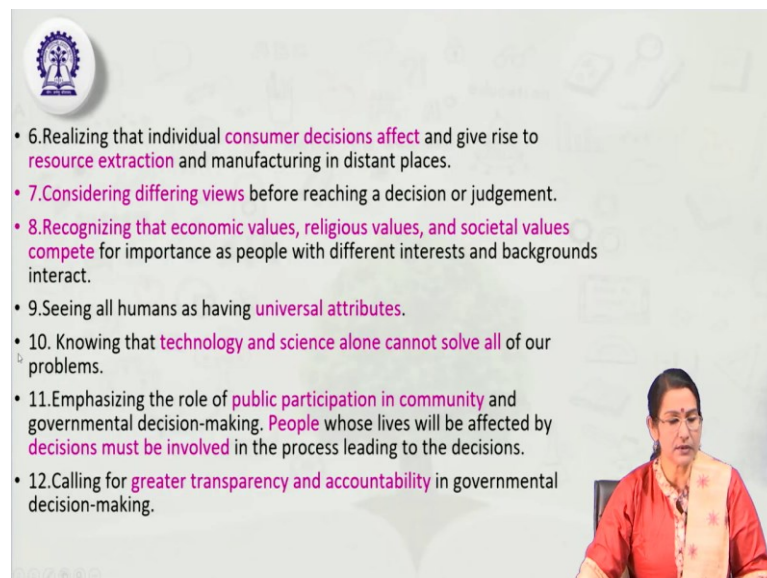


Education for Sustainable Development
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Lecture - 39
Sustainable Education (Contd.)

Hello viewers, welcome back to this NPTEL course on ESD, Education for Sustainable Development. So, in the last class we are discussing about the different perspectives of Sustainable Development.

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The slide contains the following list of points:

- 6. Realizing that individual **consumer decisions affect** and give rise to **resource extraction** and manufacturing in distant places.
- 7. **Considering differing views** before reaching a decision or judgement.
- 8. **Recognizing that economic values, religious values, and societal values compete** for importance as people with different interests and backgrounds interact.
- 9. Seeing all humans as having **universal attributes**.
- 10. Knowing that **technology and science alone cannot solve all** of our problems.
- 11. Emphasizing the role of **public participation in community** and governmental decision-making. **People** whose lives will be affected by **decisions must be involved** in the process leading to the decisions.
- 12. Calling for **greater transparency and accountability** in governmental decision-making.

So, to continue with that now we will discuss the other perspectives like for example, consumer decision effect. Realizing that the individuals consumer decision effect also it also give rise to the resource extraction and manufacturing the manufacturing and manufacturing in distant places. That means, consumers habit of consumptions and consumer decision making, it also affects the sustainability, the resource extraction, resource depletion, resource consumptions.

So, that is also another part of you know, so of the sustainable development perspectives. So, how to make aware the consumers to have the sustainable consumption habits? Second is that again considering the different views before reaching to the decision of the judgement before taking any decision regarding the consumption, manufacturing,

production etcetera. We have to analyse the different perspectives different alternatives, different options available to take a decision final decision.

So, recognizing the economic values, religious values and societal values compete for the importance of the people with different interests and backgrounds interact. So, when we talk about the cross cultural perspectives of the people from different background, different religious beliefs values and societal values they interact with each other.

So, they also they have to recognize, they have to acknowledge the economic values, social value and when they interact, so that different they are in different interests and backgrounds also yields some resolve on the environment on the society.

So, seeing all the humans as having some universal attributes, but we assume that across the globe all the global citizens they are they assume they possess some of the universal attributes, universal qualities and the values. So, again technology science etcetera alone cannot solve all our problems, but it has to be; it has to be initiated at the public level, at the grassroots level, at the society level, at the human resource level.

So, that is a public participation in the community public awareness public decision making, ability public conscience all these kinds of things it takes a major role in the decision making process, so leading towards the sustainability. So, public awareness how to make them aware regarding the sustainability and how it affects how every action of our behaviour every action, every you know every activity in our life it affects the sustainability of the society and the economic aspects that we have to make them aware of have to educate them.

So, how peoples life; peoples life are affected with individual even in with individual consumption habits and the decision making abilities. So, that is where the greater transparency is required, accountability is required both at the government level as well as the community level, at the public level. So, calling for the greater transparency and accountability, so here it even at the home from whatever we are consuming the electricity, the power, the energy, we are consuming the water as a resource we are consuming the space we are enjoying.

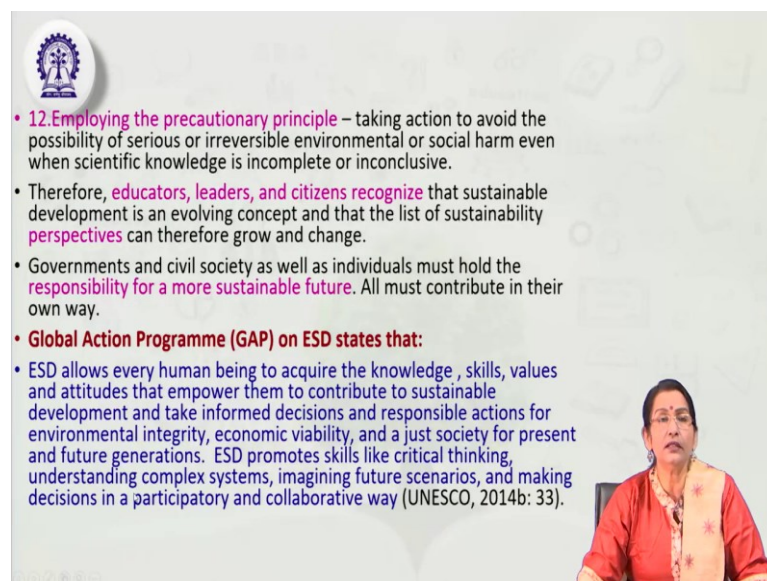
So, everything should be accountable every things would be very clear and transparent and every things would be very much accountable we are accountable all of us we are


accountable towards the society, towards the environment, towards our economy, towards our government etcetera. So, that is why governmental efforts would be of course, a major effort, but, but people have to be the public have to be educated from time to time to adopt this kind of you know living style and habits.

Because, you know sustainability perspective, sustainability viewpoint, sustainable habits, sustainable thinking pattern is a paradigm shift in our consciousness. So, that has to be made that has to be made with a rigorous practice, recurrence education, recurrence information dissemination all kinds of that they have been monitoring and evaluation mapping.

So, all kinds of things it should be a continuous flow of learning process then only we can bring some changes in our society. And for that matter government can also initiate some of the schemes, some of the tools to measure to assess this impact with greater transparency, greater accountability and suitable measuring tools.

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- **12. Employing the precautionary principle** – taking action to avoid the possibility of serious or irreversible environmental or social harm even when scientific knowledge is incomplete or inconclusive.
- Therefore, **educators, leaders, and citizens recognize** that sustainable development is an evolving concept and that the list of sustainability **perspectives** can therefore grow and change.
- Governments and civil society as well as individuals must hold the **responsibility for a more sustainable future**. All must contribute in their own way.
- **Global Action Programme (GAP) on ESD states that:**
- ESD allows every human being to acquire the knowledge, skills, values and attitudes that empower them to contribute to sustainable development and take informed decisions and responsible actions for environmental integrity, economic viability, and a just society for present and future generations. ESD promotes skills like critical thinking, understanding complex systems, imagining future scenarios, and making decisions in a participatory and collaborative way (UNESCO, 2014b: 33).

So, that is another thing is that step to be taken by like employing the precautionary principles ok. How to avoid the; how to avoids like you know this irreversible kind of environmental and social harms? Like you know manmade disasters are there manmade disasters especially in the; in especially in the hill stations like land frequent landslides and because of the over construction, because of these even in the blockage of the

drainage system; that means, the drainage system is not you know very underground and very clear.

So, because of the poor management of drainage system and over construction, over you know crowded overcrowded population and the buildings construction as buildings etcetera without thinking about its impact on the environment with, without thinking about its waste management system drainage system etcetera. So, that creates a kind of the manmade disaster.

So, how to curb it? So, for that matter we have to apply precautionary principles to avoid this kind of serious irreversible environmental problems environmental you know affect affects through our scientific knowledge, through our technology, through our you can say educational programs. So, that is another thing. So, similar, so for therefore, educators, leaders and the citizens they recognize the sustainable development is an evolving concept it is still evolving, it is still getting unfolded.

So, a at least of sustainability perspectives are there and least of you know in n number of sustainability competencies from the minor to micro to macro level per level. So, we have to apply it we have to think of it. So, again definitely it is a governments responsibility as well as a civil societies responsibility to build a more sustainable futures and almost therefore, almost both private sector, government, public community people and in their own way they should contribute towards sustainable community.

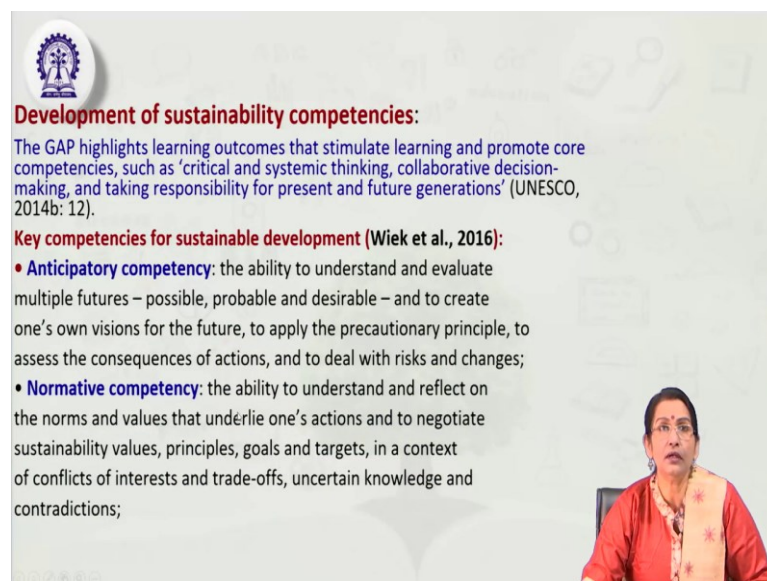
So, that is where that is where that is from awareness information dissemination, awareness training workshop orientation at the same time policy level also policy implementation, monitoring, evaluation, then principles law also laws legal actions also and again you know accountability and transparency. These kind of concepts these kind of principles and perspectives can enable us to take care of our planet and to move towards a sustainable future.

However UNESCO has already advocated for the global action program that is GAP on ESD and it states that this global action program on ESD it states that ESD allows every human being to acquire knowledge, skills, values and attitudes that empower them to contribute to the sustainable development and take informed decision, consensus decision, informed decision and responsible actions for the environmental integrity, economic viability and the just society for the present and the future generation

So, this is the gap program slogan for ESD ok. So, therefore, ESD promotes skills like critical thinking, understanding the complex systems, imagining the future scenarios, making decisions in a participant in collaborative way. So, these are the slogans, these are the you know slogans of UNESCO through global action program that is how ESD can mobilise, how ESD can promote these kind of critical thinking you know deep contemplation, contemplative learning, transformative learning.

To understand not only the complex system to, but also to imagine the future situations you through analytics and making the decision that is the judicial decision, right decision, informed decision and to participate in the community activity in a sustainable community activity in a collaborative way and cooperative way. So, that we not only enjoy the sustainable present to present today, but we can also restore it for our future generation. So, this is the gaps action program on the ESD.

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Development of sustainability competencies:
The GAP highlights learning outcomes that stimulate learning and promote core competencies, such as 'critical and systemic thinking, collaborative decision-making, and taking responsibility for present and future generations' (UNESCO, 2014b: 12).

Key competencies for sustainable development (Wiek et al., 2016):

- **Anticipatory competency:** the ability to understand and evaluate multiple futures – possible, probable and desirable – and to create one's own visions for the future, to apply the precautionary principle, to assess the consequences of actions, and to deal with risks and changes;
- **Normative competency:** the ability to understand and reflect on the norms and values that underlie one's actions and to negotiate sustainability values, principles, goals and targets, in a context of conflicts of interests and trade-offs, uncertain knowledge and contradictions;

The slide features a small inset image of a woman in a red and white patterned top in the bottom right corner. The background of the slide is light green with faint, large letters 'E', 'S', 'D' visible.

Now, coming to the development of sustainability competencies. At the same time GAP also highlighted certain learning outcomes ok certain learning outcomes that stimulates the learning and promotes some of the not only the core competencies such as the critical and system systemic thinking the collaborative decision making and taking responsibility for the future generation, but at the same time it also advocates for other sustainability competencies, ok.

So, we will discuss about the what are the key competencies; what are the key competencies then and what are the other sustainability competencies. So, Weik et al 2016 has analyzed some of the competencies. So, here we can say that the core competencies like critical and systems thinking. Core critical whatever we are observing we are witnessing, we are encountering, we are facing, the issues and challenges we have to critically evaluate its cross cons background cause effect, strengths, weaknesses its all kinds of aspects we have to critically evaluate it.

And system systemic thinking means we have to give a holistic perspective of what is happening it is not just happening to us to our state, to our people, to our village, our community. But at holistically at large at a global level what is why it is happening, what is the what is the implication, what are the implication, what are the cause, what are the effect, what is going to the future condition of these thing?

So, it is a systemic thinking means a holistic perspective evaluating something reflecting on something on as a whole as a system; as a system that is called the systemic thinking. So, critical and systemic thinking collaborative decision making that is mutually you know mutually conducive mutually helpful eco friendly, affordable, then you can say viable and viable these kind of decision making. So, that we take the responsibility not only for our present, but also future generation.

So, these are some of the core competencies, but besides that what are the other key competencies that Wiek et al has advocated like anticipatory competency? Anticipated that is wow we can make we from the evaluation to by understanding the situation and evaluation, we can predict something, we can be we can assume something which is possible, probable and desirable to create our own vision for the future.

So, evaluate the multiple options, then and explore the possible probable desirable solutions to create our own vision for the future to apply the precautionary principles being proactive, being well informed, being able to assist and evaluate the consequences of every action and to deal with the risk and changes. So, here not only anticipating the what is forthcoming, but also preparing our self being proactive in dealing with all kinds of thinking we assist the consequence the intensity of actions, intensity of the consequence of the actions and to deal with the risk and changes proactively.

Then normative competencies, so normative competency is that ability to understand reflect on the norms and values that underlie ones actions. Because certain community like yes culture is a factor, cultural practices, cultural you know values, systems, practices these are definitely major important factors. But we have to analyse it what are the inherent meaning behind these cultural norms, behind every norms and the values that underlie ones action what are the actually causes we have to reflect on it deeply contemplate on it.

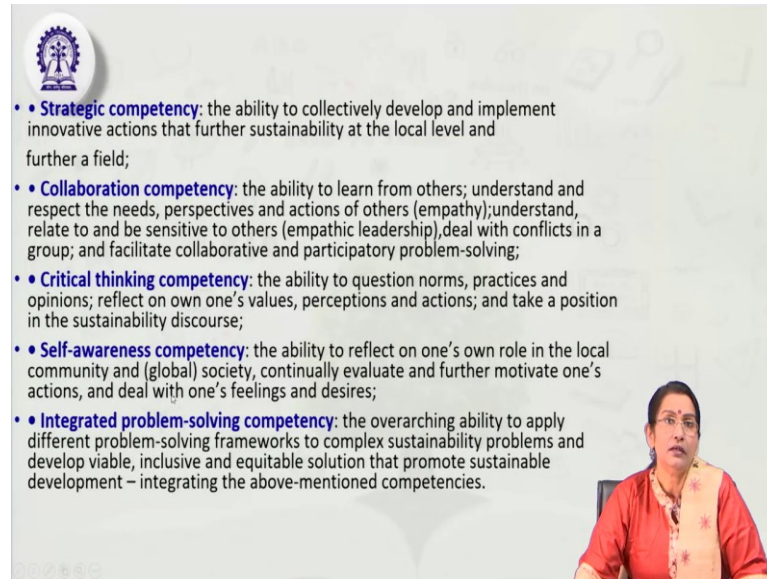
What are the reasons the reasons behind certain norms and the values that underlie ones action and to negotiate sustainability values maybe that because some of the traditional in the community traditional commit some traditional values are going on maybe. So, we have to we need to understand their background, we need to understand their cases then we have to negotiate with them with the sustainable values sustainability values. How important it is, how important it is a sustainability values to adopt it to the principles, goals and targets?

So and again in the context of conflict of interest and tradeoffs also uncertain knowledge and contradiction. In this process definitely we are going to face some kind of dilemma conflicts controversies you know some kind of conflict of interest, some clashes some tradeoffs; that means, economic financial trade off so uncertain and uncertain knowledge and contradictions also we may face this, but how to resolve it you know how to resolve it?

So, to analyse all kinds of the norms and the rules and values and the background of it just if I try to justify the actions, if it is not sustainable, if it is unsustainable then we have to negotiate with the sustainability values by incorporating or inculcating the sustainable goals, targets and principles among the community among the people. And for that matter we have to face argument, controversies a conflict of interest, but at the end we have to resolve to the resolve this conflict towards the sustainable solution. So, that is the normative competencies.

So, how efficiently we can do it, how efficiently we can evaluate the norms and values of the society, how evaluate you can reflect upon it. And if we if we found that if we found that this is not unsustainable then, how to convert it, how to transform into a sustainable pattern?

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The slide features a list of five competencies, each with a detailed definition. In the bottom right corner, there is a small inset image of a woman with glasses, wearing a red and yellow patterned top, who appears to be presenting the slide.

- **Strategic competency:** the ability to collectively develop and implement innovative actions that further sustainability at the local level and further a field;
- **Collaboration competency:** the ability to learn from others; understand and respect the needs, perspectives and actions of others (empathy); understand, relate to and be sensitive to others (empathic leadership), deal with conflicts in a group; and facilitate collaborative and participatory problem-solving;
- **Critical thinking competency:** the ability to question norms, practices and opinions; reflect on own one's values, perceptions and actions; and take a position in the sustainability discourse;
- **Self-awareness competency:** the ability to reflect on one's own role in the local community and (global) society, continually evaluate and further motivate one's actions, and deal with one's feelings and desires;
- **Integrated problem-solving competency:** the overarching ability to apply different problem-solving frameworks to complex sustainability problems and develop viable, inclusive and equitable solution that promote sustainable development – integrating the above-mentioned competencies.

Similarly, strategic competency strategy; competency is the ability to collectively develop and implement innovation actions and that further sustainability at the local level and further.

The like technology innovation and technology are the how to leverage these things, how to leverage these thing to you know to think of to apply new you know strategies or use it strategically not only for the eco friendly actions, but also more production in like in the in the field of agriculture, in the in energy sector, in the water treatment sector, in the waste management sector, in the sector in the you know in the marine life sector

So, how to leverage technology and innovation? And further to enhance our activities or all kinds of activities in a more sustainably more sustainable way both at the local level and the global level. So, strategic competencies ability to collectively develop and implement innovation innovative actions leveraging our technology, leveraging our knowledge leveraging our you know resources. So, to strategically use that use that ability competency to enhance the sustainability both at the local level and at the future and at the global level.

See in all kinds of fields starting from agriculture to health, to manufacturing, to you know business to all kinds of things then collaborative competency how can we collaborate with each other. To understand different perspective, to understand mutual needs perspective actions of others, how to be empathetic, how to understand others

perspective. So, again leadership qualities are also required conflict resolution qualities are also required.

So, how to build up this collaborative and participatory problems are being approached. So, whatever issues and challenges and problems that we are facing we have to all of us, we have to develop the collaboration competency. So, that we can put together; we can put together work together with empathetic and creativity creative and understanding each others perspective mutual benefit and for a common good common well being and how we can resolve the conflicts in a in very judicious and win-win solution.

So, here a every individual need to develop this kind of competency. So, that is a nowadays group learning, teamwork these are being promoted why because it a it enables the individual to develop this collaborative competency, so collaborative competency. Similarly critical thinking competency, as you have already repeated it again and again critical thinking ability systemic thinking; that means, whatever that we should not be complacent, we should not be very satisfied what is going on it is ok for me it is ok for my family.

We cannot be so complacent and self satisfied with her with fulfilment of her own individual goals because sooner or later it is going to affect our life, the society whatever it is happening in the society sooner or later it is going to affect our life. Hence we have to be very vigilant, we have to be very cautious, we have to very critical about what is going on in terms of asking the questions, asking the questioning the norms, the practices, the opinions and reflect this in the social networking platform.

So, analysing the judging the evaluating the perceptions of perception and actions and how it affects the society. So, then they say in terms of the you know critical discourse, sustainability discourse and the dialogue and social networking also we can also you know ventilate it, we can also communicate it, we can also convey it

So, critical thinking competency because every individual has the and has the right to critically evaluated evaluate the things and with their opinion. So, how, but the critical thinking competencies should go in a very positive way it should be constructive not to distract not to create a kind of disassociation of criticism, but to make others aware of its side effects of any policy, any strategy, any solution, any kind of habits.

So, for this critical thinking developing the critical thinking competencies the people should be trained again and again educated from time to time in a group set up with the critical evaluation or giving assigning them some kind of social issues, some challenges. So, through critical sustainable discourse dialogue, debate etcetera this kind of competencies should be developed could be developed

So, it has to be inculcated; incorporated included in the education system itself from the very beginning ok. So, that is in school level also from the very beginning we promote critical thinking and creative thinking among the children. What does it mean? The child can from the very beginning the child can think independently, child can think critically, child can think of other options independently without depending on what is going on, what is happening or what is what has been prescribed in independent thinking creative thinking and critical evaluation critical thing.

So, self awareness competency again we must be aware of what we are actually doing in our own sphere, in our own space So, ability to reflect on ones own role both at the local level and the global level and the society and continuously evaluate and to further motivate ones action and to deal with ones feelings and desire, suppose.

So, we are in terms of our consumptions, in terms of our you know cleanliness habit, in terms of our production, in terms of purchase power, in terms of you know shopping behaviour, in terms of you know utilisation of the resources.

Like the food, energy, water these things, how we are actually we are doing all these thing, how we are consuming, how we are behaving we must we ourselves must be very reflective and conscious about it. So, that we can very well judge evaluate our own behaviour and habits and in its impact on the environment, so that we can be more conscious to adopt a kind of sustainability habits. So, that is why self awareness competency how much aware we are regarding our own behaviour its impact on others in our learning habits and sustainable habits.

So, then integrated problem solving competencies, so integrated problem solving competency that is it is an overarching ability to apply the different problems, problem solving frameworks. Like for solving different kinds of problem, environmental problem, technical problem, social problem, communication problem, interpersonal relationship problem.

So, we can we apply different kind of frameworks problem solving frameworks to not only understand the complex issues of the society, issues and challenges, but also it can develop a viable and inclusive and equitable solution which is very flexible, dynamic, viable inclusive it takes into account others perspective their opinion. So, an equitable solution; that means, it will yield the result equally beneficial to all the stakeholders. So, to promote that promote the sustainable development.

So, integrated problem solving competencies, we cannot adopt one strategy for solving all the problems for that we need to understand the complexity of the problems and accordingly develop the different frameworks to solve it to solve. So, those solutions will be very viable, inclusive, equitable and consensus oriented and it can yield the sustainable development and it can give an win-win kind of situation or beneficial solutions integrating all the positive options, competencies etcetera

So, it will be an equitable and inclusive and viable solution to everybody in the community ok. So, we have to again. So, that is how we need to develop kind of perspectives on understanding the complex problems. Complex social problems financial problems like economic crisis or you know social conflict or you know any kind of pandemic or any kind of natural disaster we have to understand from different perspective not from one dimension its geographical perspective, scientific perspective, natural perspective, human perspective, technology perspective.

So, from different perspective we have to analyse and understand the whole complexity of the problems, then different then we have to develop different frameworks for solving those problems with you know with consensus with debate, with dialogue, with you know with analysis critical thinking analysis and synthesis and with creative solutions which will be not only viable, but inclusive.

That means, it should be; it should be you know equitable, it should be approved acceptable to all the stakeholders. So, that it can give a long lasting sustainable solution to our problems.

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So, now the key competencies and the performance of sustainable citizens. Now, here we can say sustainability performances and the sustainable key competencies. So, sustainable key competencies knowledge and skills definitely one dimension and the values and the motivation. So, you know values and motivation as we have we have already discussed that it relates to our effective domain.

So, knowledge and skills it relates to our cognitive domain, intellectual domain. So, we must understand we must think we must learn and effective value and motivations it relates to our emotional aspects effective aspect we must feel good, we must feel that it is an urgent as it is having an urgent urgency at the present time. So, values and how much you know global values that we adopt being the global citizen, global values, ethical values and motivation.

So, that is it is our effective domain that is we have to mobilise we have to recharge our effective domain in strengthening our value system and developing the positive values, global values universal values and motivate self motivation in internal intense motivation. It is required to move forward to put our effort to learn to new things, to unlearn unsustainable habits and to learn new things and also we can also motivate other people also others people educate them or motivate other people and the opportunities though.

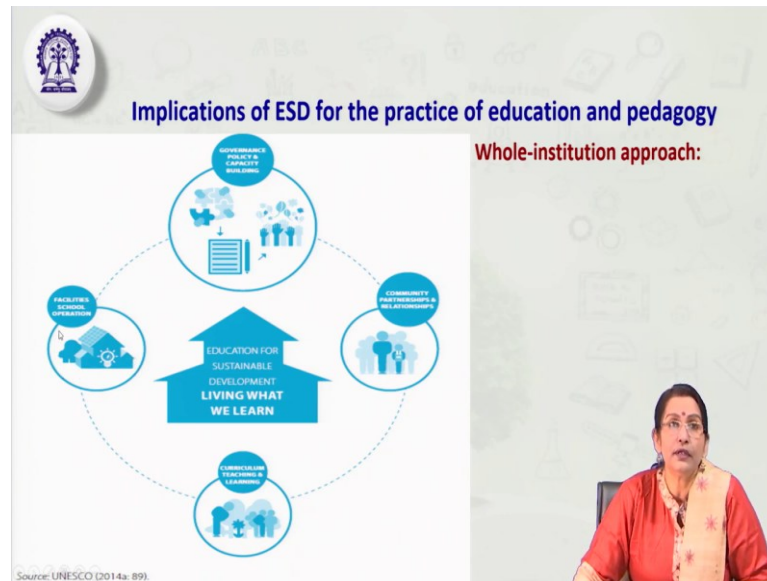
So, that we can create the more and more opportunity to develop the sustainable strategies, competencies, etcetera. So, whatever the opportunities available and with these things how can we develop the different opportunities, so that we can perform actually in a sustainable way. So, our actions will be sustainable in terms of creating more opportunities for all in terms of taking care of our planet, in terms of strengthening our ecosystem, economic growth also growth. So, these are the opportunity.

So, the sustainable key competencies it has the three primary circle primary domains we can say as it has been given by the UNESCO 2018 knowledge and skills. So, it also includes the education, training all kinds of things. Values and motivation it includes our principles our you know ethics, our emotions, emotional, attachment, emotional you know conscience, our conscience then emotional you know responsibility that we are taking we are keen.

So, motivating and motivating other self motivation as well as motivate community people through different awareness program initiative self initiated some kind of non formal educational programs. So, and the opportunities how what are the opportunities are available and how we can leverage it?

So, these are the, we are also looking for the different opportunities and how like technology is an opportunity through technology also we can do many things. So, but how to utilise it properly? So, these kind of things this is the key competencies cycle as advocated by UNESCO.

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So, now the implications of ESD; implications of ESD for the practice of education and pedagogy the whole institution approach. Now, here to achieve, to learn, to acquire these key competencies core competencies and the key competencies and other sustainability competencies the ESD a ESD advocates for a whole institution approach.

That is holistic perspective whole institution approach means starting from the governance, starting from the governance policy capacity building training to we can say the community partnership, relationship all these things and again from there to curriculum teaching learning training and the facilities and operations and the infrastructure in the school level.

So, it is a whole institution approach at it is an ESD approach. So, which that is the education for sustainable development leaving what we learn so; that means, what we are saying we are actually performing. So, walking the talk, talk talking about the talk the walk and walk the talk ok that is kind of thing. So, the usually at the leadership stage we used to expect that the leaders whatever the leader says he actually performs and whatever he performs he actually says those things.

So, similarly we being the stakeholder major stakeholders of this sustainable society, so we might have to adopt a whole institution approach where. So, everything like in a whole institution in the school you can take for example, a school. So, definitely school

has the governance, its administration policy, capacity building training from the teaching staff, non sitting staff all kinds of thing.

So, this is. So, it has to be one and sustainability should be incorporated there also. Thereafter again schools relationship with the community, community participations community participation relationship with the other stakeholders other you know all other prominent persons major stakeholders like the panchayath the BD a block development, the health, the primary health centre, the hospitals and other kinds or NGOs working in this area.

So, community development participation and relationship building that is through the networking that is also another domain, they are also we have to work.

Then third is that the curriculum teaching learning is it has to be in terms of curriculum content, practice, teaching, training, learning all these things. Then another is the infrastructure in terms of the facilities, in terms of the school operation, administration and the infrastructure. Starting from the solar energy panels, to wind energy, to a green you know green market, to green jobs, to green habits, to green sell to everything; that means, going green; that means, how eco friendly as much as.

That means, that we have to take the responsibility of emitting the zero carbon you can say carbon neutral or even the zero carbon to protect our environment. So, this is kind of whole institution approach, we will discuss further later on. Now, at the, at this moment I am just completing it in here finishing it here. So, I will resume it in the next class.

Thank you very much.