCC,QAC,.. | | nat | bilat. agreements |
| | | | | | BVQI,SGS,.. | | int | |
| India | subscriber | 800 | | say yes | BIS,IRS,STQC | | nat | BIS=ISO member |
| | | | | | BVQI,DNV,SGS | | int | |
| Indonesia | full | 73 | KAN | ISO member | B4T-QSC | | nat | |
| | | | | | SGS | | int | |
| Malaysia | ? | ? | | say yes | SIRIM | | nat | ISO, bilat. Agreements |
| | | | | | BVQI,SGS | | int | |
| Pakistan | ? | 3 | | 0 | SGS | | int | |
| Philippines | full | 56 | | say yes | BPS | | nat | ISO,bilat. Agreements |
| | | | | | SGS | | int | |
| Sri Lanka | full | 6 | | 0 | | say Standard Org | nat | not accredited |
| Taiwan | not | 487 | | 0 | | say BCIQ | nat | |
| | | | | | | say Lloyd's, BVQI | int | |
| Thailand | full | 34 | | 0 | TISI | | nat | ISO member |
| | | | | | BVQI,SGS | | int | |
| UAE | ? | 9 | | 0 | BVQI,SGS,DNV,.. | | int | |
| Vietnam | full | 0 | | say STAMEQ | 0 | | | |
| **E.EUROPE** | | | | | | | | |
| Romania | full | 12 | pending,IRS | | IRS | | nat | ISO member |
| | | | | | SGS,TÜV | | int | |
| Russia | full | 30 | GOST R | ISO, IAF | VNIIS, TEST,... | | nat | |
| Turkey | full | 185 | | sa, KAMK | TSE | | nat | ISO,bilat agreements |
| | | | | | BVQI,SGS | | int | |

## Infrastructure envisaged by respondents for ISO 14000 certification

| Will country have: | Nat. Accreditation Body | Certification Bodies |
|---|---|---|
| **AFRICA** | | |
| Ghana | yes | ? |
| Kenya | yes | should |
| Malawi | yes | should |
| Mauritius | ? | ? |
| Morocco | no | no |
| Nigeria | no | yes |
| Tanzania | yes | should |
| Tunisia | yes | should |
| Zambia | ? | ? |
| Zimbabwe | ? | ? |
| **LAC** | | |
| Antigua | ? | ? |
| Argentina | yes | yes |
| Barbados | no | should |
| Bolivia | yes | should |
| Brazil | yes | ? |
| Chile | yes | no |
| Colombia | no | no |
| **ASIA** | | |
| China | yes | should |
| India | yes | yes |
| Indonesia | yes | ? |
| Malaysia | ? | ? |
| Pakistan | yes | should |
| Philippines | ? | ? |
| Sri Lanka | no | no |
| Taiwan | no | should |
| Thailand | yes | yes |
| UAEA | ? | should |
| Vietnam | no | should |
| **E.EUROPE** | | |
| Romania | yes | should |
| Russia | ? | ? |
| Turkey | yes | should |