International Trends in Environmental Policy, Legislation and Regulations and the impact on the Sugar Industry
XXIII International Society of Sugar Cane Technologists, New Delhi 1999

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ABSTRACT

Environmental legislation and regulation around the world is developing fast and becoming increasingly complex. The focus has moved rapidly from locally driven, single media controls to international conventions and framework legislation that touches on every aspect of the growing, production and trading phases. Since the Rio Earth Summit in 1992, international developments have been rapid and have created an increasingly complex framework of conventions, protocols and emerging issues. Environmental legislation can no longer be seen in isolation. It must be looked at in the context of trade, intellectual property issues and the broader picture of sustainable development and consumption. This paper will sketch the drivers for these changes, the responses currently being seen and the direct application of regulations to the sugar producers and business responses to the developments.

Keywords: environmental legislation, international trends, sugar production

INTRODUCTION

Environmental laws and regulations affect the way we do business. Concern for the environment is a growing international phenomenon and is becoming a feature of international trade patterns and a key to accessing foreign markets and funding. Most sugar cane is presently grown in the developing world and the typical north-south trade and development issues also impact on growers.

Since the United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro in 1992, a tremendous amount of change has taken place in the international legal frameworks within which environmental legislation is developed. Pressure to enact and enforce environmental legislation is mounting, even within developing countries, as global concern grows about the state of the natural environment and its long term sustainability.

In tandem with the developments which are happening at global and intergovernmental level there are significant moves to ensure that business takes greater accountability and responsibility for its actions. Many of these initiatives are driven by the leaders within the business community, some are driven by international NGOs, lobby groups and governments. Key amongst these are calls for more transparency, more social conscience, more compliance with the letter and the spirit of the law. The call to criminalise environmental pollution and other environmental offences is also growing. There is therefore a clear message to the business community. Simple compliance with existing legislation is no longer enough. The survivors will have to monitor trends and be prepared to work with the new trends, if they do not want to be constantly on the defensive both in court and in the market place.

DRIVERS FOR INTERNATIONAL DEVELOPMENTS

UNEP
UNCED has proven to be an important catalyst for changing the focus and pace of change in environmental legislation. It spawned a number of new Conventions, Framework Conventions and Protocols, and, through Agenda 21, clearly enunciated and gave political legitimacy to global concerns regarding sustainable
development. It has given impetus to the development of international law in the direction of sustainable
development, which is driving many of the changes which are now evident.

Although environmental law is a relatively new addition to the body of international law it has become
mainstream and we have witnessed the evolution of international consensus to develop and implement principles
and rules to halt degradation of the environment and conservation of natural resources. Further critical
issues for the future have been identified:

- New actors outside of the government sectors playing key roles in negotiating, implementing, monitoring
  and enforcing environmental agreements.
- Treaty congestion caused by separate negotiating fora, secretariats and funding mechanisms
- Compliance focus taking over from the negotiating phase
- Private sector accords (common transnational environmental standards and environmentally sound business
  practices)
- Integration of Environment and Economic Law - increasing concern with making the entire production
  system environmentally sound.
- Quest for environmental equity - ensuring that economic development did not take place on the backs of
  the poor.

At present a large number of international environmental conventions are either in force or being negotiated.
None of these conventions and protocols are static and as pressure mounts, technology or information improves,
the goal posts shift. A list of some of those possibly relevant to the sugar industry are listed along with key
issues addressed by the instrument.

- **Montreal Protocol** - addresses depletion of the ozone layer through human action, particularly the
  use of synthetic chemicals
- **Bio-Diversity Convention** - addresses conservation of the diversity of natural resources, flora, fauna
  and eco-systems, sustainable use of components, fair and equitable sharing of resources and benefits
  prior assessment requirements (Environmental Impact Assessment regulations), intellectual property
  issues (e.g. traditional knowledge of indigenous people in use of medicinal plants as opposed to the
  rights of international chemical companies which develop them into mainstream products), terrestrial
  bio-diversity (agriculture).
- **Biosafety Protocol** - About 170 governments will be meeting from 15-23 February 1999 to finalise and
  adopt a legally-binding agreement on reducing any potential risks resulting from the transboundary
  movement of living modified organisms (LMOs) created through biotechnology techniques. While LMOs
  promise enormous benefits for agriculture, medicine and other areas, there is growing concern about the
  risk to bio-diversity and human health.
- **Framework Convention on Climate Change** - anthropogenic factors affecting climate and potential
  means of limiting those factors and mitigating the effects. Greenhouse gases include carbon dioxide
  (CO$_2$), methane (CH$_4$), nitrous oxide (N$_2$O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs) and
  Sulphur hexafluoride (SF$_6$). Some of the sources of these gases are fuel combustion, fugitive emissions
  from solid fuels, oil and natural gas, industrial processes, solvent and other use, waste disposal, handling
  and incineration and agriculture. In agriculture these gases come from, amongst other sources, enteric
  fermentation, manure management, rice cultivation, agricultural soils, savannah burning, and field burning.
  At present developing countries do not have limits on greenhouse gas emissions. However, the pressure
  on developing countries is likely to grow - first for voluntary commitments and later as mandatory
  requirements.
- **Kyoto Protocol** - a subsidiary protocol to the FCCC, it has introduced more specific mechanisms into
  the debate
- **Convention on Desertification** -
- **Basel Convention** - significantly restricts movement of broadly defined hazardous wastes across
  international borders (e.g. bans export from developed world to developing countries)
Prior Informed Consent Protocol (PICs) - legally binding agreements governing sound management and consent procedures before listed chemicals are moved across international boundaries (in development). The Protocol was finalised in September 1998 and requires 50 countries to ratify it before it enters into force.

Legally binding instrument for international action on Persistent Organic Pollutants (POPs) (likely to be in place by 2000) - seeks to list, control and ultimately ban a list of 12 POPs including pesticides: aldrin, chlordane, DDT, dieldrin, endrin, heptachlor, mirex and toxaphene, industrial chemicals hexachlorobenzene and polychlorinated biphenyls (PCBs) and unintended by-products dioxins and furans.

In addition to these UNEP led conventions there are other initiatives which reflect, and in turn have growing impact on, public sentiment and international law. These include the debates of the Commission for Sustainable Development, a body set up by the United Nations to monitor the implementation of Agenda 21. The EU is a leading player in developing environmental law - sometimes in response to international conventions, frequently it is setting the pace and leading international change. Similarly, the governments of the USA and Canada have had significant influence in international developments.

Mr Klaus Töpfer, Executive Director of the United Nations Environment Programme during the February 1999 20th Governing Council Meeting, highlighted the five areas where UNEP was already working: environmental assessment and research; technology transfer and industry; freshwater; environmental conventions and support for Africa. His view of emerging and important environmental issues that should be addressed internationally that should be considered included completing the work on PICs and POPs “a pre-emptive lifecycle approach to chemicals including pre-production screening” including a globally harmonised and compatible labelling system for chemicals as proposed in Chapter 19 of Agenda 21; the question of the right of the public to access environmental information as related to the enhanced enforcement of environmental law and the prevention of environmental crime; and the role of UNEP in the Global Environmental Facility (GEF) which is a mechanism to provide international funding for projects that address key environmental issues, like climate change and bio-diversity.

Bretton Woods Institutions

The Bretton Woods institutions cannot be ignored in the development of international environmental law. Although not law making bodies, the World Bank and the International Monetary Fund, through their funding of various international aid programmes and development initiatives and the criteria they lay down for the approval of those activities have indirect but critical impact. Other aid donors similarly influence the development of national environmental legislation. Further, the World Trade Organisation is now increasingly trying to deal with the real and potential conflicts in the global free trade agendas and those of environmentalists.

International labour pressures

The voice of the ILO and of international union federations are also increasingly being heard in debate on environmental regulation, particularly where issues have potential impact on the health of workers (e.g. the impact on workers of chemical exposure). The dividing lines between occupational health and safety issues and environmental issues are no longer clear. This is mirrored in many international corporations where these issues are now managed under a single umbrella because of the commonality.

A clear example of where labour issues and environmental law converge is in the brand new South African National Environmental Management Act, 107 of 1998 (which came into force on 29 January 1999). The Act entrenches the rights of workers to act not only in the interests of their own health and safety but also to take or institute action against employers in the interests of the environment. This law is as yet untested and it will be extremely complex to enforce. But, it clearly allows workers to stop work where their actions are believed to be harmful to the environment (perhaps where they are required to use harmful chemicals or dispose of wastes in an inappropriate way). They can also without fear of retribution report employers to the authorities or the media if they believe damage is being done.
LEVEL OF RESPONSE TO PRESSURES AND DRIVERS

In response to global issues such as climate change, the international response is to work through the UN and other inter-governmental bodies to create instruments such as conventions and protocols. These typically include legally binding instruments, targets and quotas and are inevitably later translated into national laws and regulations. In recognition of the disparate ability of countries to effect any changes, focus is increasingly on building capacity within less developed countries to actually make meaning of these instruments. So, funds are set aside, donor assistance is mobilised or training programmes initiated.

Regionalisation as being seen in the European Union and the strengthening of the (North American Free Trade Agreements) NAFTA is becoming more important. In these regional agreements the issue of common environmental law and standards is important. The EU has generated significant amounts of environmental legislation over the last decade and there appear to be few signs of this coming to an end. In NAFTA, environmental issues are sometimes a sore point. However, the signs are there that environmental standards will be moved up on the agenda. As the power of these trading regions grows, the ability to force the pace of environmental change in other regions does as well. In South Africa recently, environmental issues (in this case access to fish resources) have been critical to the concluding of a trading agreement with the EU.

National environmental legislation has typically been single media legislation dealing with specific environmental issues and priorities. There is growing convergence of the norms and standards laid down in law, and the issues that are addressed. A number of papers at the previous ISSCT conferences have highlighted how similar these laws are in intent and effect. Prime examples are those dealing with emissions caused by cane burning, emissions from the production process and those dealing with water availability, quality and emissions.

A variety of factors, players and institutions, including those mentioned above, have led to growing similarities in national legislation, if not in style, then at least in intent. It is useful to mention specific examples here to highlight this convergence:

Key aspects of legislation for the sugar industry:

Air emissions:
This comes from cane burning (particulate emissions, carbon monoxide and VOCs), and within the production process, NOx (nitrogen oxides), VOC (Volatile organic compounds) and SO2 (sulphur dioxide). Typically, in many developing countries the legislation dealing with industrial processes is not yet as demanding as that in places like the USA or Hawaii and is more focussed on particulates than on gases. This is in part a capacity and monitoring problem.

Increasingly the issue of cane burning will also be an issue of CO2 emissions. In a paper delivered at the previous ISSCT congress the view was put forward that the sugar industry’s net contribution to CO2 emissions was the result of opposing factors: increased atmospheric CO2 due to fossil fuel, ethanol and other energy inputs, and on the other hand, reduction of emissions due to the substitution of ethanol for petroleum and bagasse as a fuel substitute in industrial processes. It was stated that the recycling of the carbon involved in sugar cane processing allowed for the avoidance of large-scale CO2 emissions. A further paper by Marta Echavarria of Colombia highlighted the potential role of sugarcane in fixing CO2.

There are many issues which need further investigation and debate. But this could aid the industry in ensuring a sustainable future as we move into an era when greenhouse gas emissions are going to be monitored, measured and traded in the bid to reduce them to much lower levels.

For example, in the forestry industry, the international community is weighing up the potential for forests to act as CO2 sinks against their potential as sources of carbon emissions during cropping, fires, etc. The forest fires in Indonesia, for example, released more carbon dioxide emissions in the six months than all the sources
in the European Union for an entire year. Similarly, in Africa, grasslands and crop lands have significant potential as carbon sinks, but are huge emitters during fires.

**Fresh water:**
Throughout the world, access to water has become a driving factor for change. Legislation is increasingly governing access to both quantity and quality of water, limiting inefficient use, controlling irrigation, contaminated run off and process water as well as soil quality. Irrigation farmers cannot be assured of continued access to water in many countries as government policies move from old water management regimes to new systems that seek to ensure some water for all, for ever. In South Africa some estimates are that 15% of farmers currently using irrigation methods will lose their irrigation rights. This type of change in the law will not only affect the farming communities. In SA, industrial users will in future be granted permits for specified periods of time, with a requirement for the demonstration of efficient use before renewal.  

A further feature is that the natural environment is now recognised as water user with a primary right. In SA, for example, this will mean water is allocated on the basis of subsistence use first, a reserve allocated to ensure the maintenance of eco-systems and a sound environment second, and thereafter industrial use, commercial and more general domestic use.

**Soil quality:**
Soil quality is a growing concern and in particular when combined with the loss of soils through erosion. The World Resources Institute has highlighted that increased crop yields will come from areas under irrigation, but that there is growing concern with irrigation’s environmental and health impacts. It is likely that given the focus freshwater is receiving from so many areas, we could see protocols emerging over improving the efficiency of freshwater use and irrigation in the future. Any international moves will, in turn, later impact at local level.

The harvesting phase in the sugar lifecycle continues to be one which will attract a great deal of attention, and, most likely, increasing legislation, particularly as urban encroachment on agricultural land increases. One area of opportunity for all agricultural industries lies in avoiding further legislation through working with local communities to address areas of concern, and in improving postharvest losses to increase their own efficiencies and yields.

Legislation dealing with emissions reduction in the processing of sugar is already affecting the American sugar industry. Particularly in the more developed countries such legislation can cause costly technology changes. However, before the need for legislative induced technology change, much can be done to obviate the need for legislation by adopting holistic cleaner production approaches. Considerable documentation and expertise already exists in this field. Cleaner production approaches can be very good for business as they focus the attention on maximising output, minimising wasted resources of any kind, and recycling and reusing all by-products. Technology change is only one aspect of this approach and can be better managed if it is part of a voluntary programme than if it is dictated by legislation.

The industry has already made much creative use of its waste products. So that is unlikely to be a major reason for legislation, but growing opposition to incineration as a waste disposal method should be watched and the economics of fuel substitution and energy conversion should be documented.

**STAKEHOLDER RESPONSES**

**Corporate governance**
The norms and standards of good corporate governance have undergone radical change in the last decade. These changes have emanated from within the business community and are being given legitimacy by being taken up in listing requirements of stock exchanges and aspects of company and financial legislation.
In the UK, a series of reports, starting with the Cadbury report, began the process. In South Africa, that was followed by the King Committee which beginning from an extended mandate produced a report which has already had a profound influence on business in South Africa. Many of the recommendations have been incorporated by the Johannesburg Stock Exchange's listing requirement and companies listed on the JSE are required to report on compliance. Four of the eight recommendations have already been brought into legislation and the rest are going through the process.

Included in the requirements are environmental aspects, including the need for transparency and reporting. The recommendations are also being picked up and translated into more substantial requirements through the work of chartered secretaries, financial accountants and other professionals within the business community.

ISO 14001 and EMS

A high profile and useful management response by business internationally to the growing focus on environmental issues has been the development of environmental management systems. Perhaps the best known of these is the International Standards Organisation’s ISO14001 Environmental Management System (EMS). One must point out that the initiative did not come out of the International Standards Organisation. It reacted to developments which had been taking place within the business community.

The EMS takes a series of management tools and responses and places them within a systematic, considered, framework. This enables better integration within the company’s existing activities and should ensure that environmental issues become a matter of daily management practice rather than ad-hoc responses to specific events or crises. The additional benefits of environmental management systems, and for many companies, the critical factor in their adoption, has been the use of voluntary, certified environmental management systems to demonstrate environmentally sound management to customers and regulators and other stakeholders.

Certified management systems can encompass the entire growing and production process, or one aspect of it, as a means of differentiating oneself within the market place.

Those arguing against ISO 14001 focus on its lack of specific, quantified, performance standards. That is true. However, ISO 14001 does allow for the incorporation of all relevant standards and laws as the benchmark against which the EMS is audited. ISO 14001 has a commitment in it to continual improvement. Where this is correctly read to be a commitment to continual environmental performance improvement the EMS becomes a powerful in-company tool.

The continual performance improvement should be viewed from the perspective of “cleaner production” through: waste minimisation, process improvement, technology adaptation and improvement, hazardous or dangerous materials substitution and energy and other resource efficiency. Though couched in environmental terms, most of these amount to significant potential to better measure and manage the use of human and natural resources and in so doing reduce waste and environmental risk and liability. This amounts to good solid business sense.

Eco-labels:

A proliferation of labels developed in the European Union and the USA over the last decade. There are swans, angels, stars and all kinds of other heavenly attributes to be had for meeting voluntary standards. Some of these are government imposed or led initiatives, others have come from the business communities themselves, anxious to demonstrate environmental appropriateness. Convergence of many of these labels can be expected, particularly under the European Union where they are also likely to move from being voluntary to more mandated systems in some instances.

There is scope, however, within the sugar industry, as has been done within the forestry industry to develop industry recognised standards (in consultation with key stakeholders) and work to raise the environmental profile of the industry in that way.
The sugar industry has already made significant progress in addressing the wastes it produces. These are frequently converted into energy sources, returned to the land in various forms as soil enhancers or used as input material for other products. The profile of these activities is important as it demonstrates that the industry is valuable, being managed in a responsible way and fitting in with the norm of more eco-efficient and sustainable business.

As stated earlier in this paper, legislation is no longer simply the preserve of government. Non governmental organisations through their research, public campaigns and community involvement play a key role in raising awareness of emerging issues and frequently act as catalysts for legal reform. In South Africa under the new environmental legislation they will also have legal standing to act on behalf of others, or the environment, in bringing criminal cases against those detrimentally affecting environmental or human health.

CONCLUSION

Environmental legislation has changed dramatically in quantity and nature over the last decade. This reflects the new societal concerns about the state of the global environment and the belief that there is an urgent need to take global action to ensure long term sustainable development. The business community itself is driving some of these changes.

The business motivation includes both the moral aspect of sustainable development as well as the pragmatic need to ensure that the legislation and other measures put in place are appropriate to the risks. Sustainable development is becoming for business the third bottom line. It is no longer a question of just economics, just environment; the social factors must be dealt with. From the sugar industry perspective it will be critical to ensure that cognisance is taken of the developmental needs that exist in most of the sugar cane growing regions of the world.

By participating in these processes, and working to influence them in positive ways the business community can benefit in many ways, not least through improved relationships with regulators and other stakeholders and in ensuring long term sustainability of the industry.

1 The United Nations Conference and Development was held in Rio de Janeiro in 1992. It was also known as the Earth Summit and has proved to be a catalytic event in changing the development of environmental legislation.
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