

INSTITUTE OF CURRENT WORLD AFFAIRS

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Indian Standards Institution

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Dear Mr. Rogers:

About a year ago, India's Trade Commissioner in the Middle East reported that buyers of Indian products in his area are often dissatisfied with the quality of goods received. Specific complaints are that the quality of goods which reach overseas purchasers is often lower than that of samples tested by the purchaser's agent at the time of sale, and that uniformity in quality is lacking.

Similar complaints from various other parts of the world, including the United States, have now again been reported by both official and non-official representatives to the Government of India and to Indian traders and industrialists.

This increasing demand from overseas importers for quality and reliability of quality is a challenge to India's current efforts to redress her recent "unfavorable" balance of trade, and to that end to preserve and increase the value of her exports. I have been on the lookout for any activity designed to meet this challenge.

Last August, a press release stated that the newly formed Indian Standards Institution is addressing itself, among other projects, to India's export needs. When in New Delhi, my wife and I therefore visited the Indian Standards Institution. We were told of its makeup and working methods by the Director, Dr. Lal C. Verman, F.N.I., F.Inst.P., PhD, MS (Cornell), BS (EE), and the Deputy Director, Dr. K.L. Moudgill, MA (Cantab), DSc (Glasgow and Travancore), F.R.I.C. (1). The present letter is based on these talks and on the Institution's Constitution and its newly published "ISI Bulletin", to which I have a year's subscription. It seeks to describe this Indian approach to the development of fundamental and industrial standards, and to indicate what role it may play in India's export trade.

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(1). The degrees and fellowships cited are a fair indication of the importance of overseas training in the development of modern Indian scientists.

Origin and Constitution

The Indian Standards Institution is a joint association of both government and private interests, the latter including industrial and commercial firms, other consumer groups, professional associations, universities, etc. It is government controlled, and initially dependent on government grants for most of its financing, but its functioning depends heavily on the active participation of its private members.

Historical beginnings. Government sponsorship of standards control in India has origins in the earliest significant development of industrial standards in British India. (2). In about 1909, decision was made in high quarters in London and Calcutta to foster an increasing growth of Indian industry by placing orders with Indian firms instead of in England for railway supplies for Indian lines. A handful of firms were then producing such goods. Competition among them was insufficient to bring about the required quality standard. From the start, the Government Railway Board therefore found it necessary to test Indian railway manufactures before purchase. By 1912, when the infant Tata Iron and Steel Company had been awarded a five-year contract for supply of rails and fishplates, the Railway Board had built up an Inspection and Testing Organization in Calcutta with laboratory facilities for physical, chemical and metallurgical analysis.

From its inception, this Organization undertook revision of existing specifications (mainly of British origin) and formulation of new ones. Revised or new standards took into account the serviceability of products under India's climatic and topographical conditions, and the special conditions of manufacturing in India.

Apart from its work for the Railway Board, this first Government Test House offered its facilities at a fixed schedule of fees to private firms and individuals. "Industries now had at their service an independent inspection and testing authority which could verify and certify the quality of the products of Indian industries, indicate to the manufacturer in what respects his product fell short of acceptable standards, investigate failures and defects in materials, determine their cause and suggest means for their elimination." (3).

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(2). This historical account is mainly a summary of the article "History of Standardization in India", by R.G. Burt, Deputy Director-General of Industries and Supplies (Retired), Government of India, in the ISI Bulletin, April, 1949.

(3). R.G. Burt, op. cit., page 37.

World War I, creating new munitions and other industries in India, caused expansion of standards organizations. In 1919, the Institution of Engineers (India) became the India Committee for the British Standards Institution, and undertook the technical spadework for the latter's draft specifications for use in India. The old Inspection and Testing Organization expanded, moved, and in 1922 became part of the newly created Indian Stores Department. In 1925, a new Central Standards Office for Railways was established. In the period to 1939, these two bodies drafted and authorized a total of 1012 standards specifications, also reviewing and modifying existing specifications to meet new requirements. World War II brought no new standards organizations into being, but occupied existing bodies with the creation of "war emergency" specifications enabling use of substitute materials and permitting quantity production at the expense of a given degree of quality.

Agricultural produce came within the realm of standards control under the Agricultural Produce (Grading and Marking) Act, 1937. This Act authorized formulation of standard grade specifications (known as AGMARK specifications) for any produce of agriculture, animal husbandry, or forestry. Producers, however, were not bound to observe these specifications, and traders generally were slow to accept them. About Rs.100,000,000 worth of produce, less than 5% of India's marketed agricultural produce, came to be graded, chiefly such urban consumption items as ghee, vegetable oil, butter, and such export items as tobacco.

Through this period, Government, the largest single purchaser of goods, has been the chief source of standards developments. With a few exceptions, Government standards offices have not focussed significantly on the goods entering India's export trade. Inferior quality fodder-cutters and other Indian-made agricultural implements which rural consumers buy are an example of which I have vivid memory of those considerable areas in the domestic market which Government standards requirements have not touched. At the same time, consumers themselves have not organized to demand better quality, while in important lines of production the competition of foreign imports works only slowly to force the few Indian firms to attain high standards.

Indian Government standards offices have generally adopted standards of advanced industrial nations, usually Britain or America, as basis for their specifications. This has led to the charge that Indian industries were deliberately handicapped by having to work to standards established under different conditions. Mr. R.G.Burt, after 24 years of association with standards development in India, has replied as follows to this charge: "No....specification based on a British standard was adopted for use in India without the most careful consideration from the point of view of manufacture in India.... The Indian industry was freely consulted.... and many modifications were made at (its) suggestion." Furthermore, Mr. Burt adds, "In a wide range of industries, Indian in-

dustries have shown themselves capable of meeting the requirements of British standard specifications and other standards of "high quality." (4).

Nevertheless, in the words of the Government of India Resolution which established the Indian Standards Institution in September, 1946, "it has been felt increasingly that the British and other standards are not always suitable for adoption in this country. . . . due to the diversity of raw materials available in India and the processes employed for manufacture." This diversity, and the prospect of aiding further the growth and caliber of Indian industry, led to the demand that India have a central standards organization of her own.

Present makeup and procedure. Overall Government control. The Indian Standards Institution's objects, makeup, and principles of operation are laid down in the Memorandum of Association and Rules and Regulations which the founder members (5) filed with the Registrar of Joint Stock Companies in 1947.

The Minister for Industries and Supplies, Government of India, is to be President of the Indian Standards Institution and of its governing body, or General Council.

Membership in the Institution is open to any person or institution interested in the preparation and promotion of standards, including the governments of participating countries and states. By mid-1949, a total of 504 members were enrolled, most of them corporations or professional associations which had paid the Rs.250 annual fee as sustaining members.

For five years, the Government of India has assured the Indian Standards Institution of a supporting financial grant. Thereafter it is hoped that membership fees, contributions from commercial and industrial firms, plus receipts from sale of Indian Standards and ISI publications, will render it self-supporting. Already, with income of Rs.350,000 including the government grant, its budgeted activities exceed the expected income.

All classes of members are assigned representation on the General Council. Examination of the prescribed makeup of the General Council suggests, however, that a slight majority of its some 75 members are likely to be representatives of Government or of Government-controlled organizations. Business of the General Council will generally be decided by vote. The President may, however, refer any matter which he considers sufficiently important to the Government of India, whose decision on such matter will be binding.

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(4). R.G. Burt, op. cit., page 39.

(5). Four of the founders represented private industry, the other 21 acting on behalf of Central Government ministries or provincial and state departments of industry.

Aside from appointing the Director and staff and supervising the general administration, the General Council decides what work its technical divisions shall undertake, adopts and arranges for publication of Indian Standards prepared by technical committees, and conducts relations with other national standard bodies and with the International Standards Organization.

Private influence at working level. The Engineering, Textile, and Chemical Division Councils which conduct the main work of the Institution are dominated by the users and manufacturers of products, with a minority of Government representation.

Any Institution member or authoritative body may apply for standardization of a product. The Division Council concerned thereupon consults producer and consumer interests and decides whether or not standardization of the product or material is needed and will meet a generally recognized want.

Approval of its decision by the General Council's Executive Committee is required before work on the product can be commenced. The Division Council then appoints a Sectional Committee for the product, which is to be made up of all interests concerned, including scientists and technicians, with predominant representation to the consumers of the product. The Sectional Committee makes the needed technical investigation and drafts the proposed standard.

The draft standard is to be widely circulated for at least three months to interested parties (including those overseas) for criticism and suggestions. After considering and incorporating comments, and making final laboratory checks, the Sectional Committee prepares its final draft. These final specifications must be accepted in turn by the Division Council, the Executive Committee and the General Council. They can then be published as Indian Standards.

After publication, the Division Council is to see that review of the standard is made periodically or as necessary.

The makeup and procedures of the Division and Sectional bodies thus ensure all parties interested in a product the opportunity to participate in preparation of its standard specifications. Much of the real investigation must in fact be done by mixed committees using the research facilities of private industry, universities or national research institutes, because the Indian Standards Institution as yet has only limited laboratory facilities of its own. Dr. Moudgill informed us that industrial firms are cooperating actively to meet this need. Two hundred Sectional and subcommittees are now at work preparing Indian Standards

on some 600 products.

Standardization projects underway

In aid of exports. At the instance of the Ministry of Commerce, the quality of Indian export goods has received priority attention from the Indian Standards Institution. Prominent among products studied, and results to October, 1949, are:

Lac. India produces 90% of the world's output of seed lac. Formerly she manufactured most of it into bleached lac and machine-made shellac, for export. In recent years, European and American buyers have increasingly imported raw lac from India, for manufacture themselves. To regain the market for lac manufactures, India must not only improve her manufacturing techniques, but also give assurance of standardized quality.

The Indian Standards Institution has circulated draft Indian standard specifications for seed lac, shellac, and dry-bleached shellac. Chemical analysis is the basis of these specifications, in place of the old trade descriptions based mainly on the name of the Indian host trees. Representatives of eight countries were invited by India to Delhi early this year to participate in the work of the International Standards Organization Technical Committee on Shellac, for which India holds the secretariat.

Mica. The world's largest exporter of mica blocks, films and splittings, India has also been assigned by the International Standards Organization the secretarial work on preparation of mica standards. This is timely, as American buyers have recently complained of the uncertain quality of Indian mica reaching them. The Engineering Division's draft standards on Methods for Grading Processed Mica and Classification of Processed Mica have been circulated at home and abroad, and finalized as Indian Standards. Six countries have been invited to participate in international standardization of mica in Delhi early this year.

Jute. A Sectional Committee of the Textile Division Council has worked to help manufacturers control the quality of jute products by establishing "standard techniques, instruments and tolerance limits for the various physical properties of fibre, yarn and fabric of jute". An article in the June ISI Bulletin discusses technical problems raised by peculiarities of the raw jute fibre as compared to raw cotton or wool. Two draft standards on raw jute have now been circulated by the Sectional Committee.

Wool. Though exporting little other than "carpet" (low quality) wool, India has had complaints, particularly from America, that foreign matter in the shipments is excessive and that quality varies. The Textile Division Council has circulated and finalized an "Indian Standard Specification for Wool for Export", with grades based on color as well as quality.

Manganese ore. Draft standards on "Metallurgical Grade and Battery Grade Manganese ore" have been rewritten to include methods of sampling and chemical analysis. In circulation.

To assist Indian industry. Fundamental standards. Two published Indian Standards - on Rounding off Numerical Values and on Inch-Millimeter Conversion - are of the nature of fundamental standards. On the extremely complex problem of standardization of weights and measures and gradual adoption of the metric system throughout India, an Institution special committee is at work.

Industrial standards. The following sample subjects of Standards Institution inquiries are listed to indicate the variety of processes and products being taken up for standardization.

Engineering Division: Timber and plywood; electric accessories and batteries; refractories; abrasives; cement; standard atmospheric conditions for testing.

Textile Division: Standard identification of textile fibers; testing cotton textiles and cordages for resistance to attack by micro-organisms.

Chemical Division: salt and marine products; paints, dry pigments, solvents; industrial gases; lubricants.

Legislative support of standards

To support existing and forthcoming standards, encourage quality control, and aid domestic and overseas purchasers, the Indian Standards Institution has prepared a draft ISI Certification Marks Act and forwarded it to the Government of India to be introduced in the national parliament. Under the draft Act, a producer would be licensed to use the ISI Certification Mark only when the ISI is satisfied that he is able to produce goods to standard specifications and has in operation a program for controlling such production. To guard against its misuse, the ISI would have authority to conduct random checks of any goods bearing the ISI Certification Mark. The proposed legislation would also enable the Government of India to ban export of selected goods unless they bear the ISI Certification Mark.

If such legislation is enacted, what is its likely effect?

One should learn the reactions of commercial and producing interests to answer this question with confidence. This I have not yet done. To suggest possible alternative results, I shall therefore merely cite the recent history of two export products graded under the AGMARK procedure.

During the war, the British Government protested the quality of sann hemp and tobacco reaching the United Kingdom from India. The Government of India thereupon acted to inspect and ban export of these products except when they met AGMARK standards. In the case of tobacco, foreign buyers now recognize and accept the AGMARK grades and are giving price quotations and placing orders F.O.B. the Indian port, in place of the old consignment buying through commission houses. Firm London price quotations on AGMARK graded tobacco now reach the Indian farmer and thus aid his bargaining position with the merchant who buys his crop. Tobacco growers in some areas have started cooperative grading and processing, and a more competitive price exists for tobacco. (6).

In the case of sann hemp, the trade has resisted the Government intervention and no significant improvement in its export position or advantage to its producers have taken place. (6). Such resistance by traders is also said to have significantly limited the success of the Agricultural Produce (Grading and Marking) Act, 1937. Producers and ultimate buyers (especially manufacturers buying raw materials) approve of grading, but some traders anticipate encroachment of new competitors on established trade patterns if standards control becomes general. Commission houses and brokers also fear that effective grading practices will eventually end much of the consignment buying which is their business. (7). For such reasons, traders can be expected to oppose new Government support of standards control on some important commodities, as they opposed that on sann hemp.

Whether the story of tobacco or that of sann hemp is to prevail in the next few years I do not know. Here I do want to record that in talking with Indian Standards Institution officials we were impressed by their quiet confidence that they are engaged on a worthwhile work. The Institution's sizeable and active membership, and its well-written ISI Bulletin, suggest that it has gained considerable responsible support and is in a position to gain more. Indian industry and trade should receive increasing assistance from this body.

Sincerely yours,

Richard Morse

Richard Morse

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(6). See "Some Aspects of Grading and Standardization of Agricultural Products in India", by T.G.Shirname, Agricultural Marketing Adviser to the Government of India, in Indian Farming, January, 1949, pages 7-8.

(7). op.cit., pages 6-7.