Imagine what would happen if you wake up one day to realize that from today you won’t be able to drive your car as the diesel in the whole world is used up, or the LPG cylinders you order on regular basis is not available as there is no petroleum gas left on earth. Won’t you be boggled by the fact that these basic necessities are “out of stock”? Pandemonium will reign; people will be ready to kill each other over a cylinder of LPG, funny it may sound now but that’s the reality we are drawing upon our future generation due to our unchecked usage of these finite resources. In that situation only Thanos could save us. Haha

But if we think a practical solution for this problem we already have a way to counter this problem. And that solution in technical terms is known as sustainable development.

Sustainable development can be technically defined as the type of development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

For too long, economic growth and technological advancements have come at an environmental and social cost. Since the dawn of industrialization, the world has been witnessing an accelerated pace of development beyond which the earth’s natural resource’s ability to sustain is endangered.

The industrial revolution is believed to be the rise of the idea of sustainable development. From the second half of the 19th century, Western societies started to discover that their economic and industrial activities had a significant impact on the environment.

Throughout the 1900s, several social crises such as the 1923 American hyperinflation, the 1968 protests against bureaucratic elites, the 1973 and 1979 oil shocks and the 1982 debt shock of the developing countries raised awareness that a more sustainable model for the following development methods was needed. Yet, this wasn’t enough. Many more ecological mis-happenings such as the 1954 Rongelap nuclear fallout, the 1984 Bhopal Disaster and the 1986 Chernobyl nuclear disaster increased the concerns of the need of a more environment friendly development plan .Additionally, many more current issues as that of global warming, loss of biodiversity. Air/water pollution etc are requiring our urgent action.

And as the future engineers we ought to shoulder this responsibility to contribute to development but with sustainability of the resources we are so fortunately endowed with. Discovering and inventing technologies which not only give a profitable yield but also consume minimal resource is a job for us, young engineers.

The role of engineers in saving environments and contributing to sustainable development is very important because we can use creativity, technology and scientific knowledge to solve practical problems.

We Engineers play an important role in sustainable development by planning and building our projects that preserves natural resources, are cost efficient and cause minimal pollution.

A few advances towards achieving sustainability in development are listed below.

A closed loop ecological system is a suitable example of sustainable development

Now, we have heard businesses using all kinds of terms to prove that they are environmental-friendly. ‘Recyclable’, ‘plant-based’ and energy efficient. All gets tossed around a lot — and while most people generally know what these words mean, there is one frequently used phrase which is hard to decipher: Closed Loop systems.

The general definition of closed ecological system is :- ecosystems that do not rely on matter exchange with any part outside the system. The term is most often used to describe small manmade ecosystems. The phrase “closed-loop system” is often paired with “circular economy,” which is “an industrial system that is restorative and regenerative by intention or design”. It’s a way to conserve natural resources and divert waste from the landfill, and increasingly, more companies are adopting it.

Rainwater Harvesting

Yea, sitting snug on a rainy day with a hot cup of coffee is enlightening. But have a second

look around you, all that beautiful rainwater going down the train. Set up a rainwater

harvesting centre within your campus by setting up special roofs. Train the custodians to

regularly clean and maintain your project. Use that clean sparkling rainwater to clean your

campus surroundings or water the plants.

Reduce Reuse Recycle

Ahh the old saying we have been hearing since our school days. It is actually high time to

implement this on a large scale in your campus. Recycle all the old documents and used

water bottles through a set-up recycling station in your university. Switch to electronic means

of study if possible. Promote reusability by using special reusable water bottles and plates.

Encourage college officials to use second-hand furniture for offices.

Our sustainability goals should address the global challenges, including poverty, inequality, climate change, environmental degradation, peace and justice. The result of our endeavors should be a state of society where living conditions and resources are used to continue to meet human needs without undermining the integrity and stability of the natural system.