Organic Farming for Sustainable Agricultural Production
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Lecture - 02
Organic Farming: Introduction and Status (Contd.)

So, welcome for the second lecture the status of Organic Farming.

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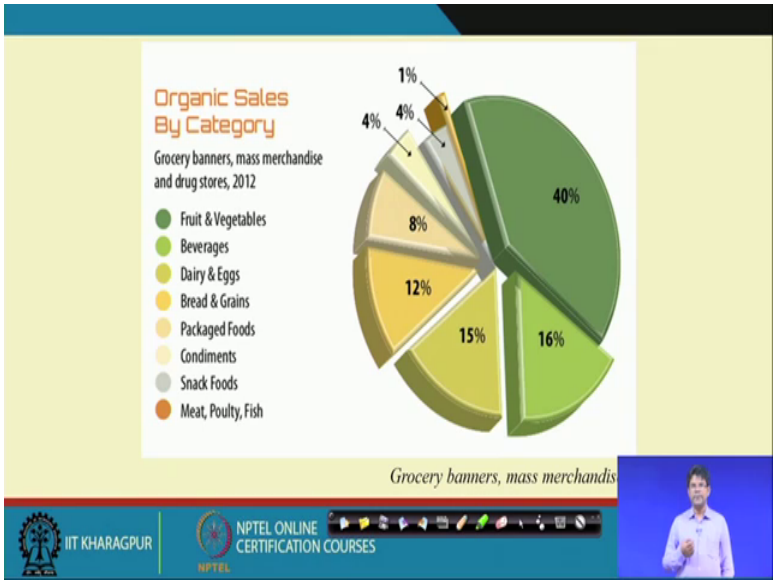

As we see the fruits, vegetables or the organic products other products which have the share in organic markets, so most of the fruits and vegetables the highest share around 40 percent, followed by beverages 16 percent, dairy and eggs 15 percent, breads and grains 12 percent, packaged foods 8 percent, condiments 4 percent, snack foods 4 percent, meat, poultry, fish 1 percent.

From here you can see fruits and vegetables are the highest share as per the organic production is concerned and see more fruits we do consume as the raw and if they with contaminated with pesticides, the insecticides or the fungicides that has the severe adverse effect on human health.

So, first one we have the more on fruits and vegetables as organic productions. Many salad fruits also like you have the carrot or the cucumber they are taken as the raw. So, if they are with pesticide residues like you have the DDT or maybe the chlorinated

hydrocarbons groups of pesticides, which have the severe adverse effect on human health. Like the BSC, this is a banned from the market, DDT also banned from the agricultural use; still farmers are using those persistent pesticides.

They remains for the longer periods in the food chains and they these serious consequences on the human health if you consume them with the as a raw and the pesticide as we discussed their spread in the vegetables and transported to the market without any delay.

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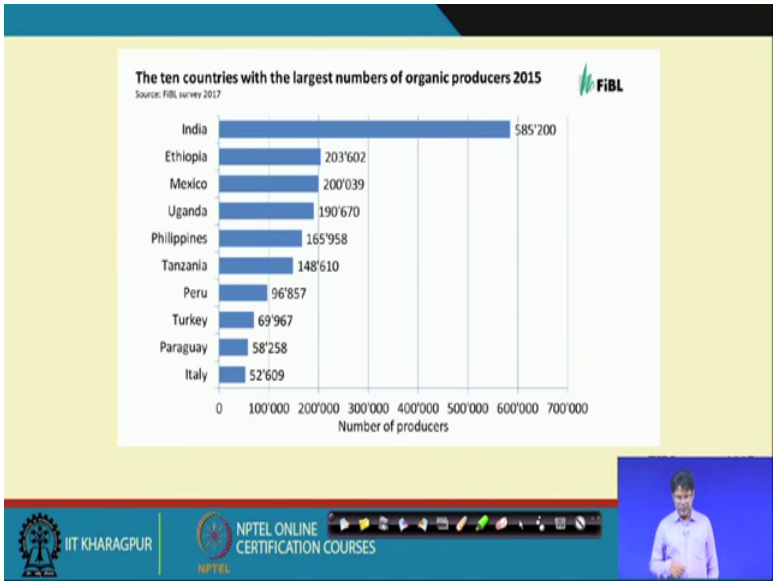

So, we need to think about this organic farming how we can minimize the use of the pesticide specially, so that we can get a better quality of foods. And if you see the countries with the largest number of organic producers and the farmers in 2015's, India ranks first.

So, around 585200 farmers in India are the organic farmers, followed by Ethiopia 203602 farmers, Mexico 200000 farmers, Uganda, Philippines, Tanzania, Peru, Turkey, Paraguay and Italy.

So, proximately the number of farmers they are converting the land to organics, are increased in India over the years.

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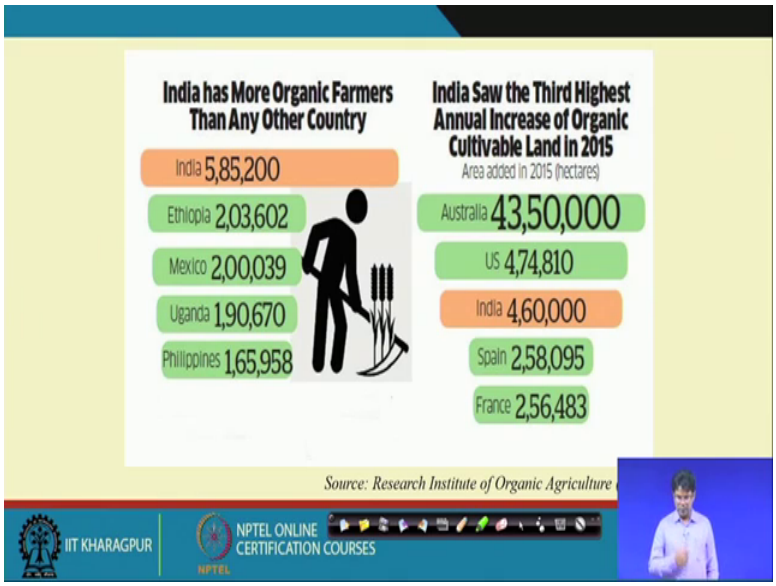

If you see this one, India has more organic farmers than any other country as we discussed. India has 585200 organic farmers, followed by Ethiopia, Mexico, Uganda and Philippines and the interest we can see India saw the third highest annual increase of organic cultivable land in 2015 next to Australia and US.

So, that means, that it shows the statistics shows. So, the farmers in India they are motivated, they are getting motivated to convert their land to organic. But this should because we have to go because it is our a land wise we have the less land under organic as compared to either Australia or US though we have the more number of farmers they are converted to organic.

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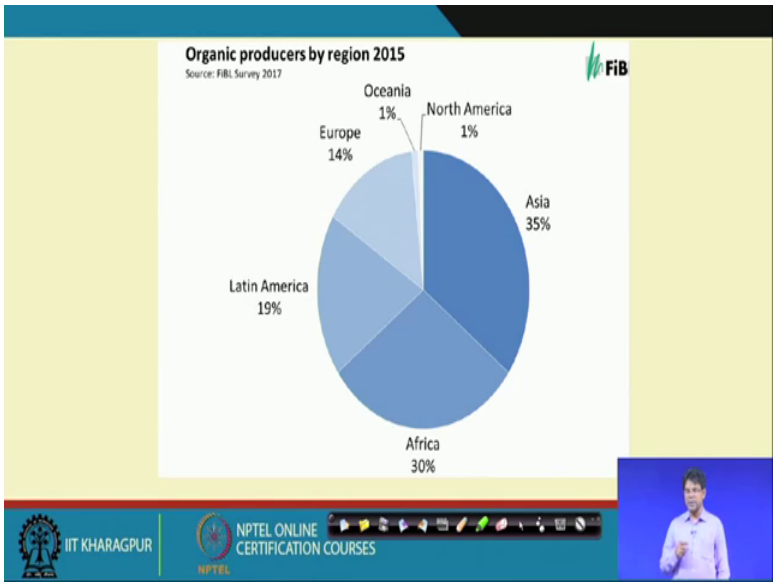

See the organic producer by region. So, as you see the number of farmers so, Asia stands the number one 35 percent, followed by Africa thus 30 percent, Latin America 19 percent, Europe 14 percent and Oceania, North America 1 percent is because it is as per the organic producers or the farmers are concerned.

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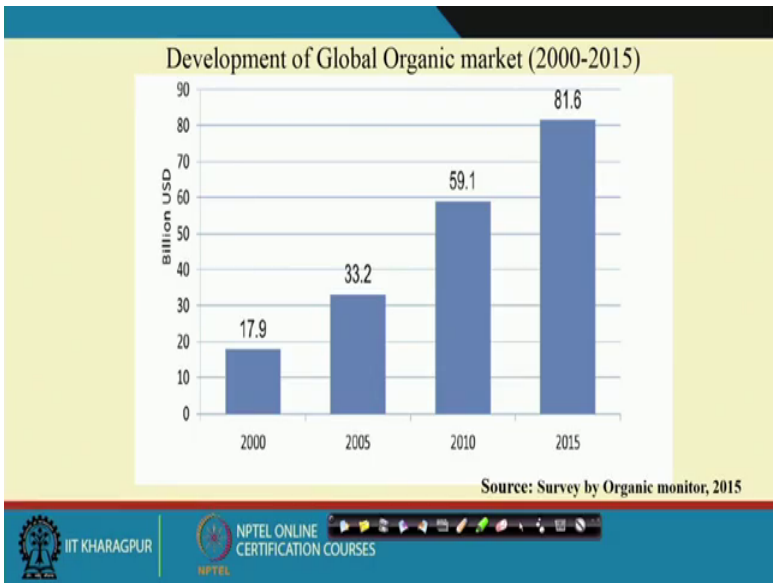

If you see the global organic market this is growing as the from a 2000-2015 if you see the 2000 it was 17.9 billion US dollar; 2005, it became 33.2 billion US dollar and in next

5 years it is also very close to double 59.1 US dollar and in 2015 this is around 81.6 billion US dollar.

So that means the demand of organic foods in global market is also increasing. But if see the organic food market in European countries because they are gaining the highest popularity organic food market European countries and there are different market the story for the organic market why the organic because organic foods they are gaining the premium price and the farmers are the converting their lands to organic huge scale.

So, there are some facts are there because initially because the consumer awareness or initially the farmers did produce organic foods that was a production at the supply induced market. Afterwards, so there a demand driven that means, the during late 90's probably the consumer demand the customers were interested to have the organic foods, as a demand driven and afterwards the government induced that is a policy induced market came, where the government took initiative to expand area under organic farming.

So, that is how the European market they have gained in organic foods and with due to the consumers awareness the interest or the consumer interest for the better quality of food at the same time the initiative for the from the government sites to convert more and more land under organic farming.

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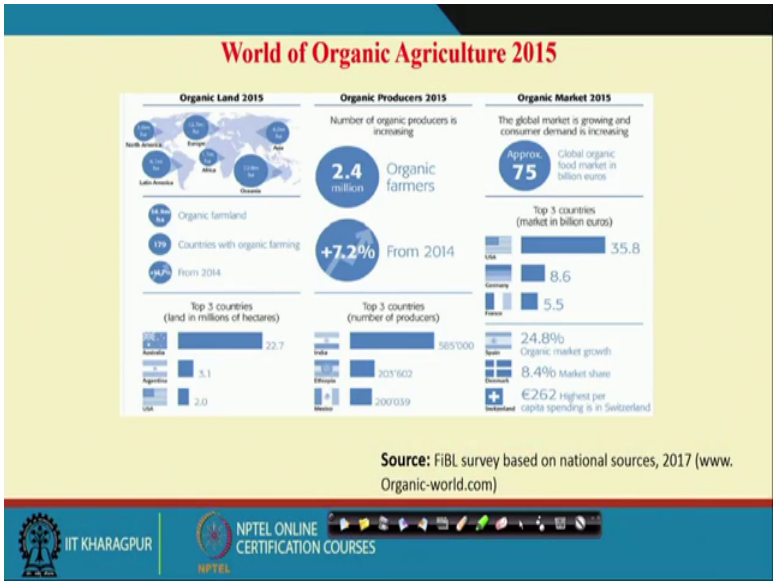

You see the world are of organic agriculture, 2015 if you see the organic land; total you have the 50.9 million meter of organic farm land and around 179 countries with organic farming and this increase around close to we can say 15 percent as compared to 2015 with the past one is 15 percent increase the organic farm land and the that the land is concerned. The top 3 countries are the Australia, Argentina and US they have the huge learn conversion to organic farming.

If you see the organic producer around 2.4 million farmers that is the organic farmers and this is increases around 7.2 percent from 2015 to 2014, sorry 14 to 2 sorry 7.2 percent from 2014 to 2015 and it is a top 3 countries having higher number of farmers growing organic foods.

India stands number 1 as around 585000 farmers their organic followed by Ethiopia and Mexico. You see the organic market; global organic food market have a 75 billion UA Euro and top 3 countries US, German and France.

They have the organic food market and as we discussed now because the European countries or US. So, this has gained market organic foods already has gained market; that means, there is a health conscious of the consumers because they want a better quality food. They are ready to pay premium price for the organic foods and they have the transparency people they have a trust building, the consumer to beliefs organic that means, the transparencies they fully organics.

So, in India also similarly if you if you learn from them we have to make a trust building, transparency, fairness principles that you see in organic farmings, the farmers need to build and the consumers should rely and the products is organic and also the government should take initiatives to support the farmers, so that more and more land can be converted to organic. We are getting more and more farmers coming under organic; at the same time we need more and more land should come under organic farming.

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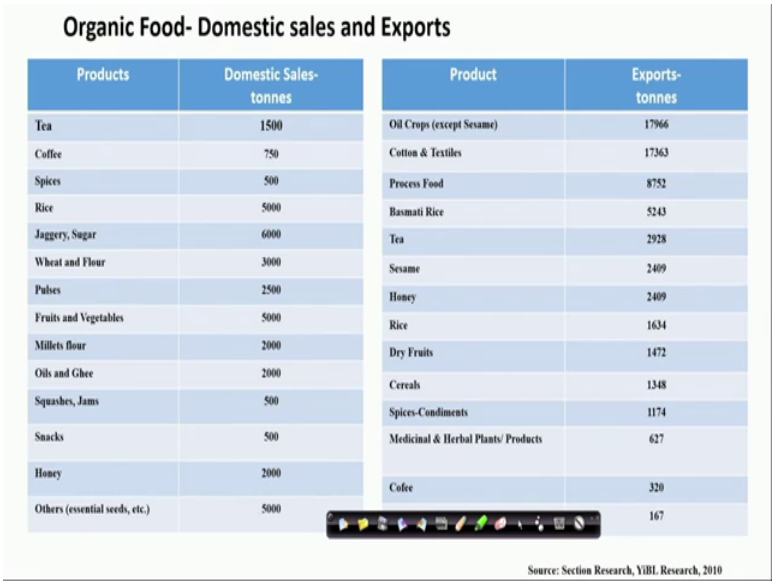

If you see the organic food a domestic sale and exports in India, so, these are the data receives a different crops, domestic sales in metric terms and the product also export in metric tons, where he can rise around 5000 tonnes; as organic rice was for the domestic sale, sugar around 6000 tonnes, tea 1500 tonnes, coffee 750 tonnes.

Say fruits and vegetables we are getting around 5000 tonnes, millets 2000 tonnes, oils around 2000 tonnes, honey also 2000 tonnes. So, these are the domestic sales of organic produce in India and those were exporting; see the basmati rice around 5243 tons, process foods 8752 tons, oil crops around 18000 tons, cottons and textiles 17363 tons, honey, rice; normal rice around 1634 tons.

So, these are the exported and the value is (Refer Time: 12:45) around 1004's including your domestic and the export market.

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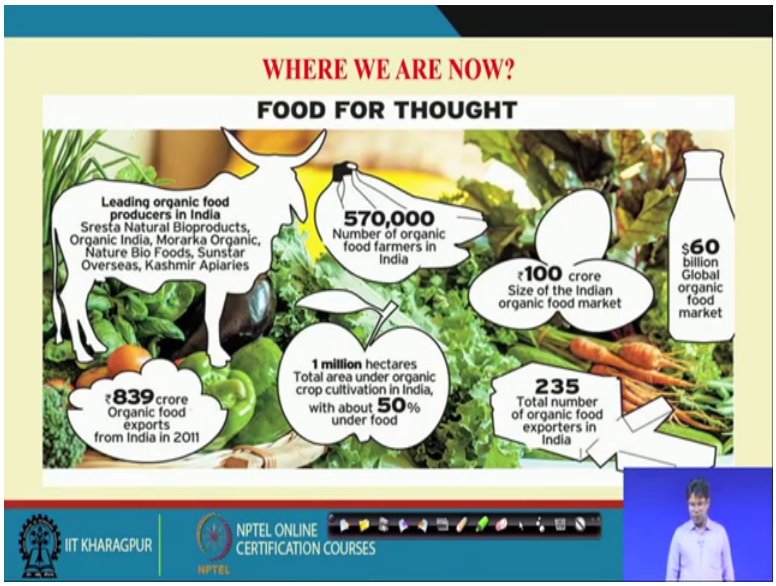

If you see where are we now? India, the food for thought if you see, in case organic foods, we have been leading organic food producers in India. They are the Sresta Natural Bioproducts, then Organic India, Morarka Organic, Nature Bio Food, Sunstar, Overseas, Kashmir Apiaries.

So, these are the leading organic food producers in India; 1 million hectares of total area under organic top cultivations in India. So, number of organic farmers are distressed 585000 farmers are organic, around 850 crores organic food exports from India and 100 crores as a domestic market Indian market and 235 total number of organic food exporters in India.

So, it is the; so, these are the where we are standing against Stesta around as discussed it 1 billion US dollar of the organic food market. This is our status, we need to proceed, we need to go further to make conversions of the land to organic in India.

So, you can see the Sikkim, the state that is converted to fully organic. So, slowly you have to convert the lands to organic way productions to have a sustainable agriculture, sustainable productions, better quality of the food.

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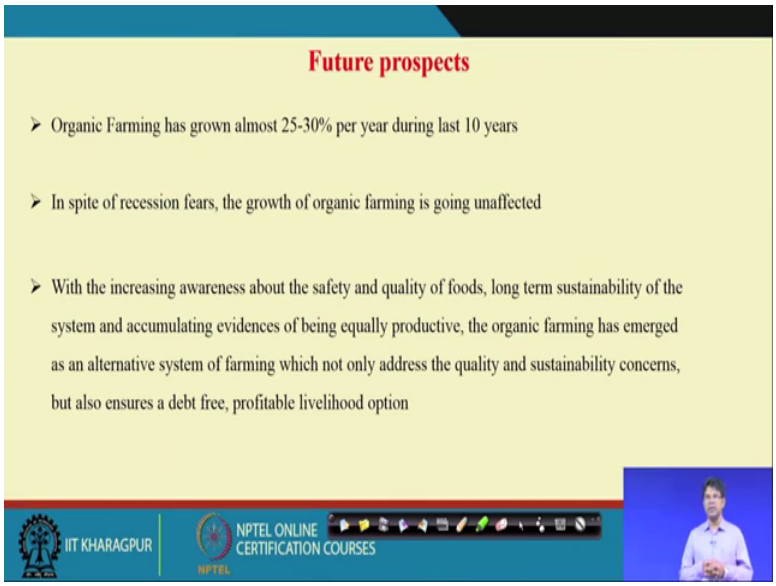

If you see the future prospects; as you seen here as organic farming as grown almost 25 to 30 percent per year during the past 10 years so, in spite of recession fears, the growth of organic farming is going unaffected. the increasing awareness about the safety and the quality of food, long term sustainability of the system and accumulated evidence are being equally productive that that is what we are discussing the organic farming has emerged as an alternative system of farming which not only addresses the quality and sustainability concerns, but also ensures debt free profitable livelihood option.

So, on you see Indian conditions as farming as you are moving to organic because we need a good quality of the foods and we need a sustainable agriculture; that means, we need to maintain our soil fertility, we need to live in a better environment, we need to have a soil portal for a long term.

So, the difficulty the adverse effect of chemical fertilizer as you see realise today, we want to convert the farming such a way that our future generations should not suffer. They should get the production as per the need without harming the environments, protecting the environmental quality and also protecting the soil health.

So, this is our conditions there are future for the Indian agriculture as you move ahead we need to look into this.

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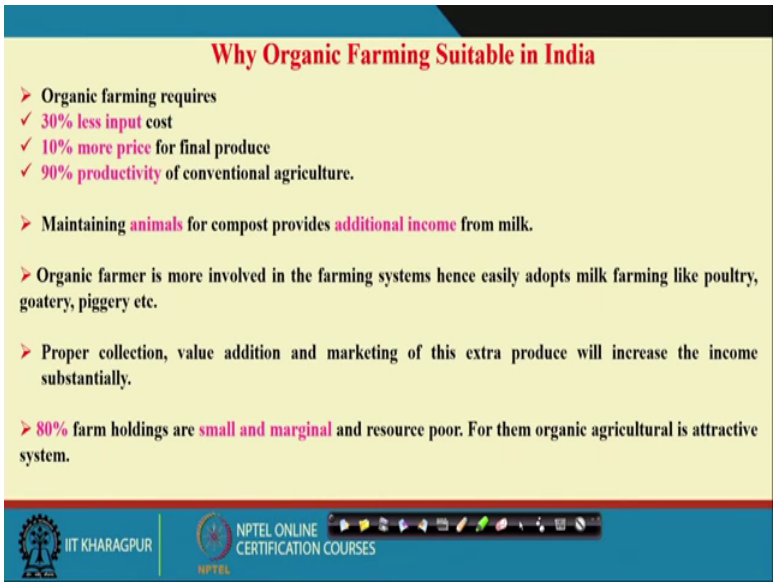

Then this comes by how the organic farming has a prospects has a future in India. As we see the farmers more number of farmers they are getting converted to organic and there is a scope ample scope that or for the organic farming because so, I will say it needs 30 percent less input cost. The why you say organic farming needs 30 percent less input cost.

Because you see; so, as you have challenge to maintain the production levels as of chemical farming. We need to use the on farm inputs like we will discuss in the later classes; the input production; that means, the compost productions.

The compost production has to be done on the farm. So, if you do the composting on farm use your the crop residues you can minimize the input cost. Now we are coming many type farming to will discuss the nature of farming we are coming, we are dealing with nature farming.

So that we can minimize the cost of the fertilizers, the cost of pesticides; if you are using the on farm resources converting to organic manure and as you are growing for organic it gives the premium price at least 10 percent higher price as compared to the conventional produce.

So, in that way the organic farming can be profitable. Only disadvantage that it the yield levels is slightly lower than chemical fertilizer; it can have the 90 percent the yield as

compared to conventional farming. So, that is one the bottlenecks difficulty has because the chemical firming gives the immediate available nutrients to the soil.

So, it gives a better yield as compared to organic farming where the nutrient release is low, but this thing we can up head if you can a miss the organic fertilizer with specific nutrients as per the need of the crops and we will be able to maintain the yield as of chemical farming.

But there are some props like your cereal crops and there are crops vegetables. Vegetables are more responsive to organics as compared to cereal crops because this crops they require are nutrients are the specific growth stages.

So, we need to meet the need to requirement of the crops at specific growth stages to maintain the yield levels for that the cereals get the better yield using chemical fertilizers that meet the requirement where organic we face some difficulties, but still doing proper managements with enriched nutrients, enriched organic manure here n we can target the yield at the same time with a better quality.

And in Indian conditions quite suitable maintaining animals for compost provides the additional income from milk. So, why I am saying organic farming is the most suitable in Indian condition; this is a you can say zero emission concept or this a integrated approach of farming systems where if you see there is no emission or you see have the 0 emission concept as you see in a loop.

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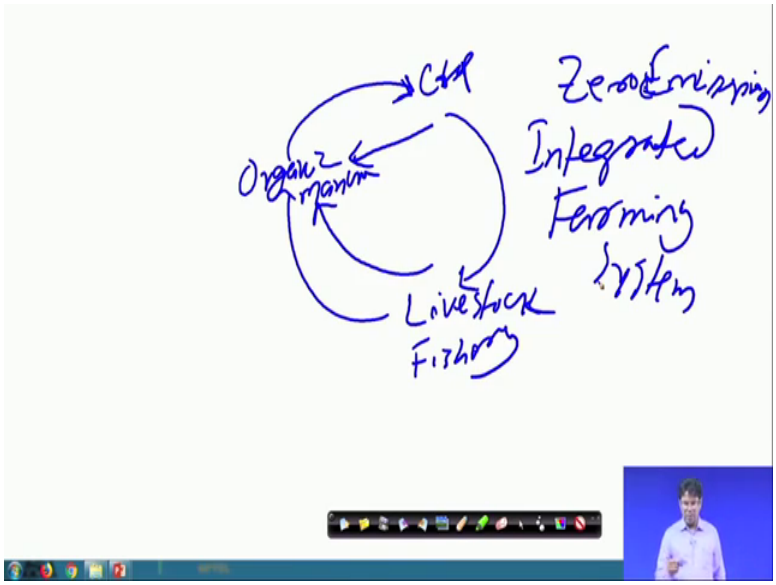

If you see, so these are the input of output of one that has a input for the other components. If you go for the integrated farming systems you have your crop, you have your life stock and have your; so, there are many components are crop livestock, fishery also you have the fish production livestock or fishery.

So, the crop the bi-product of the crop can be paid to the livestocks for repairing materials. Of course, this can this can go to as a for the organic manure productions and this are the left or materials from the livestock that goes for the organic manure and the crop residue also that can meet the organic manure productions and these acts the nutrients for the as a on farm inputs, do not rely on the off farm inputs that act as a neutron demand for the crops.

So, this concept we said as the zero emission; zero mission concept that means there is no waste. So, the bi-product of one component that act as a input for the other components. So, this is the; or we say as integrated farming system, integrated farming system. So, where the; it is a system is a collection of components and their interrelationship they are group together.

By doing so, farming systems by crop, livestock, fishery, poultry and other we have the organic manure by the manures or organic fertilizer production systems. So, this can be recycling in such a way that so, there is zero emission means this as per the global climate change my point of view So, less emission of greenhouse gases the atmosphere;

that means, no emissions or very zero emissions from this systems and here all integrated there is no waste zero emission or zero waste production systems.

So, this is a particularly feasible in India, why because as we discussed because Indian farmers we can we can have the feasible in India, we can see the 80 percent farm holdings are small and marginals we discussed and resource poor farmers.

So, for them organic agriculture is attractive systems as we discussed is a holistic concepts. If you integrate many enterprises which can be feasible Indian farming systems, where you can the farmer can have there the cows I said because they and because for the organic farming we need the cattle, cow for the cow dung, the cow dung is the main source of the organic farming systems that provide the nutrient.

Because you see the cow dung, the cow excreta there is resend many nutrients also highly energetic, unlike a other excreta because cow harm that is they (Refer Time: 24:00) this solar energy and by receiving solar energy this help to the that energy from the food materials solar energy received with food materials and after the digestions the cow excreta that rich in many nutrients and the energy say energy source of good source of energy.

So, that makes the organic manures highly valuables with the minerals, massive macronutrients, micronutrients, enzymes and hormones. So, you having the animals that per compost provides the also the additional income from the milk of the farmers.

So, organic farmer is more involved in the farming systems and it is easily adapt milk farming like poultry milk poultry, goatery and the piggery of course. The proper cultivations, value additions and marketing of this extra produce will increase the incomes substantially. So, as I said the Indian by the small holding farmers or the resource poor farmers.

So, further the as profitability is concerns they can have a integrated farming system concepts where the crops are grown in parallel with the livestocks and it can helps per as the balance food for his own family like the crop and the fish, poultry, milk and egg. So, that gives a balanced nutrition for the farm family at the same time it is a healthy food.

If you see the conversion to organic agriculture, so now we as we see; so how we can make a conversion to organic agriculture? So, we will be dealing in the later section but in the brief so, as you see the starters farmers are interested for conversion, they want to convert to organics right.

So, in this way so, they need the follow the 3 steps collecting informations. Then try out the most promising practice are on a small scale initially then implement organic practice on the entire farm. So, we do not advise that the whole (Refer Time: 26:27) to be converted to organic, so, from the very beginning.

So, farmers they have to get informations. Then slowly convert to organics. So, initially the few portion of the farmland can we convert organic and later on later on slowly and slowly this can be converted to organic.

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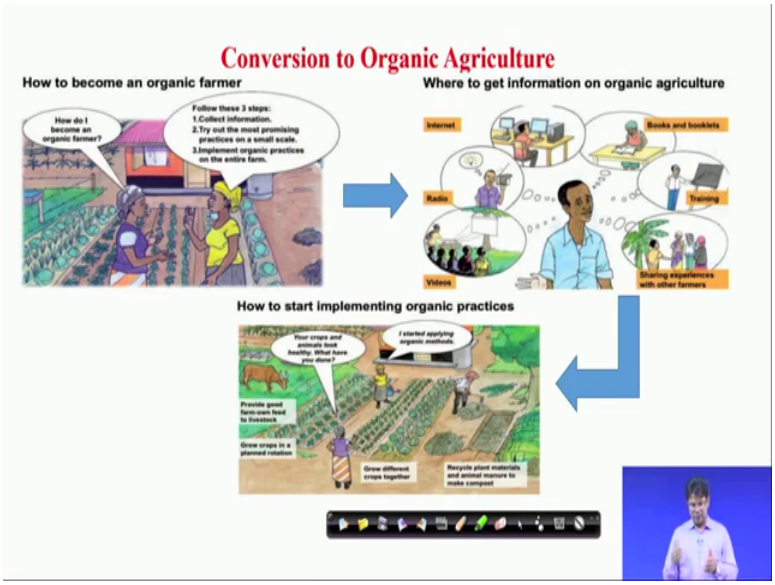

Then how to get informations about organic production practices? It can gets from the books or the booklets like the training as you give a lectures from training or sharing the experience with the other farmers those who are growing organics, videos or the through radio or internet.

So, best way we can come to any research stations or the universities, agricultural universities who are involved in organic farming the practicing organic farming they can get the informations how to go ahead with organic agriculture.

Then how to start implementing organic agriculture? So, that we will be discussing in detail, but in brief as discussed you go for the slow and steady.

So, some part of the land initially should be converted to organic and over the years the lands could be array to organics and it may takes around 6 years. By this 6 years the whole farmland of a farmer can be convert converted to organics. So, that they includes the all the components the crops will be there, live stocks will be there, they should have their on-farm inputs like organic manures.

This should not rely on the up farm inputs like a integrated farming system concepts. They have to build and the partners can join together also to convert their land to organic agriculture.

Thank you very much.