

**Education for Sustainable Development**  
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**Lecture - 24**  
**ESD for Food Security**

Hello friends, welcome back to this NPTEL course on ESD Education for Sustainable Development. Today we will have we will discuss about Food Security. So, what would be the ESDs role for food security in our country across the globe also.

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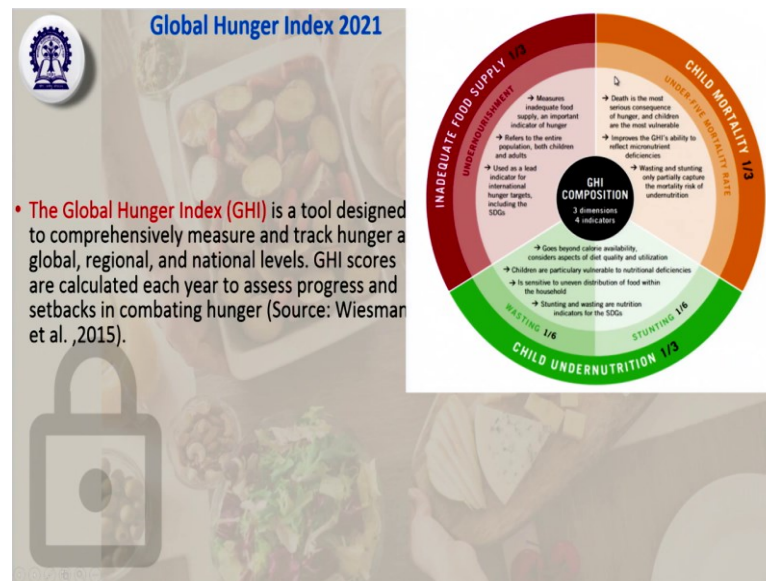
So, now let us come to the slide that like for example, it covers primarily 1 or 2 SDGs 1 SDG as you can see SDG 1 advocates for end poverty in all its forms everywhere. And SDG 2 that advocates for zero hunger, zero hunger and global context. So, as we can see like for example, these are various dimensions of food security. Food security is that access to income food etcetera, then availability of the food quality food then stability to in the access and the utilizations food utilizations.

And these are you know some kind of the varieties as you can see the clippings that is the food security for all food security for all. And again here is that is the how to remove the hunger the; that means, the balance diet and things and high food security then; that means, how the pyramid, how the levels are there like minimum to low to or marginal food security to high

food security. And the biggest challenge today is the food security. Biggest challenge in world present at present is the food security.

So, how to achieve food security for all by 2030. And what would be the ESDs role so, that we will be discussing.

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So, before going into the depth so, now, the global hunger index is there global hunger index is a tool that is to design primarily designed to measure the rate of hunger that is the track the hunger both; that means, all at all level national level, regional level, state level, global level etcetera.

And it is primarily calculated every year to assess the progress. The progress and setbacks that is in combating the hunger and all what are the lapses, what are the gaps in the policy, where is the difficulty all kinds to assess. All these things actually food global hunger in index is being used to assess these parameters the levels of hunger in different states the same the every year.

So, here we can say so, these are some of the like for example, these are the compositions. What are the compositions of global hunger index? That is the these are the that is child mortality rate, primarily child mortality rate, child under nutrition then the inadequate food supply. These are the primary domains. Then again under 5 child mortality under the age of 5 and again then child under nutrition that is 1 to 3 years then under nourishment.

So, and all these details are there that you can go through that is the at different stages at different stages how this that is the hunger due to the hunger malnourishment etcetera that is a primarily child malnourishment child mortality these are the parameters. So, that are going to be that used to be measured through global hunger index every year in every zone, every region, every state and at the global level as well.

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**Food Insecurity**

- Food security exists when all people, at all times, have **physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life.**
- Food insecurity occurs when a person does not have access to adequate and nutritious food on a regular basis, for healthy development and leading an active lifestyle. It is caused by unavailability of food or inadequate resources to avail food. Food insecurity is measured on the "Food Insecurity Experience Scale" (FIES).

Source url: <https://www.fao.org/hunger/en/>

So, let us discuss what is food insecurity? So, here we are talking about food security, but before that we must know what is food insecurity ok. So, the basic definition of food insecurity is that, if at all the student the people they do not have the physical, social, economic access to sufficient safe and nutrition food which meets their dietary needs and the food preferences for an active and healthy life. That is the; this is the definition of food insecurity.

So, let us discuss about the food insecurity; that means, the citizens the people if they are not being able to have the access to the physical, social, economic access to sufficient food. Sufficient food, safe food and the nutritious food for the for their healthy development healthy life that is called the food insecurity.

So, food insecurity occurs primarily, because of the many reason because of the many reason. So, when the people there they do not have the access to adequate nutrition food on the regular basis or for the healthy development or maybe their lifestyle is not that active.

And then they are sometimes it is also caused by the unavailability of the food. Inadequate resources of the food natural calamities are also some of the factors, ok like the drought situation drought situation then the natural disasters the pandemic issues so, many things which also causes the n number of factors that causes the food insecurity. So, again in order to measure the food insecurity also another scale is there, that is called the food insecurity experience sell scale.

So, my UNDP has already introduced it that food insecurity experience scale. So, through which at what level what type of; that means, food insecurity has taken place because due to what reason. So, that can be measured through this scale. So, that is again that we have already discussed that is food insecurity, the parameters like the parameters then like to moderate to one of the difficulties etcetera.

This is the parameters in the scale and these are parameters through which the food insecurity can be measured can be assessed.

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**Food Insecurity contd...**

- The United Nations lists five levels of food security for any given country. **Famine is the fifth and worst level.** For a **famine** to be declared, the **following three conditions** must be met:
- At least **20 percent of households in an area face extreme food shortages** with a limited ability to cope (fewer than 2,100 kilocalories available per day).
- At least **30 percent of the population is acutely malnourished.**
- Every day, at least two out of every 10,000 people or four out of every 10,000 **children die from a lack of food.**

Source: istockphoto



So, food insecurity also takes place because of the n number of factors because the first is that famine, famine is the fifth and the worst level. So, famine to has the three condition under three conditions, famine takes place. And when the famine is declared then it must fulfill three criteria's like.

At least 20 percent of the household in an area face extreme food shortage. That is one condition of famine to be declared. And second is 30 percent of the population is acutely malnourished in that locality. And children they die from the lack of food. So, if these three conditions happen takes place in any particular region or zone. Then the famine is declared. And that is the famine as was the United Nations list so, it is the famine is the fifth and the worst level of food insecurity.

As you can see this is the dry land, this the famine where the physical the geophysical situation on geographical situation is like that when the famine is being declared with three conditions, when it has the three conditions following conditions then it takes place. Then the famine has been declared. And it is the major source of major cause of we can say insecurity food insecurity.

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**Food Insecurity contd...**

- According to the United Nations Office for the Coordination of Humanitarian Affairs (UN OCHA), Afghanistan "is currently facing the second drought in four years and the worst of its kind in 27 years".
- "An estimated 22.8 million people, or 55 per cent of the population, are expected to be in crisis or emergency levels of food insecurity (IPC 3+) between November 2021 and March 2022, a nearly 35 per cent increase from the same season last year (16.9m)".

Source: HindustanTimes

So, some of the cases we can discuss about like for example, in 27 years back Afghanistan is also was facing a similar kind of drought. Even in India also we have also face similar so, many in the past in the history when we go back to the history similar kind of things.

So, you can say here emergency level of the food insecurity between the November 21 and the March 22, a nearly 35 percent increase. So, here as per the present assessment that is emergency level of the food insecurity between November 21 to March 22, nearly 35 percent increase from the same from the same season that is that this is the present status of the food insecurity in India.



So, as you can see this is these are the chaos because of the pandemic, because of the you know shut down, lockdown and the, inadequate supply of the food materials and closing of the shops, then the especially the food and food stalls food stop only minimum level of the vegetables and the things and the ration shops were open. So, these are the chaotic situation that we can find out in the newspaper daily newspapers.

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**Impact of COVID-19**

Even before the COVID-19 pandemic hit, the world was already not on track to achieve Sustainable Development Goal 2—to eliminate hunger and all forms of malnutrition by 2030.

The immediate nutritional risk that the COVID-19 pandemic created is the **increased risk of malnutrition due to the economic impact of social distancing, full or partial lockdowns, and quarantining.**

Many households have suffered **loss of income and/or sources of supplemental food such as school meals for children**

**THE GLOBAL PANDEMIC IS EXACERBATING WORLD HUNGER**

WORLDWIDE, AN ADDITIONAL 200-300 MILLION PEOPLE ARE LIKELY TO HAVE EXPERIENCED HUNGER AS A RESULT OF THE PANDEMIC IN 2020

NUMBER OF UNDERNOURISHED PEOPLE IN THE WORLD

2014 2019 2020

**2.37 BILLION PEOPLE ARE WITHOUT FOOD OR UNABLE TO EAT A HEALTHY BALANCED DIET ON A REGULAR BASIS** (2019)

**ALREADY ONE THIRD OF WOMEN'S REPRODUCTIVE AGE GLOBALLY SUFFER FROM ANEMIA OR FEAT DEFICIENCIES**

THE SUSTAINABLE DEVELOPMENT GOALS REPORT 2021: HUNGER AND FOOD SECURITY REPORT 2021

So, now here the is the global pandemic extracting this is the clipping about the world hunger status of world hunger in during this pandemic. Pandemic will also worsen the child malnutrition and it has already affected lot in the rural sector.

So, here this so, here definitely when we focus into the focus into the sustainable development goal 1 and the 2, that is removing poverty from every sector for all and zero hunger. So, here we can say that the sustainable development goal 2 is to eliminate hunger and all forms of malnutrition by 2030 that is the focus here.

And that is why we are discussing about the food security and; however, due to this COVID-19, there is a increased risk of malnutrition you know due to the impact on the economic status, the economic situation in the country impact of the again social distancing, then full or the partial lockdown and quarantining and sorting shutting down the shops business houses all kinds of the things.

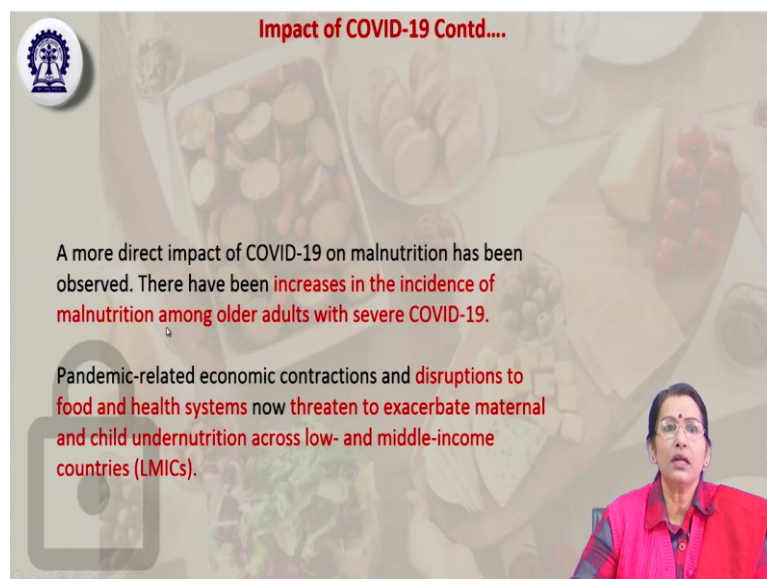
So, the business as because business goes when slowed down so, it affected the economy of our country also the economy is the backbone of any country. So, because of this economic slowdown at the having the negative impact on the economic condition of our country across the globe also as well it has happened.

So, malnutrition and malnutrition and increased risk of malnutrition has also take has also taken place especially in the rural sector in the village sector and people, those who are residing in the disadvantage situation in the communities. So, many households have suffered because due to the loss of the jobs, loss of income and sources of the supplementary foods, that the schools they used to give through midday meal midday meal etcetera, that has also been stopped.

So, these are the some of the factors that is that affected the rural people especially. So, and it causes everywhere in any in every household. So, that all the daily labour workers they are not they could not get the jobs daily labour workers; that means, small scale industries small scale industries then all kinds all in all; that means, the inhabitants the labour work labours the daily labours and all kinds of SMEs.

So, they who were working on the daily basis and to maintain their livelihood they have been largely affected greatly affected. So, these are the reasons for food insecurity malnutrition etcetera especially during this pandemic situation.

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**Impact of COVID-19 Contd....**

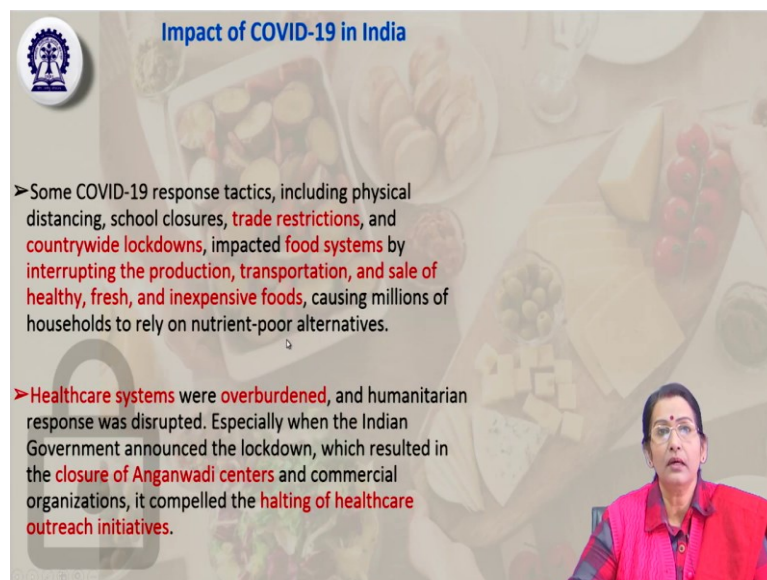
A more direct impact of COVID-19 on malnutrition has been observed. There have been **increases in the incidence of malnutrition among older adults with severe COVID-19.**

Pandemic-related economic contractions and **disruptions to food and health systems now threaten to exacerbate maternal and child undernutrition across low- and middle-income countries (LMICs).**

So, now we can say that this increase of the incidence also takes place among the older adults with severe COVID. So, that has been many elderly people they have been affected with the severe COVID-19 so, and disruptions in the food and health system and there is also and it actually threatened the maternal and child under nutrition across the low and middle income countries.

So, in the low and middle income countries especially in India also in our rural areas rural setup also this has been immensely affected immensely affective negatively affected our the health system of our citizens in our country. So, and this COVID-19 has given us has taught us a lesson that, where it has been threatened like anything and we are not prepared for it.

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The slide is titled "Impact of COVID-19 in India" and features a logo of a gear with a person inside. The background shows a collage of food items. A woman in a red jacket is speaking in the bottom right corner. The text on the slide is as follows:

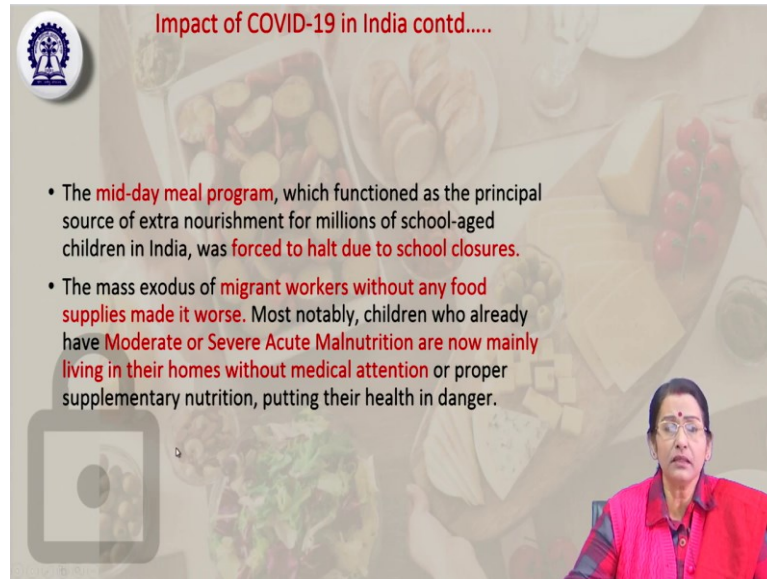
- > Some COVID-19 response tactics, including physical distancing, school closures, **trade restrictions**, and **countrywide lockdowns**, impacted **food systems** by interrupting the production, transportation, and sale of **healthy, fresh, and inexpensive foods**, causing millions of households to rely on nutrient-poor alternatives.
- > **Healthcare systems** were **overburdened**, and humanitarian response was disrupted. Especially when the Indian Government announced the lockdown, which resulted in the **closure of Anganwadi centers** and commercial organizations, it compelled the **halting of healthcare outreach initiatives**.

So, impact of COVID-19 in India as you can see that yes there are so, many things locked due to lockdown, that food not only the food system was interrupted, but also transportation then the getting the healthy and fresh vegetable, it becomes very expensive then expensive then.

Health care system was overburdened, and then close and closing of these rural Anganwadi centers health care centers so, outreach activities outreach activities in the food nutrition and other kinds of services also were stopped. So, that has also caused a that has also caused a havoc in our country.



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The slide features a title "Impact of COVID-19 in India contd...." in red text at the top. Below the title is a list of two bullet points. The first bullet point states: "The mid-day meal program, which functioned as the principal source of extra nourishment for millions of school-aged children in India, was forced to halt due to school closures." The second bullet point states: "The mass exodus of migrant workers without any food supplies made it worse. Most notably, children who already have Moderate or Severe Acute Malnutrition are now mainly living in their homes without medical attention or proper supplementary nutrition, putting their health in danger." In the bottom right corner of the slide, there is a small video inset showing a woman with glasses and a red jacket speaking.

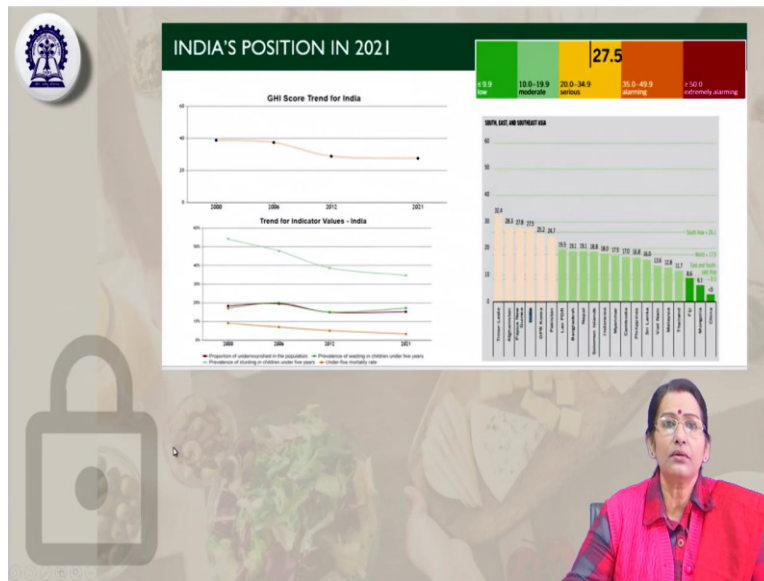
- The **mid-day meal program**, which functioned as the principal source of extra nourishment for millions of school-aged children in India, was **forced to halt due to school closures**.
- The mass exodus of **migrant workers without any food supplies made it worse**. Most notably, children who already have **Moderate or Severe Acute Malnutrition are now mainly living in their homes without medical attention** or proper supplementary nutrition, putting their health in danger.

So, these are some of the reasons like mid-day meal program stopped forced to halt due to the school closures. Migrant workers also without any food supply they for them it also made it very worse as we can see though the in the news that the how the migrant workers from the Gujarat's they were and has been they were coming they are coming back to that they were coming back to the villages on by walking only. Because there sufficient transport transportation were not available at that time.

So, how it has caused their life to them the hell like misery the experience the hell and the miserable very miserable condition some of them also died on the way. So, that is why the accused that also caused the severe to acute malnutrition for many families living in and without medical attention and the proper and proper supplementaries of supplementary nutrition of offer.

From the of course, in some areas like in the city some of the urban areas etcetera food supplies were being donated or been given circulated from time to time by different NGOs by government agencies etcetera. But that was not sufficient that was not sufficient to maintain the daily livelihood. So, this COVID this pandemic actually it has given us a I mean high level of the toughest level of our in food insecurity in our country in this century.

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So, now this is the some of the parameters some of the charts are there you can go through it. That is the what is the; that means, global hunger index that shows in India. What is the trend. What is the percentage that you can go through India's position in 2021.

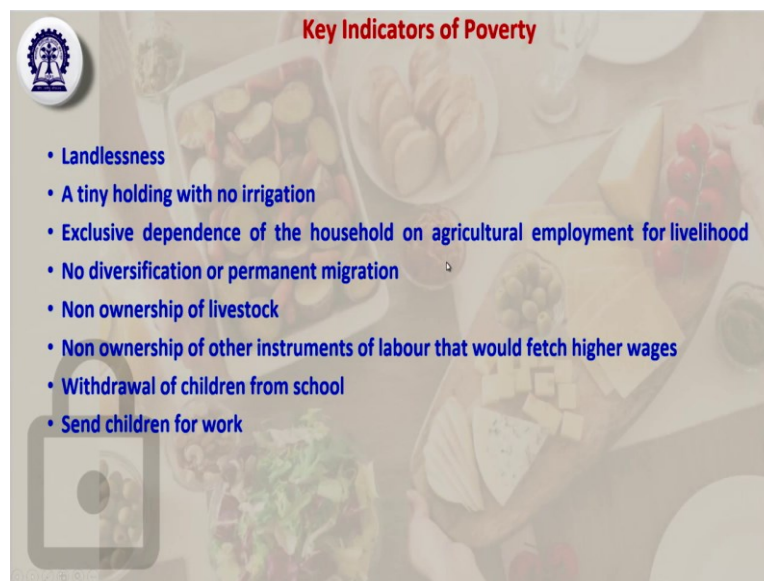
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And SDG 1 under SDG 1 that is the removing poverty no poverty or removing poverty from all forms.

So, it has its targets it has under this SDG 1 some of the targets are there, like eradicate extreme poverty. Then 1.2 is the reduce the poverty at least by 50 percent. Then implement the social protection system that is in terms of policy, and then equal right to the ownership of the basic services in technology. Then create the pro-poor kind of policies genders gender sensitive policy pro poor kind of policy, then the mobilize different resources. So, these are some of the targets that comes under SDG 1.

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Let us see how far we can discuss and we can overcome some of the things. So, key indicators of the poverty yes we have analyzed about the food insecurities food insecurities and causes and during the pandemic what was the situation. Now, let us explore what are the key indicators of poverty, why poverty takes place, what are the causes of it.

So, first thing is that landlessness, if the like the farmers if they do not own the sufficient land to do the agricultural things etcetera to agriculture things production etcetera. So, that is landlessness that is the because of the famine because of the natural disaster may be that they are the lands are also not being very productive and become barren in the due process.

Or maybe that the there they were actually the labour they were also work they were only actually working as a labour. They do not own they do not own or the possess the land sufficient land. So, landlessness that is one thing. Then tiny holding with no irrigation. Even if you have the land if there is no proper facility for the irrigation etcetera.

So, you cannot also manage with the even with the manure and the fertilization also you can also fertilizer you can cannot manage it. Expensive dependence of the household on the agriculture employment for the livelihood. If when the farmers when the farmers they were extreme they are only solely dependent on the agriculture employment only and they do not have any other options other source of income.

So, then that is also the major cause of the poverty then no diversification or the permanent migration. So, no if there is no diversification on the or permanent no diversification if they have not diversified themselves in different other activities and the businesses and the skills etcetera. That is also; that is also; that is also a problem. And suppose and some people those who are permanently migrated to other states.

So, that is other places that is also the cause. No non ownership of the livestock; that means, they do not have any kind of stock live stocks in their in their disposition in the disposal. So, that is also because they are always dependent on others for this livestock material.

So, that is another cause if they do not own suppose the farmers, if they have the rice and wheat and some of the basic livestock's then that can manage it. But if they do not possess it on daily basis they are purchasing buying and leading their lives. So, that can also be a cause of the poverty when they do not have any job and work to do or the daily labour work also.

So, non ownership of the other instruments of labour that would fetch the higher wages. So, there are also some kind of other jobs other kinds of categories of the works where they can fetch the higher wages that is also not available that is also they do not possess that also non possess for example, the labours they work under a contractor. Suppose when they are with the lockdown with the stop off with the closing of these construction companies and construction sites etcetera.

So, definitely; that means, they are not getting any job. So, there so, that because they were dependent on the particular contractor or the infrastructure or the company to do this kind of construction work. So, withdrawal of the children from the school. So, the children when they are going to the school at least they are getting some kind of some kind of nutrition food nutritious food through mid day meal also what small children to the Anganwadis also they were also getting ICDs also was running the some of the programs.

So, and sometimes what happens sending the children for the work also when the child labour is there; that means, in the villages also the parents they send the children to the to the field to the paddy field to agriculture land etcetera to do to help to help their parents etcetera. That is also another cause. So, these are the key indicators of poverty. And besides this also there are other indicators key indicators of the poverty why poverty takes place.

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**Key Indicators of Poverty contd...**

- Very poor housing condition- unable to maintain it periodically
- Unable to source credit beyond a limit
- Large number of dependents in the household
- Belonging to SC, ST or OBC communities
- Lack of social capital to access any program meant for them sponsored by the state.
- No other skill other than agricultural labour or skills that are not in demand

So, again very poor housing condition like unable to maintain it periodically that is; that means, there is no guarantee there is no food security on daily basis or weekly basis.

So, that is another condition a low very poor or the low socioeconomic status that is people who are leaving below poverty line etcetera.

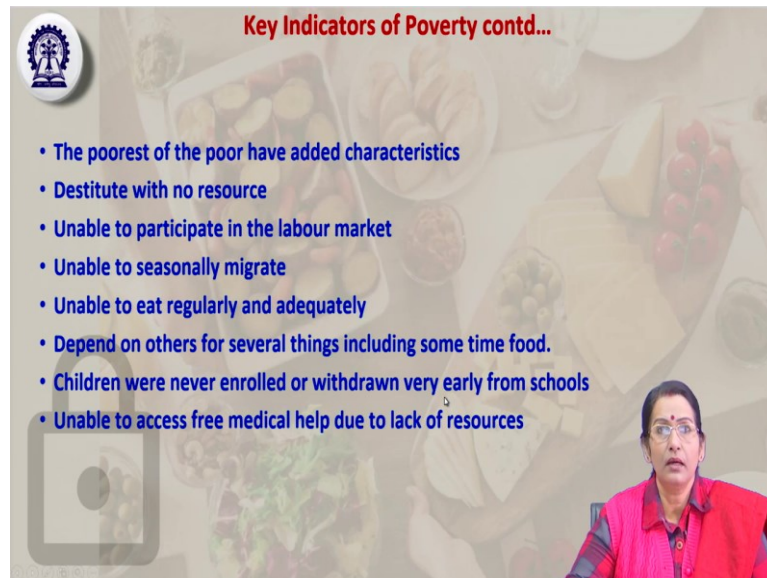
Unable to source the credit beyond a limit even if they can make the both ends meet through the credit, but again there are the limits of the credit limit how long they can to what extent they can take. The large number of dependent on the households like, suppose it is a big family large family joint family with all aging parents are there elderly persons are there, that is also.

Belonging to ST, SC and OBC communities also they have certain setbacks in their communities also. Then lack of social capital to assess any program meant for them sponsored by the state. So, maybe that immediately there are not such you know, such programs to help them out immediately so, lack of social capital is also there. So, that is the another reason and no other skill other than the agriculture labour or the skills that are not in demand.



So, in this kind of crisis in the critical situation if you are only a agricultural labour you do not have any other skill to you know engage yourself or can earn your bread and butter. So, that also creates a problem. So, that is why nowadays we are that is why we are emphasizing on the skilled manpower and not only the skill in only one domain, but we must have an alternative knowledge and skills. So, that we are better prepared for any kind of emergencies.

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**Key Indicators of Poverty contd...**

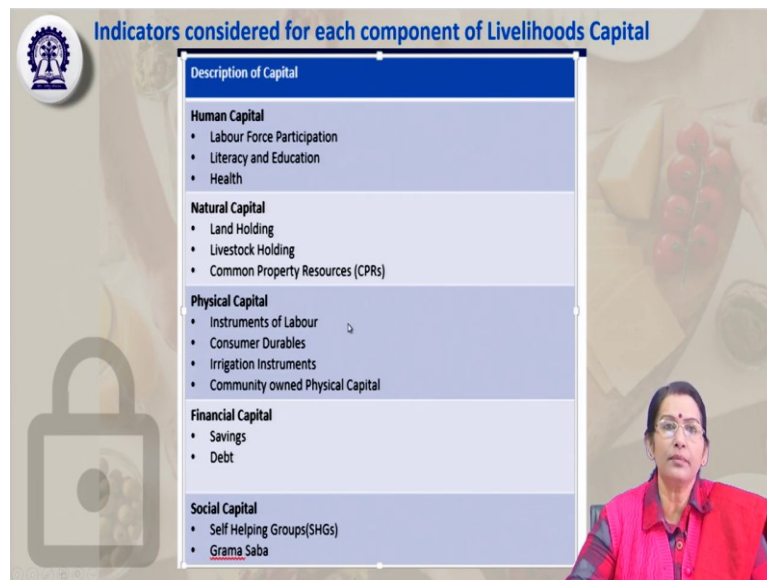
- The poorest of the poor have added characteristics
- Destitute with no resource
- Unable to participate in the labour market
- Unable to seasonally migrate
- Unable to eat regularly and adequately
- Depend on others for several things including some time food.
- Children were never enrolled or withdrawn very early from schools
- Unable to access free medical help due to lack of resources

So, the poorest of the poor have added characteristic there is those people who are living below poverty line. So, they have the another more pathetic conditions, like destitute with no resource destitute with no resource, no relative, no you know helping hand etcetera.

Unable to participate in the even in the labour market, unable to seasonally migrate seasonal time from time to time unable they are not they do not have this much money to migrate to other places unable to eat regularly adequately. Now, these are the parameters and these are the you know conditions of the people who are staying living below poverty line.

Depend on others for several things including some time food and its completely dependent that they are living below poverty line. So, children were never enrolled or withdrawn from any kind of school unable to access the free medical help due to lack of resources; that means, they are utterly poor and poorest of the poor in the country and they are having this kind of specific characteristics.

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Description of Capital
<b>Human Capital</b> <ul style="list-style-type: none"><li>• Labour Force Participation</li><li>• Literacy and Education</li><li>• Health</li></ul>
<b>Natural Capital</b> <ul style="list-style-type: none"><li>• Land Holding</li><li>• Livestock Holding</li><li>• Common Property Resources (CPRs)</li></ul>
<b>Physical Capital</b> <ul style="list-style-type: none"><li>• Instruments of Labour</li><li>• Consumer Durables</li><li>• Irrigation Instruments</li><li>• Community owned Physical Capital</li></ul>
<b>Financial Capital</b> <ul style="list-style-type: none"><li>• Savings</li><li>• Debt</li></ul>
<b>Social Capital</b> <ul style="list-style-type: none"><li>• Self Helping Groups(SHG)</li><li>• Grama Saba</li></ul>

So, these are the indicators of the severe property. So, when we talk about the livelihood the components of the livelihood we can categorize it into different capitals. Like a description of the capitals like when we talk about the human capital, human capital is the labour force participation, literacy, education, skill based education, skill based jobs then health knowledge etcetera we can say that these are the this come under health capital human capital.

The natural capital is not definitely depends on the livestock holding, lands agricultural lands common property resources, these are the natural capital which you get either from your family or from you have procured it or you have buyed it you have prepared made it. So, these are the natural capital that we get it from the, our earth from the from our land property especially.

Physical capital we can say instruments of the labour, consumer durables, irrigation instruments irrigation instrument, community owned physical capital. So, these are the physical capital that we can take into account. That is consumer durables irrigation instruments all kinds of the physical capital, which helped us in any kind of; that means, livelihood stocks; that means, production consumption etcetera.

Then financial capital of course, the rupee, money, savings, debt, cash all kinds of things gold and so on. Social capital is that self-helping groups Gram Sabha, Panchayats then NGOs working in this areas that is the social capital, that is the helping out that is supports supporting support system for the that is the social support system that is the social capital.

So, when we categorize the each component into different capitals we can find out that primarily this these five capitals capital human capital, natural capital that is from the natural resources that we get that is land holding property etcetera. Physical capital that is the you can say the instruments, the irrigation instruments, consumer goods community owned etcetera.

So, these are primarily and financial capital and the social capital. So, these five types of category capitals actually, can be should be managed properly to remove the poverty or to achieve our sustainable development goal.

So, now, next class we will discuss about its details and it is how to its management so, how the capitals should be managed and what are the other things right now I will stop here. So, we will continue with this topic in the next class.

Thank you.