

## THE THREE PILLARS OF WISDOM

The patterns of our doings always leaves something behind that look like what we did; some would call it our environmental foot-print. But it is not exactly what we were aiming at. Through combustion of fossil energy, for instance, we reject massive amounts of carbone gases into the atmosphere. And, in doing so, we interfere with the dynamic equilibrium of climate processes. Work, heat and energy interact as per the law of physics.

Energy and matter in the universe are gradually becoming less useful (from a human point of view) as time goes...! To do work we use and consume energy. Energy can be changed from one form to another. In the process of energy transfer, some energy will dissipate as heat. Sugar in the blood will burn its energy and produce heat. A car battery will transform potential energy into kinetic energy (in motion). When the potential energy is all used up, the car stops and the battery reaches the end of its services. The status of the used battery changes. You need to take it out of the car and do something else with it. Fortunately, the battery contains lead that is worth recycling to reuse such metal in the manufacturing of new batteries. The production of a new battery will, in turn, result in energy dissipation and the generation of physical and chemical materials that will be called residues or emissions. The other parts of the battery will need to follow a different route. They most likely will end up in landfills or incinerators.

We are in the business of wastes. We cannot avoid generating wastes. The laws of physics are clear on that. But we should do something with wastes that bring benefits to people and their environment. What ever we do involves the concept of energy. It is therefore essential to combine efforts to reduce the quantity of wastes generated by improving energy efficiency. This is a societal responsibility.

But the world is divided, complex, incoherent and , unfortunately, too often run by cynical pragmatism. Opulent nations are at an advantage in terms of managing wastes because they have adequate infrastructures, know-how and economic resources they can allocate to dealing with unproductive activities. Poor countries are vulnerable to their own doing aggravated by external pressure to accept wastes from rich countries.

In reality, the situation is far more complicated then the simplistic (but real) picture described above. The predictable bipolar division between North and South has become more complex. Trade patterns emphasise the East-West connections and South-South cooperation is on the move. In a world of growing complexities and uncertainties, waste issues have to compete with other social and economic priorities. Advances in technology and high consumerism accelerate the rate at which products become obsolete. Available estimates suggest that over one hundred million computers, monitors, and televisions become obsolete every year, and this number is growing. In many countries, hazardous used products or sustances make their way through the household waste stream and often end up in improperly managed disposal sites, when they are not simply dumped in rivers or on the ground. Agricultural productivity is an important source of pollution by pesticides. Patterns of production and consumption impact directly on the magnitude of the waste problem. But compared to what countries invest in boosting industrial production and in allowing more citizens to become consumers, the part allocated to reducing and managing wastes properly is abysmally low.

Are we happy enough with resignation and fatality, knowing that the improper management of wastes can have serious consequences on human life and the environment (eg.: lead or mercury poisoning, asbestos-related cancers, waterborne diseases, air pollution).

Things are changing, but at a slow pace. Priority is now given to recycling and reuse programmes and strategies to extend the life of used products, to save energy and resources, and reduce the quantity of wastes ending-up in landfills. Some already visualise a promising recycling society. But symbols are much faster than reality. To achieve a so-called recycling society there is a need to reduce barrier to the flow of

goods and eliminate market distortion worldwide. Establishing a loop for recyclables and recycled materials would rely on being able to trade wastes to any place where there is a facility that can do the job properly. This is easy said but not done. And there are solid reasons for that.

Wastes (whether you call them residues, emissions, carbages, secondary raw materials or recyclables) are special materials. When they bear no economic advantages, they will follow the path of least resistance and likely to end up where environmental and social protection are either non-existent or inadequate. In terms of ensuring a high-level of protection for health and the environment, the fact that a facility can recycle a waste in an adequate manner is not sufficient. A lot of other things need to be put in place, such as a proper legislative framework and enforcement capacity, the sound management of the residues arising from recycling operations, an adequate transport infrastructure and people that are well trained, without forgetting the importance of the existence of a functional industrial network and active involvement of local communities.

The international flow of wastes has a hidden side. Organised crimes has seized the opportunity of the increased in globalisation of trade to permeate economic sectors dealing with the transport, storage and disposal of wastes. Some considers that the profit made is the US\$ billions figure. Still today, as I write the present paper, many unscrupulous operators on land and on sea take advantage of gaps, incoherence or imprecision in the international legal architecture controlling export or import of and pollution from wastes to make profits; with disastrous effects on health and the environment all over the planet.

Rapidly developing international trade in wastes, including recyclables must be combined with mechanisms capable of providing information about and monitoring such trade to ensure its accountability and soundness from environmental, social, and economic perspectives. Take the example of electronic wastes such as old computers. Because of the high costs of complying with regulations, lack of capacity or grey areas in the way legislation is implemented, high quantities of end-of-life computers are exported to Asia and Africa overwhelming importing countries' capacity to deal properly with these wastes. In some cities, the quantities are so voluminous that, once the valuable parts are taken out, old computers are being burnt to reduce size, generating massive and permanent air pollution.

A vast majority of obsolete ships on their last voyage to recycling yards, will be dismantled on beaches in Asia exposing workers to injuries and lung cancers due to asbestos. For economic reasons, the recycling of ships is taking place where there is a large demand for steel for construction. The worldwide capacity for recycling old ships is not there nor is the economic situation favorable to improving their dismantling in those places where health and environment conditions are the worst.

The growing production of chemicals is one of the main contributors to the increase in hazardous wastes. More and more of these chemicals find their way into products, and these products, in turn, become hazardous wastes at the time of disposal. Chemical molecules are more and more complex making their destruction more difficult. Chemicals dumped in landfills are increasing.

Overall, the modern world has not been able to decouple waste generation from economic growth. As a consequence, the quantities of household wastes, demolition or construction wastes, industrial wastes, agricultural wastes and hazardous wastes continue to grow constituting a major threat to people and the environment, and representing a cost that nations will not be able to bear in the long run. One can argue that waste minimisation and its sound management have become strategic priorities for societies. How to make a better use of wastes as resources, how to manage safely and soundly what is produced and cannot be used and how to reduce both the quantity and hazardousness of wastes are among the most urgent and critical challenges for the 21<sup>st</sup> century.

In a world shaped by the globalisation of trade, encouragement should be given to complement and support actions taken by governments, individually or collectively, to come to grasp with the challenges posed of the generation, sound management, and control of transboundary movements of wastes. The main purpose is to achieve transparency in the way wastes are handled, where they are going and for what purpose. To achieve this, three complementary and mutually-supportive approaches could be conceived and applied through appropriate tools or mechanisms. These are:

- **Certainty** - There is a pressing need to reinforce existing international environmental conventions dealing with the control of transboundary movements and management of wastes, especially hazardous wastes. Unless a level-playing field is created, at regional and global level, among the different public and private stakeholders, vulnerable countries and populations will continue to suffer most from improper handling, export or management of wastes. Governments should strive to consolidate and implement the international norms they have adopted for managing wastes in an environmentally sound way (ESM norms). Economic actors need clarity to operate properly and would prefer to comply with law (even when such law restricts movements of wastes) instead of being faced with uncertainties that would give advantages to unscrupulous dealers, favor market distortion and unfair competition.
- **Predictability** - Currently, there is no systems or mechanisms economic operators can follow to determine where are the most adequate facilities to take the wastes they transport or produce in any parts of the world. There is no common pre-authorized facility notification system among countries in the world. Individual countries as well as the European Union have systems in place but confined to their needs and specificities. There is merit in working towards the development of criteria to identify facilities that could be pre-authorized to receive certain types of wastes for specific purpose (eg.: recycling, treatment, storage, disposal) and for which a pre-notification of shipment could be issued within the boundaries fixed by international trade and environmental rules and procedures. In order to be in line with international environmental norms, such pre-authorized scheme would be supported by an international ESM standard (see below). At this juncture, it is worth repeating that an ESM standard cannot deviate from internationally agreed rules and procedures regarding the control of transboundary movements of wastes.

- **Traceability** – Most important is to direct wastes to the proper facility that will be capable of managing them in an environmentally sound way and to ensure that every custodian of the wastes is certified or authorised to deal with these materials. To achieve this, there is a need to develop an international standard qualifying the management process required for aiming at the environmentally sound management of wastes. The foundation for such standard exists; it is constituted by the norms adopted in the framework of the Basel Convention for ESM and OECD core Performance elements applied to facilities. ISO 14000 series and EMAS standards can complement the system. In order to transform such approach into practice, ESM certification schemes could be developed for facilities recycling wastes or for those operators responsible for the transport, storage, treatment or disposal of wastes. Technical guidelines for the environmentally sound management of wastes (Basel Convention and OECD) would constitute the basis upon which to deliver an ESM certificate.

These are the three pillars of wisdom. It relies on the mobilisation of goodwill worldwide and commitments to invest in creative and innovative solutions that could bring social, environmental and economic sustainable benefits. No one alone can do the job. It is therefore crucial to pool resources and design the appropriate strategic and operational tools that would bring added-value to current efforts to reduce the quantity of wastes and to manage them safely and soundly over time.

Unfortunately, waste is a topic that attracts attention when there is a problem or an incident. It is not something people will dream about. There are no audacious programmes nor call for global action. We are not ready to reflect on ourselves and the way we live. Social and economic problems experienced in our daily life are too deep and too big. The world is too complex and confuse.

But, for one moment, just imagine that less people will die from toxic waste intoxication, that workers will not catch lung cancers due to asbestos, that poor people will have access to safe drinking water, that human scavengers living on and from landfills can find decent jobs, that gypsies working with wastes can be protected and can send their children to schools, that urban dwellers will not suffer anymore from toxic fumes, that the myriad of contaminated sites scattered all over the world will be cleaned up, that design of products will avoid the use of toxic components, that companies will improve efficiency and that consumers all over the world will have access to objective information on the product they buy. This world is possible. Do we want it ?

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