Advanced Aquaculture Technology
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Lecture 50
Eco-labelling

Hello everyone, welcome to the 5th lecture material of module 10 Technology of Cleaner Production. Here, I will be discussing today about the eco-labelling. My name is Professor Gourav Dhar Bhowmick, I am from the Agriculture and Food Engineering Department of IIT, Kharagpur.

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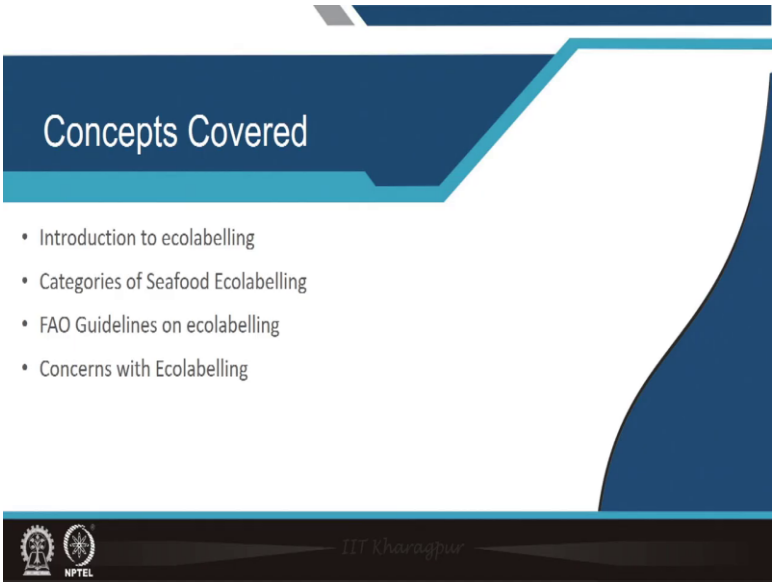

The discussions that I will mainly be covering in this particular lecture material are the different in what is eco-labelling, the introduction to eco-labelling, what are the different categories of seafood eco-labelling, what is the Food and Agriculture Organization's guidelines on eco-labelling, and the concerns with eco-labelling.

I think from the name itself, you do have some idea about like what is labelling, we kind of give a consent or like kind of say from the regulatory bodies that this particular product is appropriate for this particular type of users. That is why we go ahead with this kind of labelling techniques.

That is how the labelling works. That is how we label it, like in Indian context, like if it is a very food processing items that you are having, it has to go through this FSSAI. This FSSAI

this is like kind of regulatory body for this kind of, they will give you the certification for your food quality. So, it is just like that only.

Like in civil structure, we have some code, like we have BIS codes and also this is like that thing. So, we also have in aquaculture engineering in aquaculture technology in fisheries engineering or fisheries technology, we call them eco-labelling.

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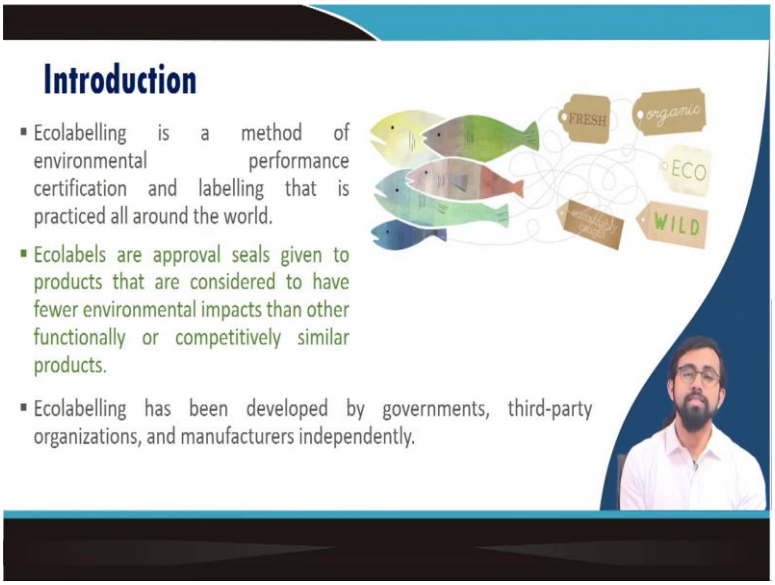

Let us discuss about it in more detail. In general, it is a method of environmental performance certification and labelling that is practiced all around the world. So, ecolabels are normally kind of approval seal given to products that are considered to have fewer environmental impacts than other functionally or competitively similar products. It will also give you, it is

like, it is kind of developed by the government's third-party organization or even sometimes the manufacturer itself independently.

They can also certify themselves, it is like kind of self-declaration, like we write something and we go for some adventure sports and we put that we do it, self-do the self-declaration, like you are labelling it, like if something happened to me, no one is responsible for that. I am the one I am doing, it is something like that. The manufacturers can do it by themselves also.

So, anyway, so this is called an eco-labelling, it is a method of environmental performance certification or kind of approval seal given by different bodies, regulatory bodies to different products. Government of India, they launched the first ecolabel scheme called Eco-mark through the Central Pollution Control Board in 1991.

Central Pollution Control Board, it is a regulatory body, it is a central government regulated body, their main house, main center is in Delhi and they are the one who kind of control the whole India's industry waste and the agriculture waste, all the waste that is being, municipality waste all the waste that has been generated what will be the final level of it, what will be the maximum threshold limit of any particular concerned chemicals and compounds or elements are actually governed by this particular body.

So, some of the examples of famous eco-labels are like International Energy Star, Japanese Eco Mark, UK BREEAM and USA Green Seal. They are the very famous, I think you have heard of all these eco-labelling things when if you are very, like, sea foodie or people. So, ecolabels are vital for promoting the international sustainable consumption and the production policies and it can reduce the negative impact of consumption and production on the environment, climate health and the natural resources.

In aquaculture, the goal of eco-labelling is to promote the sustainably managed fisheries and highlight their products to the consumers. Also, the ecolabels for fish and the seafood are mainly developed by the International Food and Agriculture Organization FAO, I think you have heard of this organization definitely, it is one of the major regulatory bodies in this world in terms of food and any agricultural based product or byproducts.

They certify that the species are harvested and raised in a sustainable manner, it is kind of their determinations seal like they are kind of confirming you that this particular material, this

particular food product, or particular byproduct is maintained its sustainable production pathway. And now, you can have it, you can use it for the purpose that you are choosing it to.

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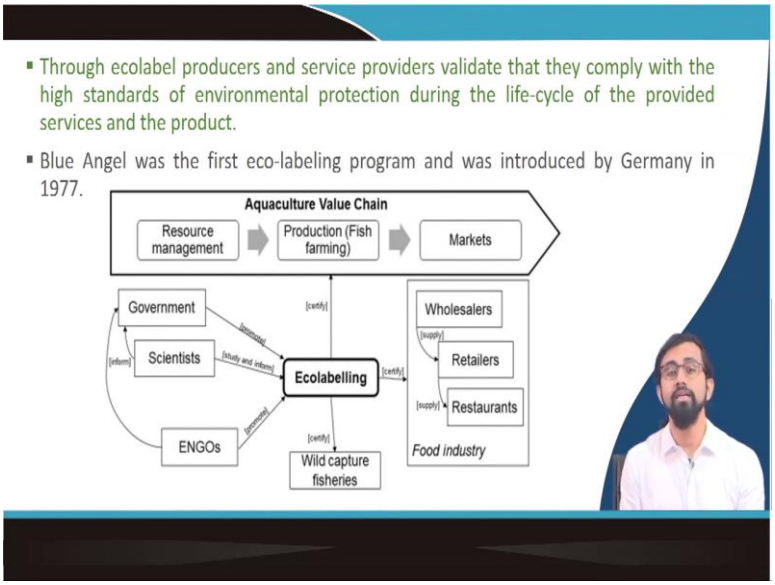

Through this eco-label producers and the service providers they validate that they comply with the high standards of environmental protection during the lifecycle of the provided services or the product that they have developed or they are selling. One of the first eco-labelling problem that was introduced in the world is by Germany and it called Blue Angel and it was developed in the year 1977.

If you see this aquaculture value chain procedure, this resource management in general suppose the eco-labelling is actually, if you see it is normally promoted by the government, scientist, actually, they are doing the study and the kind of form this eco-labelling structure, then they inform the government, this ENGOs, environmental non-governmental organizations, what their duty, they also promote it, they promote this kind of eco-labellings and all.

And what they are certifying, they are certifying the wholesalers, retailers or the restaurants of food industry. Eco-labelling, they are certifying the wild capture fisheries, they are certifying the aquaculture value chain, it can be the resource management, any part of the pathways between the resource management, production of fish farming or even the market value determination.

All these things are certified by this particular eco-labelling and which have been, which is normally been promoted by government and the ENGOs and studied and researched by the scientist or the experts on that particular field. So, that is how the whole picture looks like.

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If you discuss about the different categories of seafood labelling, there are like first party labelling, there are second party labelling. What is first party labelling? It usually established by the individual companies based on their own product standard. This is kind of the thing that we discussed, I told you, kind of self-declaration.

This can be the based on the specific environmental issues known to inform customer through the advertising or media, it is like they are saying to the advertisement, they are saying to the media that we have maintained this particular, this, this environmental condition, and we have used this, this, this organic product to produce our material. So, it is definitely you should have it, it is a very sellable product. That is how they advertise. This is why it is called first party labelling scheme.

It is kind of they are labelling their own product, we call them self-declaration. You can do it up to a certain standard, up to certain structural limit, threshold limit do you can do it. Provided time to time, the regulatory body will check it or they may check it suddenly in a certain inspection way. If they will not adhere to this kind of, they just simply mislead the people they can cause, it can cause a huge harm, their industry can be closed and their property can be like taken away by the government.

So, in general, you have to, there are certain limits up to which like the company can do this kind of self-declaration, but they have to be very cautious about this kind of activities like whether they are actually doing it or not. What is second party labelling scheme? It is established by the Industrial Association for their member product.

So, it is like we have this different society or the association in our, suppose, there are different buildings, like different apartments, they make a combined association, they have this association and they have this specific type of rules and regulatory information that they adhere to these, these, these principles.

So, each and every stakeholder in this particular case, who are the stakeholder, all the residents of this apartments, they have to abide by these rules, they have to maintain these rules, and kind of everyone knows that everyone is maintaining that rules so definitely the product is much better, means they are adhering to this rule, definitely the society looks like much cleaner because everyone should adhere to the rules or the regulations given by this associations, something like that.

It is also something like there are like association of different industries, they have this certified, they have these rules. So, all the members of this association, all these industries has to abide by all these rules and regulations then only they will be certified by this kind of labelling, this is called second party labelling scheme.

The certification criteria are elaborated by the members and sometimes based upon the external expertise from environmental organization on the organization or academia say like, in Indian case even different the professors and the experts from different Institute of Eminence they actually involve in it, different CSR labs, different NITs, IITs, their professors and lecturers and experts they actually work on it and sometimes they are actually requested by these kind of regulatory bodies to come and check whether these second party labelling schemes that they have mentioned is actually appropriate or not.

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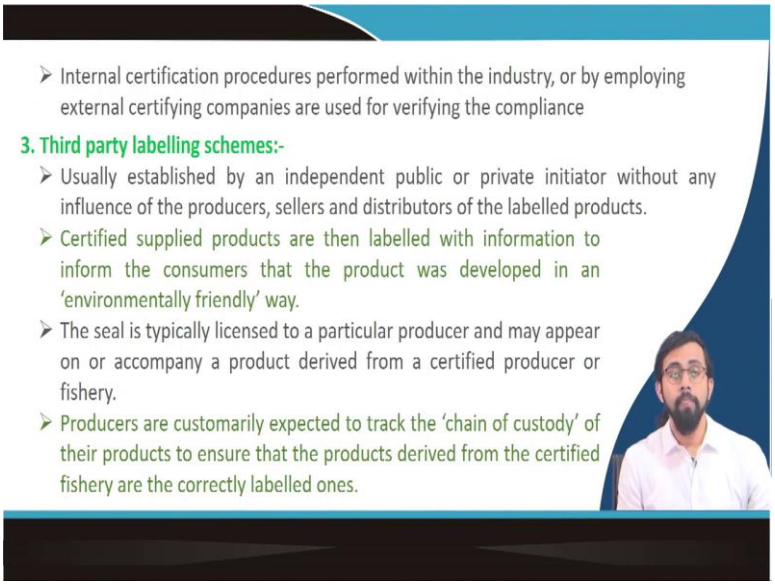

Internal certification procedures are like kind of performed within the industry and by employing external certifying companies are used for verifying the compliance in case of second party labelling scheme. What happened in case of third-party labelling schemes, in case of third-party labelling schemes, it is usually established by an independent public or private initiator without any influence of the producers, seller or the distributor of the label product.

So, in Indian context, remember, I give you one example central pollution control board, maybe they will be considered as third-party labelling schemes in this case, or say like FSSAI, this FSSAI, they are like kind of the regulatory body, they will say like this food is good this food is not they will label it. So, now they have labeled it, so that means this product must be good and must be at least thoroughly checked.

I am just giving you examples, do not like it is not has to be this particular regulatory bodies only, I am just giving you certain examples, which can be useful in this particular case for you to understand this material. Certified supplied products are then labeled with information to inform the consumer that the product was developed in an environmentally friendly way or sustainable way.

The seal is typically licensed to a particular producer or may appear on or accompany with a product derived from a certified producer or fishery industries. The producers are customarily

expected to track the chain of custody of their products to ensure that the products derived from the certified fishery are the correctly labeled ones.

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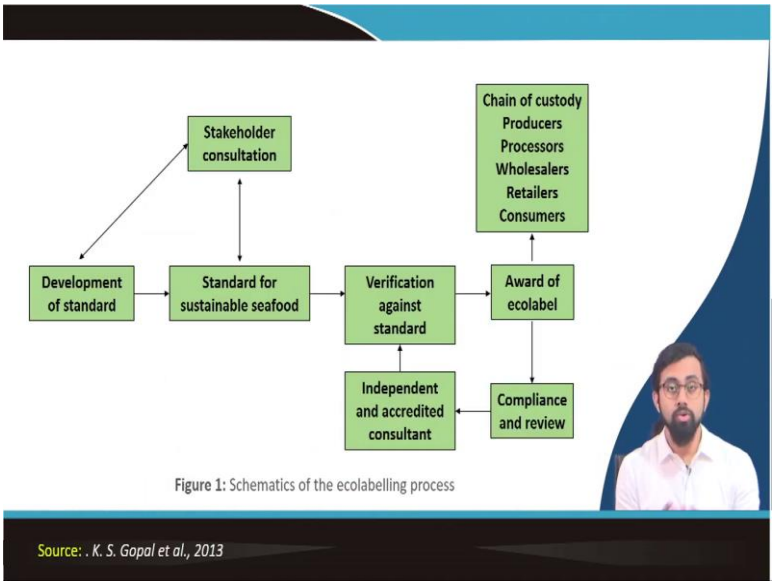

So, to more to know it like in a much better way. See how this schematic works, schematic of this eco-labelling process works. First you have a standard for sustainable seafood. You developed the standard, first your development of the standard is done by the experts, then you check the standard, then you finalize the standard for sustainable seafood, then you do this consultation with the stakeholders, all the stakeholders.

After the consultation is done you finalize that standard. Once the standard is finalized, you verify your product against the standard with the stakeholder itself. So, once the verification is done, you say, okay it complies, you give the award of ecolabel. So, with time you can keep on checking this compliance level and keep on reviewing it.

After reviewing is done you can go ahead with the independent or accredited consultant, they can again verification can be done against the standard and this is kind of circular way like you can do it monthly or yearly, even day basis, even like hourly basis as well based on the product that you are using. So, this is how it is done.

And then after the ecolabel is awarded, then it goes to this chain of custody. What is chain of custody means? From the producer to the consumer at each level all the ingredients that is added to the system has to be eco-labeled that has to be performed that has to be make sure that all the other ingredients that come in contact with the system before it reaches the

consumer are actually properly eco-labeled. So, that is why it is called the chain of custody. So, where this eco-labelling process is being done.

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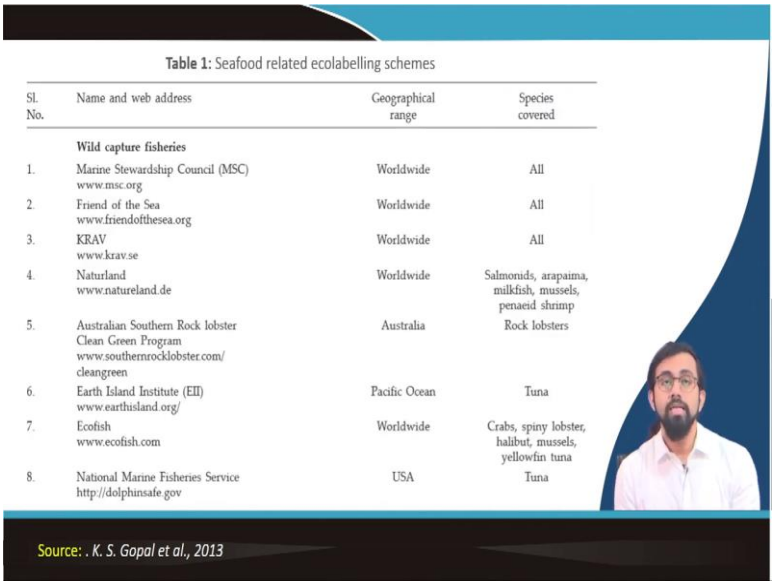

There are different seafood related eco-labelling schemes for wild capture fisheries. There are famous this MSC, you have to go for this Marine Stewardship Council and which involves all the species. Friend of the sea, KRAV, I can go for this Naturland, these are very much famous for worldwide and for all the geographic range.

For like Australian region they have this Australian Southern Rock Lobster Clean Green Program they have there are some of the programs in Pacific Ocean like Earth Island Institute, so this EII they actually specifically cover the tuna-based culture species. The same way a National Marine Fisheries Service in USA they also specifically give you the eco-labelling stamp or the certification once only for the species like tuna.

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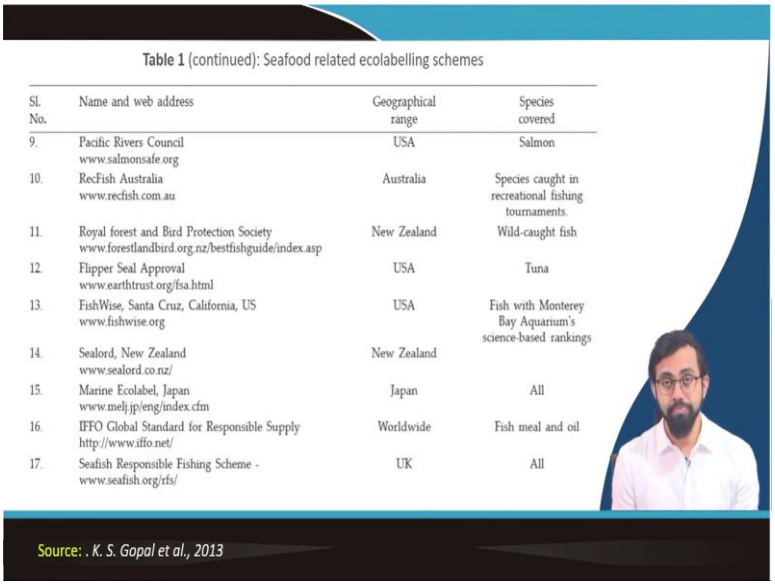

There are more others like in USA there is another called Pacific Rivers Council. So, they give you certification for the Salmon species. You can go ahead in the different other countries like New Zealand they have this Royal Forest and Bird Protection Society, they have this Sealord. In UK they have this Seafish Responsible Fishing Scheme and which is responsible for all the species involved.

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There are different seafood related eco-labelling schemes as well in aquaculture. We have Alter Trade in Japan which is specifically for Shrimp. In UK there are less Freedom Foods. This Tartan Quality Mark in Scotland. Thai Quality Shrimp in Thailand. In Bangladesh we

have Shrimp seal of quality so which is specifically for Penaeid Shrimp and the Macrobrachium rosenbergii and all.

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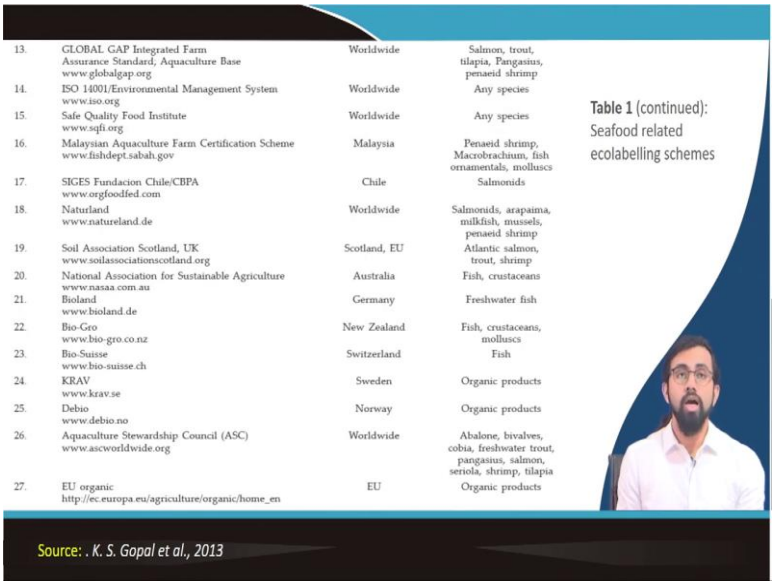

13.	GLOBAL GAP Integrated Farm Assurance Standard, Aquaculture Base www.globalgap.org	Worldwide	Salmon, trout, tilapia, Pangasius, penaeid shrimp
14.	ISO 14001/Environmental Management System www.iso.org	Worldwide	Any species
15.	Safe Quality Food Institute www.sqfi.org	Worldwide	Any species
16.	Malaysian Aquaculture Farm Certification Scheme www.fishdept.sabah.gov	Malaysia	Penaeid shrimp, Macrobrachium, fish ornamentals, molluscs
17.	SIGES Fundacion Chile/CBPA www.orgfoodfed.com	Chile	Salmonids
18.	Naturland www.natureland.de	Worldwide	Salmonids, arapaima, milkfish, mussels, penaeid shrimp
19.	Soil Association Scotland, UK www.soilassociationscotland.org	Scotland, EU	Atlantic salmon, trout, shrimp
20.	National Association for Sustainable Agriculture www.nasaa.com.au	Australia	Fish, crustaceans
21.	Bioland www.bioland.de	Germany	Freshwater fish
22.	Bio-Gro www.bio-gro.co.nz	New Zealand	Fish, crustaceans, molluscs
23.	Bio-Suisse www.bio-suisse.ch	Switzerland	Fish
24.	KRAV www.krav.se	Sweden	Organic products
25.	Debio www.debio.no	Norway	Organic products
26.	Aquaculture Stewardship Council (ASC) www.ascworldwide.org	Worldwide	Abalone, bivalves, cobia, freshwater trout, pangasius, salmon, seriola, shrimp, tilapia
27.	EU organic http://ec.europa.eu/agriculture/organic/home_en	EU	Organic products

So, there are others like, there are some more famous ones the worldwide one is GLOBAL GAAP, ISO 14001 or environmental management systems. If you come to this or come to Switzerland, Sweden, these European countries they have this Bio-Suisse, this KRAV, Debio, which is the Scandinavian countries like Norway it is famous.

If you go to aquaculture Stewardship Council it is famous for all the bivalves, cobia, freshwater trout, pangasius, salmon, and etcetera. In European Union, European Union organic is famous for giving the certification for the organic products.

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So, all these examples that I have given are once they got this kind of labelling, they get this kind of stamps. So, if you have this Bio-Suisse, you have seen the stamp for the Bio-Suisse. So, once you identify any of this stamp in your product, that means they are certified by this kind of this institution who has the authority to certify the product.

And once it is certified, then you can say you can, kind of you can be sure about the sustainability or like economic benignness of the product that you have purchased. So, these are the difference signs or like ecolabels that is used for fish and fisheries in general.

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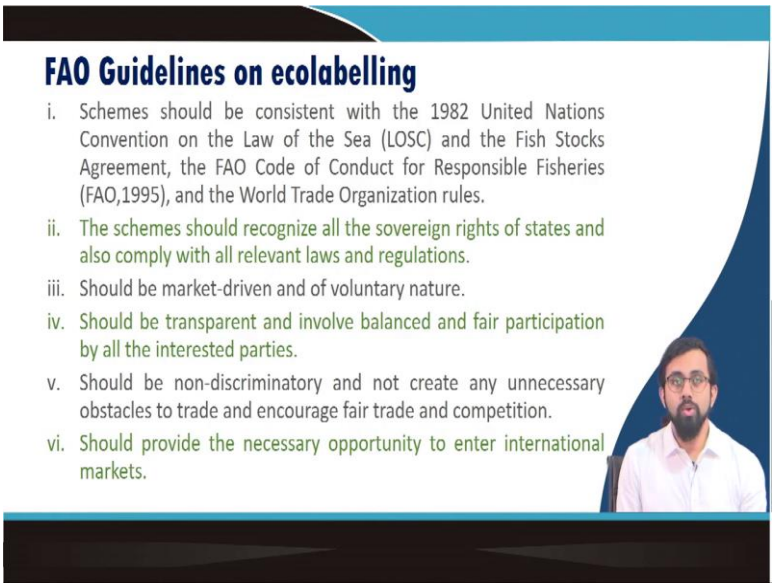

So, it also comes with the different FAO guidelines on eco-labelling. So, you know FAO, the International Food and Agriculture Organization, I think which is one of the major body under the United Nations council. So, this United Nations this in 1982, they have signed one convention, they have signed one all the countries, majority of the countries they have signed in the United Nations Convention on the Law of the Sea LOSC and also the Fish Stocks Agreement the FAO code of conduct for responsible fisheries in 1995 was done.

So, based on the World Trade Organization's rules, all these rules and all these different laws and agreements are responsible for providing the proper protocol of guidelines for eco-labelling for aquaculture industries. It can be fish processing industry, it can be fish production industry, I mean like it can be any kind of aquaculture, any type of, any branches of aquaculture, it can be capture fisheries, culture fisheries, it can be this processing industries.

So, all these things are actually involved here. Anything related to the aquatic species here. So, the schemes should recognize all the sovereign rights of the states and also comply with all the relevant laws and regulations in according to the FAOs guidelines. It should be market driven and voluntarily nature, it should not be something very much constrained thingy which will definitely lose its ability to reach to the market.

You have to be a little bit okay or you will lose your rules sometimes based on the market demand and all, so it happens with different situation it happens that in some country, they are maintaining very strict rules and the other country they are somehow loosen the rules a little bit just to reach to the market because otherwise the market will not get the enough supply with its demand because of what, because of some specific number of population or it depends on the different environmental factor and all those things.

So, it has to be voluntary in nature, but not so much, too much. It should be transparent and involve balanced and the fair participation by all the interested parties, it should be nondiscriminatory and not create any unnecessary obstacles to trade and encourage fair trade and the competition. So, that we have to make, that people have to make sure.

Whoever the party who is doing this eco-labelling thingy has to make sure it is fairly done and there is no discriminations between different in a system and it should provide the necessary opportunity to enter the international market.

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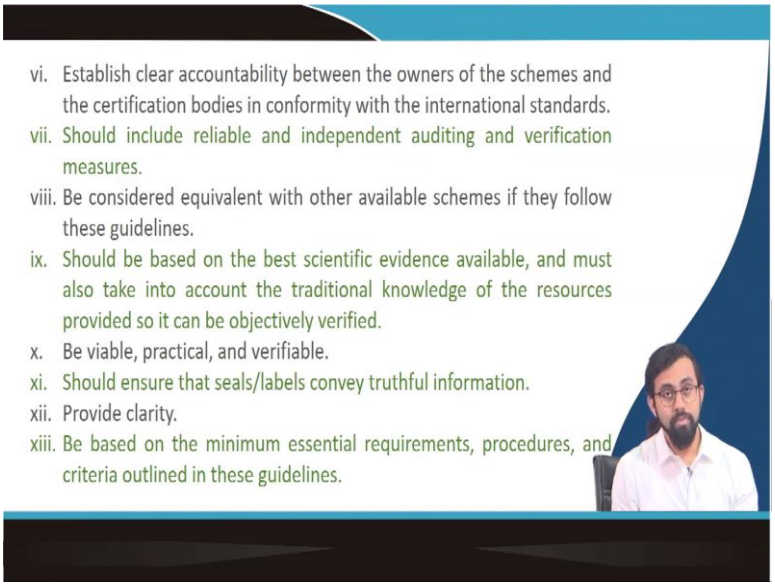

It also have to establish a clear accountability between the owners of the schemes and the certification body in conformity with the international standards. It should include the reliable and independent auditing and the verification measures, you cannot just go ahead and do something or sign something which just because you have the authority to do that because it will be audited, it will be properly verified with time to time by any third party.

So, once they will do that, they will find out there is some discrepancies it will definitely affect the regulatory bodies whoever have done it. So, in general, so that is how it is to be done that is why the standard guideline says it has to be properly audited time to time and verified time to time. You have to be considered equivalent with other available schemes if they follow these guidelines.

It should be based on the best scientific evidence available and must also take in to account the traditional knowledge of the resource provided, so that it can be objectively verified. Just because you come out with like very advanced scientific evidence you just cannot simply deny all the basic existing conventional fact and you start labelling it based on the very straightforward and new based scientific evidence, because people should be educated with the fact with evidences first.

Once they will know the fact, once they will be understanding the reason behind it, then they will start following those guidelines. So, it has to be, you have to give some basic acclimatization period for them to understand this system understand the guidelines and

understand this new scientific evidence and then only you remodify your protocol and provide it to with them.

And then only you should give them some time and after then you start taking it very strictly. It has to be viable, practical and definitely verifiable. It should ensure the seals or labels convey the truthful information. It should not convey the wrong information. It should not convey something misleading, which will cause because it is for human consumption. Definitely you do not want people to die out there.

So, definitely it has to be, you have to be extra cautious. People who are dealing with this, it is like very much, has to be very much extra cautious before providing any eco-labelling to any particular product. It should provide the clarity and based on the minimum essential requirements procedures and the criteria outlined in these guidelines.

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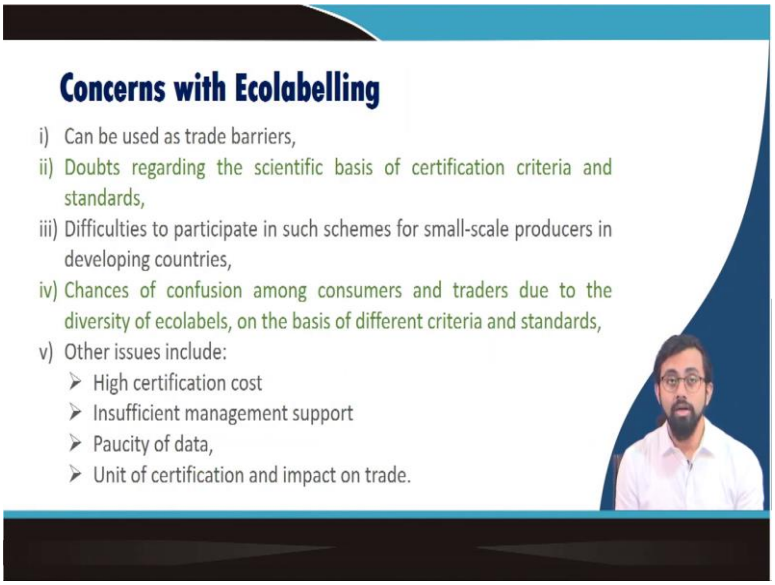

What are the concerns with this eco-labelling though? The major problem with this kind of eco-labelling is like a trade barrier. Suppose, we have a very strict economic, how to say, environmental concern in a particular country, whereas in the other country, they do not even bother about it, Now, suppose you need your particular product from the country who does not bother about this economic concern, this particular environmental concern, but because you have to abide by the rules that is given by this eco-labelling organization, I mean, like there is regulatory bodies, you cannot just buy stuff from them.

And if you cannot buy stuff from them, it will lose, you have a limitation of the crop or say like particular products that I am talking about. So, this particular crop, because we have a very less in amount, we have to export it from, you have to import it from somewhere, but you cannot import it because the other country is not adhering to the law, adhering to that particular environmental law, environmental, that sustainability issues.

Because of that, it can cause different kinds of trade barriers. There are other reasons as well, which can cause the trade barriers so I am just giving you one example just for you to have an idea, have an idea like, how it works. The doubts regarding the scientific bias basis of the certification criteria and the standards because for some country for them…

Say, just to give you an example, for some country suppose the amount of some particular metallic element present in the body of this fish is say like certain 1 nanograms nanogram per kg of dry weight, in another country it is like say 5 nanograms per kg of dry weight. The however because of this different scientific basis of the certification criteria.

Because the food that they are getting, the fish that they are getting it anyway has the presence of, it is coming from a place where there is a high chance of this kind of particularly elemental deposition. So, that is why the country they are kind of pressurized to go ahead with the 5 nanogram per kg of this kind of criteria, which has higher amount of that unwanted element.

But however, they are kind of pushed to go ahead with this because for them you cannot just rule it to the 1 nanogram per kg, because in that case, you cannot have any fish from that region at all. So, because of this basis of certification criteria, sometimes they create some doubt and they create the barrier in the export and import businesses. Sometimes it is difficult to participate in such schemes for small scale producers, because they cannot adhere to this sustainability issues.

Because some for them, it is a lot of money that they need to invest and for that they need high amount of like the support from the government, support from the policymakers. Otherwise, it is very difficult for them to go ahead with adhering to these different laws and different regulations given by these eco-labeling authorities. Chances of confusion among the consumers and traders due to the diversity of ecolabels and different country it has different kinds of ecolabels.

So, people also does not have much of an idea about what is this ecolabel, what we should, before having any food or any product from outside country or even inside the country what type of labelling that you should check. People do not know, people are not concerned about it. So, they have to be educated first about all these things.

Other issues like certification cost, management support, paucity of data, and also unit of certification and the impact on trade. So, these are all the issues that it has with this eco-labelling things, so that we need to think about.

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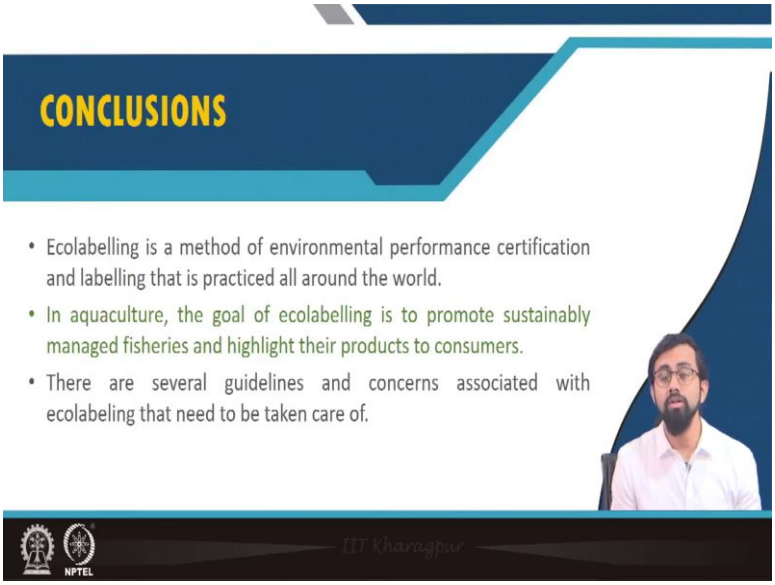

So, in conclusion, I would say this eco-labelling, it is the method that we already discussed, it is a method of environmental performance certification and that is done all over the world pretty much and depending upon the type of species it depends what type of which organization we will keep to the what kind of eco-labelling for promoting the sustainable management of these fisheries and aquaculture or not.

And it sometimes be self-declaration also, when it will be like first party eco-labelling schemes, we call it you, I think you remember. And in case of second party and the third party is like second party is like the management of whole societal thingy like the member of any association. And in case of third party, it will be a particular governing body or particular organization like in Indian case, central pollution control board also.

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So, different ecolabels are like kind of approved seals given to the product, as a takeaway, we should understand, we should realize these facts, and this has certain rules and regulations, which are certified by which are already governed by the International Food and Agriculture Organization. And this first party, second party and the third-party labelling are some categories which are introduced by Food and Agriculture Organization.

And based on the governing body from which they are getting this eco-labelling to, and we should realize that it is very important for us, and one of the major thing that we need to do at the very first stage is like we need to start educating people about different eco-labelling then only they will understand like, what kind of food or what kind of food product or byproduct they should have before even consuming, they should, they can easily check the eco-labelling and they can check in the network or something from the in the bottles surface itself, in the seal itself, that this is ecolabel by these things.

So, that means they have adhered to the rules and regulations given by the regulatory bodies, and so that you can easily consume it for the betterment of your health, for the betterment of your sustainability like for when you are very much if you are concerned about the sustainability and all.

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So, I hope you understand what is eco-labelling and altogether these are references that you can follow. To get more in details about the information that we have discussed. I hope you got to know some information about eco-labelling. And this is the end of this particular discussion in this module Technology of Cleaner Production. So, I hope you will get to know some information about the eco-labelling. I would be very much happy to help you out in any by means in future as well. Thank you so much. See you in the next lecture.