

# United Nations Sustainable Development Goals (UN SDGs)

Professor Dr. Shiva Ji

Indian Institute of Technology, Hyderabad

## SDG 12: Responsible Consumption and Production Part 1

(Refer Slide Time: 00:12)

UN SDGs  
: 17 goals to transform our world

Module 20  
• SDG12: Responsible Consumption and Production

Dr. Shiva Ji  
Design for Sustainability Lab, Department of Design  
Adjunct Faculty in Dept. of Climate Change and Dept. of Heritage Science and Technology  
Indian Institute of Technology Hyderabad, India  
[shivaji@des.iitb.ac.in](mailto:shivaji@des.iitb.ac.in)

Dr. Shiva Ji  
IIT Hyderabad

Hello everyone. So, I welcome you to the Module 20th under the course of UN SDGs and this is about SDG 12 responsible consumption and production.

(Refer Slide Time: 00:33)

1 NO POVERTY  
2 ZERO HUNGER  
3 GOOD HEALTH AND WELL-BEING  
4 QUALITY EDUCATION  
5 GENDER EQUALITY  
6 CLEAN WATER AND SANITATION  
7 AFFORDABLE AND CLEAN ENERGY  
8 DECENT WORK AND ECONOMIC GROWTH  
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE  
10 REDUCED INEQUALITIES  
11 SUSTAINABLE CITIES AND COMMUNITIES  
12 RESPONSIBLE CONSUMPTION AND PRODUCTION  
13 CLIMATE ACTION  
14 LIFE BELOW WATER  
15 LIFE ON LAND  
16 PEACE, JUSTICE AND STRONG INSTITUTIONS  
17 PARTNERSHIPS FOR THE GOALS

SUSTAINABLE DEVELOPMENT GOALS

SDG12: Responsible Consumption and Production

Dr. Shiva Ji  
IIT Hyderabad

So, in this one we will see about consumerism which has risen manifold in the last few decades and maybe one century also.

(Refer Slide Time: 00:51)

So, some facts and figures electronic waste grew by 38 percent, but less than 20 percent is recycled. So, well this is a new age phenomena, new age material, new age components. So, let us go a little bit behind in time. I think previously also we have discussed when electricity was yet discovered and we did not know how to use electricity and all of it, there was no electrical such gadgets.

So, before this time how the life was if you just imagine before this before electricity. Well, there was no dependency on any sort because there was no gadget itself we did not know how to make use of electricity. So, mostly things were nature based or very simple humble human manmade using wooden things, using the metal based things or maybe glass or other stuff.

But there was not any particular electronic or electrical gadgets for example. No electrical lighting there was only lighting based out of either natural lighting day lighting or maybe oil based lamps or some other provisions. So, what has changed after this if you see and if you look around your room and see perhaps many or all often these materials and things we are surrounded are somewhere the products of electricity.

They have consumed electricity at some point of time whether in a form of maybe a motorized machine or maybe an appliance or maybe heavy equipment or maybe heavy machinery or maybe some factory some manufacturing facility or even transportation and all of this somewhere they are touching because of this and this has actually facilitated a lot and from an age of scarcity to an age of abundance we have actually travelled into.

So, that is the journey so this was also not good age of scarcity when people were not able to meet even basic needs of clothing other stuff even food supplies also they were not in such an abundance there is to be an age of deprivation, things were not available so easily, things were not there also I think very short supply of resources was there and majority of population was deprived of most of the resources.

So, well this electricity and overall if you see industrialization as a process has brought a kind of age of abundance and fulfillment. So, definitely it is an amazing achievement from a scarcity to abundance and scarcity to fulfillment we have reached and now things are very much compared to the older ages well there are still people who could not afford lot of things, but at least compared to the previous ages.

We have things available in the market if you ask for something it maybe there or maybe it is there in variety of options also just remember when our parents or grandparents got their first vehicle there used to be just one brand Maruti in India or if two wheeler then maybe you know Bajaj Chetak or maybe one or two more. There was not many option and there used to be several months or years of waiting if you want to buy one.

But now you carry your cash and you can get any of such things immediately it is all available on your disposal so much and the clothing also earlier people used to wear maybe pieces of dhoti or long hand woven garments, but now there are so many tailor made apparel and things are available. In the footwear also people used to walk in a bare foot in the older times only few used to wear maybe wooden made that kharau in Hindi.

It is called or wooden sleepers or of leather handmade the person cobbler. So, very few, but nowadays with the advent of synthetic yarns and fabrics and garments all of these things are possible and now these things are available in abundance. One can buy sleeper a pair of sleepers in I think less than 100 rupees also and overall purchasing power has also improved. So, all of these things if you see have contributed in fulfillment.

If you ask for something it is there and there with your increasing purchasing power you will be in a position get it at least the majority of the population is able to get it if not all. So, this all has led to the age of fulfillment. Now, what is happening till the fulfillment of your needs it is alright it is perfectly alright, but the moment it is going towards more than this I want more and more and more and more and many more.

If you are getting greedy to meet your demand, to meet your taste and interest and all of that, if it is going beyond needs because interest, choices and all of those things they carry little bit of hint of luxury because there are so many things now. There is choice, there is a selection and now we are entering into an age where things are experience based. So, needs are fulfilled this age is gone.

Now things are experienced based lifestyle, aspirations and now people want to fulfill these, they want to experience best of the best, they want to have a lifestyle where they can spend at their leisure, they have high aspirations. Well, there is nothing wrong, but the problem is it becomes wrong when this goes into overdrive and when it enters into the over consumption. So, what you need, you know, basic need than luxury.

So, of course this is the problematic situation well it is not about the cost one can bear or the price one can pay for, it is about the cost on the other stuff also, the monetary cost you can pay, but how about the cost which is coming to the environment the air pollution it is generating, the soil pollution, the noise pollution, the resources it is exhausting, the pollution it is creating amongst is discarded.

What about those aspects who is paying for that nobody not even you. So, the whole environment it collectively this whole planet and including the humans and all other animals and species of flora and fauna they are all paying that price. So, then this becomes the problem and that is what actually is mandated through this SDG that responsible consumption.

Well, nobody is asking you to reduce for consumption whatever basic needs you please go ahead with that, but you should never go into the over consuming things more than what is needed or you should not kind of try consuming lot of things since you are able to just afford it or you are able to just buy it that is not the responsible reason that is why, you know, this word responsible.

One should have sense of responsibility towards consuming things, no matter what it is. So, responsible consumption and production. So, it is not consumption only it is about production also lot of companies and manufacturing units and entities, organizations they are producing stuff which are not so good to the environment or society or the place or other natural elements air, water, soil, earth etcetera.

So, they must also take care of proper ways of producing things in a responsible manner. So, fixing an accountability of each and every one that is mandate I hope you are able to get it. So, if you see this well with the new age electronics and internet, computers and all of these things smart phones they are the new age items and products and their use is rising every year.

And handsome percentage in double digits every year it is rising I think every part of the world. Well, of course it is adding a lot to our facilities, for example, computing I think is essential for almost anything and everything today, but again the waste it is generating all of those smart phones and computers and entertainment devices, music music systems TVs combine all there are 100s and 1000s of electronic products now we are surrounded with.

All of them put together if you see they call it high as category electronic waste and that waste is rising 38 percent by electronic waste grew by 38 percent. So, this is the rate at which it is rising if you see it is rising tremendously at 38 percent and out of which only less than 20 percent is recycled that means 38 percent of 80 percent more than 80 percent is not recycled where is it going then that is the question where is it going?

Because you know electronic waste actually constitutes lot of metals heavy metals plastic, different classes of plastic and many other stuff rubber etcetera many other insulated insulations and all of those things and where are they going? They are into the dump yards, landfills maybe at the bottom of lakes and rivers. Finally, they may be reaching to the oceans and the repercussion.

Well we all know what constitutes of this electronic waste and how bad they are maybe individually you can search about each and every element used in electronic you will come to know how bad they can be. A pure metal in its elemental form is okay unless it is radioactive and all I am talking about metals. So, a pure metal in its elemental form is not going to harm particularly.

But since electronic waste is composed of several types of metals in several ratios and proportions sometimes alloys sometimes transistor and all of those circuitry parts. They actually sometimes consume heavy metals, sometimes some other elements mercury, cobalt, nickel. So, these are actually not so friendly elements also. They have direct impact on human health and the health of other organism also.

Other living beings also like animals and plants. So, since they are going to just get thrown in open in the whole ecosystem that is becoming the problem. There is so much of waste, it is going beyond manageable limit and as you can see over here more than 80 percent of the waste is not going recycled that is problematic and this is just about electronics, there are many other categories of products also, for example I mentioned garments, clothing.

So, clothing if you see is one of the largest bulk producers of waste. The garments and the fabric what we throw that actually constitutes the one of the major bulk apart from that many other types of product stuff whatever you are saying furniture and other plastic related items plastic bottles other vessels and all of these stuff. So, overall I hope now you understood.

So, what could be the goal over here to ensure sustainable consumption and production pattern very direct to the title of this SDG. To make sure this is sustainable and responsible, it is responsibly being consumed and being made on both. Why I think regions we saw, but let us read it. Economic and social progress over the last century has been accompanied by environmental degradation that is endangering the very system from which our future development and very survival depends.

If this ecosystem is getting threatened then what happens all of this comfort and luxury is not going to help us. COVID-19 offers an opportunity to develop recovery plans that will reverse current trends and shift our consumptions.

(Refer Slide Time: 15:36)

The slide displays the text for SDG 12: Responsible Consumption and Production. Handwritten notes in red ink are overlaid on the slide, providing additional context and examples. Key notes include:

- SDG 12** (written in red)
- Responsible Consumption and Production** (written in red)
- Circular Economy** (written in red)
- Waste** (written in red)
- Recycling** (written in red)
- Sustainable Consumption** (written in red)
- We All Humans** (written in red)
- Need -> Supply** (written in red)
- need based** (written in red)
- Log** (written in red)
- Sum** (written in red)
- Buy -> need based** (written in red)
- X impulse** (written in red)
- offer** (written in red)
- market** (written in red)
- over** (written in red)

The slide also features the SDG 12 logo, the UN emblem, and the 'Sustainable Development Goals' logo.

And production patterns to a more sustainable course. A successful transition will mean improvement in resource efficiency consideration of the entire lifecycle of economic activities and achieve engagement in multilateral environmental agreements. So, everywhere it is being it is talked about if you see resource efficiency improving on the resource efficiency considering the entire lifecycle of economic activities and active engagement in multilateral environmental agreements.

So, everywhere from resource exhaustion whenever start mining in ores, minerals and stuff from the nature from there itself the impact actually begins. Because we are seeing the Earth's resources as our own useful resources we are trying to make use of it. So, that is why if you see in the word resource in today's term has an economic connotation economic utilitarian connotation attached it.

So, that means the things which are economically useful for us in some way we call it as a resource and rest of the things we do not call it as a resource. So, there is human driven interest into this. So, we have seen things with lengths that it is useful for me or it is not useful for me and whatever is useful is now getting exhausted to its limits. There are several examples from around the world on any.

And every element what is useful for human society for its exhaustion. Yesterday I gave example of rivers the water of the river belongs to the water, but before the river actually reach to the ending point it meets in the ocean or wherever we are drawing and drawing and drawing most of its water for irrigation purposes. Well, irrigation is an economic activity suitable for humans.

We are drawing water for factories, for manufacturing facilities even for our drinking water, even for meeting our household demand of water or house core activities and stuff. So, if you see we claim our right on a natural resources. A river is now owned by rivers, we do not own this planet. So, how can we say this is our resource and we have all the rights to exhaust it that is the problem.

So, if you need it respectively you can consume a little bit, but you should not consume it to that extent that it gets depleted of all of its resources that is you are killing the river and similarly all other things and resources and minerals and whatever trees for example now we are selling the trees at the greatest extent that ever and you may be aware I think during after

last (0)(18:48) this is the most catastrophic situation where a huge percentage of earth forest cover has already been depleted.

And it is getting depleted also at a much faster rate and that is bringing lot of issues who is going to get impacted all of the living beings including humans. So, we are going to get ourselves into a very tricky situation we have already landed into that situation for information and we are putting all other live firms also of this planets into that catastrophic position without any of their faults.

We are putting this whole planet into that catastrophic situation. I will come to this point who is this we? Well we does not means all the humans that is the wrong notation. We does not include all the humans the people living in the villages or rural areas or tribal having very less impact almost no impact or maybe a positive impact not negative impact. How can we help them into this we group. Definitely they are not there.

So, the communities, the countries, the people who are personally or individually or collectively responsible for this mess must be held accountable that is why this accountability also cannot be termed as a humans because humans include every human, but not every human is responsible. So, this responsibility needs to be fixed in a proper manner and the entities and the persons and the countries must be held accountable.

For example, several countries if you see who are in the top list of impacting 1, 2, 3 you must be aware which is the largest impacting country on this planet is the Qatar from the Middle East. So, Qatar every per capita impact is the extremely high compared to the rest of the world and developing world or maybe underdeveloped world. So, why underdeveloped world countries are bearing the brunt that is the question.

So, it is a valid question it must be addressed because the countries which are responsible at position 1, position 2, position 3, 4, 5, 6 in that order must be held responsible and people who have negative impact on this planet then it becomes judicious way of looking things, the people who are responsible for such mess must correct in a near course. So, this is where things go into a very kind of different dimension how to correct this.

Because this is indirectly coming from consumption and production systems. So, it is very easy to monitor this and very, very direct. Well, what needs to change there are many aspects of consumption that with simple changes can have a big impact on society as a whole. For



example, the global material footprint and indicator of the pressure put on environment to support economic growth and to satisfy material needs of people you know material footprint.

Remember this grew by 17.4 percent to 85.9 million metric tons in 2017 as compared to 2010. This is the growth 17.4 percent, 85.9 million metric tons material footprint. What is material footprint is the indicator that how much resources we actually exhaust from the environment to meet our own material needs. So, this is the quantity we are talking about. Well, maybe for comprehension you and me can relate few kgs.

Few quantiles or maybe few thousands kilos, but how about comprehending these million metric ton physically or practically we have no idea because it is running in numbers for currencies if you see we can relate in lakhs and perhaps few crores, but if it goes in this many lakhs crore or this maybe billion dollar or a trillion dollar it becomes uncompressible figure where you and me become kind of we cannot relate it to our own set how many ice creams you can buy.

If you just imagine in that way. So, how many kind of maybe water bottles or piece of electronic or piece of furniture you can buy or you can make in these 85.9 billion metric tons of material or resources is really humongous figure it becomes unrelatable. So, that is you know the mammoth quantity we are talking about at the global level and it is really growing and growing and growing there is no stopping to it.

So, this must come to a term where this is sustainable and responsible to the environment that is farcry from this SDG. Reducing food loss and waste can contribute to environmental sustainability by lowering production cost and increasing the efficiency of food systems. Currently we lose 13.8 percent after harvesting and during transport, storage and processing alone 13.8 percent almost 14 percent gets wasted amounting to a cost of over 400 billion dollars a year.

This much of food is it just gets wasted every year you see during transport, storage and processing etcetera. So, just imagine these many 14 percent of this food costing 400 billion dollars how many mouths it can feed just imagine. So, how many poor people, how many people who are below poverty line or who are facing situation of hunger or poverty can get this benefit directly without any additional cost just by saving it because it is already there.

It is produced it is manufactured, it is brought into storage and processing and then it gets wasted. So, just by saving how many million mouths can be fed you can see from this figure that is why it is essential that is why this actually usual practice of wasting at this percentage must change, can recycle and purify water and rivers and lakes. We are also polluting water faster than nature can recycle and purify.

You know natural elements they have their own healing capacity. So, they can heal themselves if there is any issue, but it needs sometime. Of course, over the time the rivers and lakes and air gets normalized, but there is a threshold. The rate at which we are polluting, the rate of pollution is outpacing the rate at which it can heal itself. So, that is the problem the healing capacity, the healing also is happening concurrently, but pollution is outpacing it.

And pollution is running farther ahead of the healing capacity you can understand in this term and that is why healing is not able to catch up with the pollution because healing is limited the healing has its own threshold, it has its own capacity, but pollution has no threshold we are exceeding and every year we are exceeding previous pollution ratings and where is it leading to we are all aware of that situation.

So, this mindless consumerism is responsible for business just maybe for an instance maybe you can recall how many toys you had when you are child, what they are made of from where they came who made them, what materials were used to make them, what happened to those twice once you discarded or they got actually damaged or bad and compared to how many toys the kids from this age have.

Any toy if you refer to the ecommerce platform or in the shops or you know shopping malls or markets or here and there things are abundantly available on your disposal at very cheap prices. If you want to order one they will give you another one free. There are so many offer these many percentage off, this offer, that offer blah, blah. These are all actually marketing strategy to lure the customer increase the sales.

But the after effect is the overconsumption. Overusing of these things, over impulse buying of things sometimes not out of necessity, but just for fun. So, many things have actually changed from the older times to now which is causing all of this and that is why we know what is responsible for this situation. Well how can I help as a business at this point. In a business interest to find new solutions that enables sustainable consumption and production patterns.

A better understanding of environmental and social impacts of products and services is needed, both of product lifecycles and how these are affected by use within lifestyles. Identifying hot spots within the value chain where interventions have the greatest potential to improve the environment and social impact of system as a whole is crucial first step. Innovation and design solution can both enable and inspire individuals to more sustainable life science reducing impact and improving well beings.

So, it is directly related if you see to everyone's lifestyle because market works on annual demand and supply. So, market is trying to fulfill the demands which are raised by the consumers and customers. So, if there is more demand there will be more supply, if there will be less demand there will be of course to meet that there will be lesser supply to meet it otherwise what is the point of making more if there is less demand.

So, it is direct correlation of you know demand and supply. So, how one can tweak this demand will affect so that there is no less demand supply. So, if you buy only need based things there will be supply of only need based and new things and not luxury items or maybe overconsumption all item. Saving directly on to all of those things what we are talking under this SDG.

So, this is as per business as a consumer also there are two main ways to help reducing your waste, your own waste and being thoughtful about what you buy. Well in the businesses it mentioned for sustainable practices also making things which are environmentally conscious or environmentally easily recyclable, easily disposable or they have lesser impacting things.

So, going for LCA analysis of your products before launch so that even if you discard it is not going to have negative impact on the ecology and so on. So, as a business as a manufacturing unit or a service rendering unit or any business entity can adopt those sustainable practices to become a responsible manufacturer or responsible production or responsible service rendering facility.

For consumers also selling on waste and being thoughtful about your purchases. So, you buy what really you need to buy? So, the real need must be identified for purchases not out of impulse or just for the sake of it or just because there is some discount or some offer is there, some lucrative offer. Just remember there is no one like, you know, no company gives any free things or these are all mostly marketing ((31:56)) to lure customers into purchasing more and more.

So, as far you know company is driven by monetary interest it is going to be a problematic thing for being an environmentally conscious and all these things. So, companies and production houses must be actually environmental consensus also apart from just making monetary profits. Ensure you do not throw away food, any sort of resource is must not waste.

Very importantly saving food is amazingly essential just recall some pictures of hungry people, hungry children from a poor countries for the sake of them one must save food as a precious resource and reduce your consumption of plastic one of the main pollutants we know plastic is amazingly useful product, amazing product and innovative solution and now plastic is available in most of the things what we are using these days.

Even in electronics, medicine packaging everywhere, but it is one of the major reasons of global pollution. So, one should not use plastic based items mindlessly. One must carry a reusable bag maybe a cloth bag or something so that you can keep using it again and again for your grocery shopping or any other such activity refusing to use plastic straws. If you refer some pictures they are very gruesome pictures where animals have fallen prey to thrown plastic items.

And the cycling plastic bottles are good ways to do our part every day making informed purchases also helps, for example, the textile industry today is the second largest polluter of clean water after agriculture and many fashion companies exploit textile workers in the developing world. You may be aware of bad working environment are very short supplied or deprived condition in which these workers work in the developing countries to make garment for the big brands and then sell it in the international market.

They get more money, but these workers are very less paid. If we can buy from sustainable and local sources you can make a difference as well as exercising pressures on businesses to adopt sustainable practices. So, always remember it is in the hands of consumers also mostly that how the planet is taking shape. So, one must actually rectify their own habit of purchases and consumption and stuff to deal with this problem and for more details well of course you can refer to this link.