Globalized context…

Closer to home..

It also gives this…..

Or this

Stop

A brief sectoral analysis…

**The sector of plastic sacks and bags production**

- Regarding the sector of plastic sacks and bags production, we must remember the following:
  - The number of formal companies listed in this sector is approximately 150 units (excluding informal)
  - The number of direct permanent employees is 4500 people. (The estimated number of indirectly employed people is 2500.)
  - The revenue generated is 4.4 billion MAD.

Source: Ministry of Industry (2010 Survey)

The sector of plastic sacks and bags production

- Distribution of production according to the bags types
  - Rubbish bags 4044 T (2%)
Solutions do exist; commitments are already made, as follows:

The 3 “R”

- Reduce.
- Recycle.
- Reuse.

Up to this day, this approach does not address the problem of environmental pollution by plastics.

However, complementary solutions do exist ...

Plastics “with controlled life term”

A major innovation

The benefits of plastic usage are many

- Light
- Flexible
- Solid
- Waterproof
- Printable
- Recyclable
- Reusable
- A product made from a derived material

But ... Plastics have a long life, a very long life.

400 years

Plastic can take up to 400 years to wear out.

- A solution with high added value
- Eco-compatible plastic d2w®
Complete wearing out between 6 months and 5 years after pre-determined lifetime of the product *

In case of abandonment, wearing out may take few months only depending on exposure conditions.

* Depending on the formulation and exposure conditions

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**Responsible plastic usage**

Our 3 Rs

- REDUCE: Reduce the impact of plastic on the environment
- Reuse: d2w ® products can be reused during the programmed life period
- RECYCLING: d2w ® products can be recycled during the programmed life period.

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**Eco-compatible plastic**

**In brief**

D2w plastic degrade, then biodegrade into water, CO2 and biomass.

The process develops in oxygen or in soil, during the day and night, and in sun or shade, according to the programmable time scale.

At the end:

- Water
- CO2
- Biomass
- No HEAVY metals

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**Eco-compatible plastic**

*The process*

✓ The sun, the heat, the presence of oxygen will oxidize the material.
✓ Finally, a reduced molecular chain consisting of low molecular compounds accessible to microorganisms.

![Image of carbon, hydrogen, oxygen, and microorganisms]

- Carbon
- Hydrogen
- Oxygen
- Micro-organisms
  
  (Stenotrophomonas sp., Pseudomonas sp. Rhodococcus sp. Acinetobacter sp. Etc.)
d2w ® is a displayed brand!

The advantages of packaging using d2w ® technology are numerous:

- It wears out in a predetermined lifetime;
- It is also more resistant than traditional plastic;
- It uses the same production machines, without modification, for a minor additional cost;
- It is certified for all food contact;
- It can be recycled or made from recycled material;
- It can be composted if the formulation is adapted;
- It simply will not fragment, but biodegrades into CO2, water and biomass until it reaches a bio-assimilation without any toxic effect on the environment.

January 2010

d2w ® is available to Label Vie - Carrefour supermarket

Joint communication campaign

Moroccan Legislative context

September 2009:
A ministerial decree prohibits the use of black colored materials in plastic bags. Tracing the origin and identity of the manufacturer becomes mandatory.

July 2010:
Law 22-10 aims at eradicating the Moroccan landscape visual pollution by substituting plastic bags made from conventional polyethylene to degradable or biodegradable plastic bags

March 2011:
Implementing decrees passed by the Governmental Council.

What can we learn from all this ...?

Green marketing
Green=black

- Challenges
  - Most companies were not based on an environmental creed
  - Be "Green" becomes an essential attitude
Any action must be made for the benefit of the client, but we should not forget the benefits of shareholders.

Real green marketing

Green=Gold

- Opportunities
  - Stimulates innovation
  - Develops leadership
  - Attract new customers
  - Build loyalty for the brand

Sustainable development as a strategy

“In a stable economy, sustainable development is a strategy to be adopted for developing a competitive advantage.

In an economy in recession, sustainable development provides us a transformation strategy.

In a collapsing economy, sustainable development allows us to survive.”

Hunter Lovins, 2009

Comments or questions?