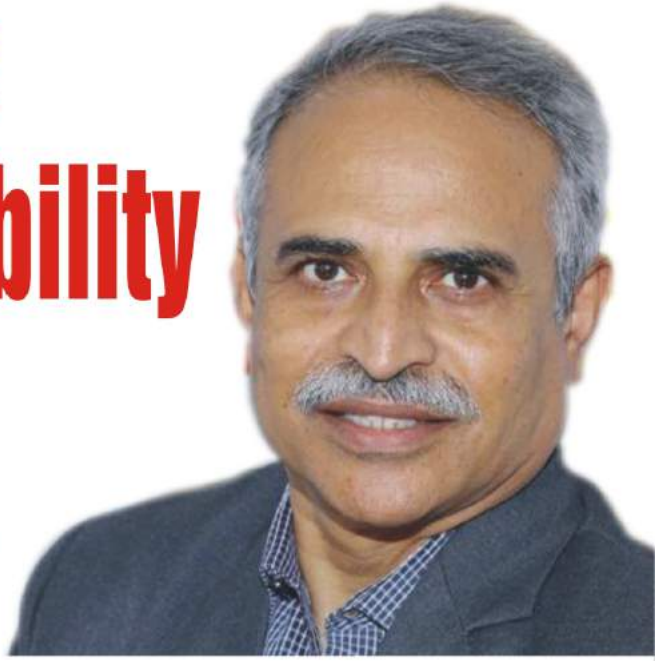
Need to address 3R's of Sustainability in Packaging



Jeevaraj Pillai
Jt. PresidentUFLEX LTD.

At the very initial stage when we were putting up the biggest flexible packaging manufacturing plant in the country, our per capita consumption of packaging material was very low- 2 / 3 kg per capita as against 100 kg for the USA. So, the first thing that came in our mind was - How will we deal with the issue when per capita consumption grows to the level of developed countries? And how will we handle the waste?

Most of the manufacturing companies in the country till late 2010 were practicing only linear economy and with limited focus on waste management. Major focus had been on efficiency, productivity, and scaling up. We, on the contrary, were focused on waste management right from the very beginning.Sustainability has been and is very much a part of our DNA. All our employees & stakeholders are as much as a part of this endeavor towards sustainable development.

Sustainability is all about addressing 3R's-Reduce, Reuse, Recycle. I have gonethrough the sustainability policies of many progressive countries and all of them cover the 3 R's. We are now fortunate to have policy documents from the Government of India that provide direction in developing processes like new EPR rules, and almost all of them talk about 3R's REDUCE /

"There is a lot of opportunity here for the technological barrier, while still remaining within guidelines where at least I would say 60% - 70% of the aluminum foil can be replaced for non-plastic packaging material which is non-recyclable &can be easily replaced."

REUSE / RECYCLE. So, in order to understand sustainability, in letter & spirit, we need to first understand the 3Rs and then practice it. Most of the multinational brand owners who use plastic packaging also talk about how to reduce / reuse / recycle in their policy documents.

REDUCE

"Reducing"in the context of flexible packaging is around two things-'Source Reduction' and 'Source Substitution'. In 1995, people in this business would know that Clinic Plus was packed in 12-micron polyester and in 75 micronsPE, and today it is being packed in 12-micron polyester and 35 microns PE. When we are focusing on Source Reduction then there is no need to sell extra plastics when it is not required to sell extra plastic. Just sell enough so that the intended use of packaging is served. Some companies in these time and age make profit by selling more and more plastics as if plastic was their main business. Let us not do that please. We design the packaging so that we just give enough packaging intended to service shelf life. PepsiCo is a great example in this context. PepsiCo supplies one of the thinnest materials on this planet, supplying anywhere in between 48 gsm over maybe 3000 metric tons of laminates for chips which have high OTR and MTR requirement in our country which is very diverse in terms of geographical condition. 'Lays' Rs.10 pack gets sold in Kerala in the same quantity as in Srinagar. So, designing a pack for various conditions and reducing source is really a great thought and this effort is not possible without the support of the industry. Industry also has to reciprocate in the same manner.

In source reduction, I could see a lot of people in the western world who were switching over from reducing solvent to energy curing technologies which uses energy to cure and crosslink the inks. This is an efficient technology which can be great source reduction parameter. Switching over to water base is also one step forward towards this direction. There are many such opportunities for source reduction even as we talk about carbon footprint and gas emissions etc. All that the flexible packaging industry needs to worry about is source reduction and we would leap ahead in reducing carbon footprints.

Most of the multinational brand owners who use plastic packaging also talk about how to reduce / reuse / recycle in their policy documents.

When we talk about "Source Substitution" there is a lot of technology available in the country. Fortunately, my experiences with one of the finest packaging technologies and the finest materialistic producer in India (I will not include Japan in this case because Japan is very much advanced) is that one of the finest barrier laminates which can survive logistic hardship in a country like India, is produced in India. We already have very good packaging technology & therefore the source substitution will certainly help.

The question that arises here is- Why haven't we tried to eliminate aluminum foil? Why don't we try and eliminate paper? Paper is a very unfriendly material when it comes to sustainability. Deforestation, usage of tons of water in 1kg of paper etc. There is a lot of opportunity here for the technological barrier, while still remaining within Cflex guidelines where at least I would say 60% - 70% of the aluminum foil can be replaced for non-plastic packaging material which is non-recyclable &can be easily replaced.

This was on the "Reduce" part.

REUSE

When you talk about Reuse, in India where the highest PET recycling takes place, we can reuse recycled PET bottle recycles into chipsetc to make recycled polyester. In Uflex,USA, we have produced 90% of our PET, which means only 10% virgin material is used

and the lines and they still run very stable at about 450meters per minute. All the gauges and migration test are within control. So why not in India? InUflex,Noida, India, we use upto 30% recycled polyester. Imagine the benefits, if such a vast industry of PET bottles were to use such a portion of pet bottles to make polyester. India's packaging is predominately polyester-based and therefore imagine the kind of economic benefits to the country in terms of fewer imports and large waste removal from the surface.

Yes, yarns, is a big industry. In all the PET bottles recycled today, almost 90-95% of them are being used in making yarns but packaging would be yielding more value than yarns if we try and divert some of these chips into making films. Now we already have a technology to use PE. If you can use a PE based MLP or a PP based MLP, then there is definitely a possibility to upscale. We have instances where we have used up to 20 % recycled PE in making films. Upscaling is difficult but for non-food applications, we can do recycling of PE and maybe tomorrow we can also do the same for PP. You can therefore cover polyester and PE which in turn can cover about 60% of the total consumption in the country. Therefore if 20% material of polyester and PE get recycled and reused, imagine the resultant savings in foreign exchange and amount of waste elimination from the surface of a planet. Last November Maharashtra Pollution Control Board came out with 30% usage of ECR material and we were all very excited but for some reason the industry did not seem to take it seriously and instead put restrictions in terms of technology so that we can somehow dodge the multilayer plastic material into the packaging.

RECYCLE

Third R is Recycling. Recycling is very advanced as I keep saying in almost all the fora.There is a very popular myth that multilayer plastics cannot be recycled. It is complete myth. We recycle more than 20,000 metric tons of multilayer plastics. Multilayer plastics are mixed plastics whether it is polyester, metallised polyester etc. Infact, way back in 1995, we got an award in the area of Environment protection. There is technology available and all you need is to improvise a little bit here and there andthen you can use this recycled content very much in the molded product

So, through these 3R's you can practice sustainability. There are nowpractical solutions available and this domain is not theoretical anymore. Yes 3 R's can be practiced in India and if India can do it then all other countries can also do it. I have always been reiterating that for

So, collection and littering will be life for us as of now and in the near future till probably biological recycling where MLP can be converted into biomass.

Sustainability the West will have to look at East because the solution lies in the East. People do talk about chemical recycling but this is WIP &people are working on it. Nothing commercialized so far. Biological recycling is one area which has come out very promising in recent times. If we can use the polyolefin and the fossil plastic and make it biodegradable this could be a very good biological recycling option. Butplease remember that the best of the countries in the world are still some time away from designing a process to collect full plastic waste from the environment. Some like Sweden, Denmark etc, have organized systems and are able to collect about 70% of materials.

So, collection and littering will be life for us as of now and in the near future till probably biological recycling where MLP can be converted into biomass.

To sum up we do not have to worry too much about sustainability; all we need to follow is to find ways and means to remain under the Umbrella of 3Rs. ■