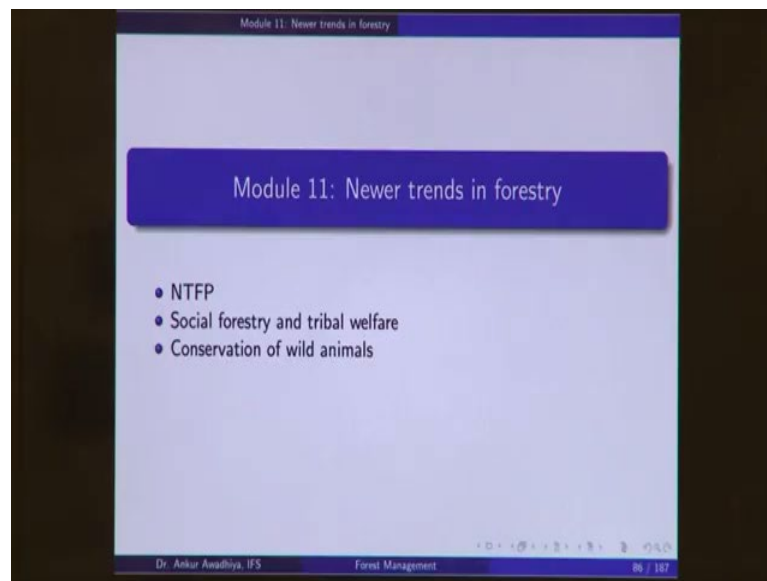


**Forests and Their Management**  
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**Module – 11**  
**Newer Trends in Forestry**  
**Lecture – 31**  
**NTFP**

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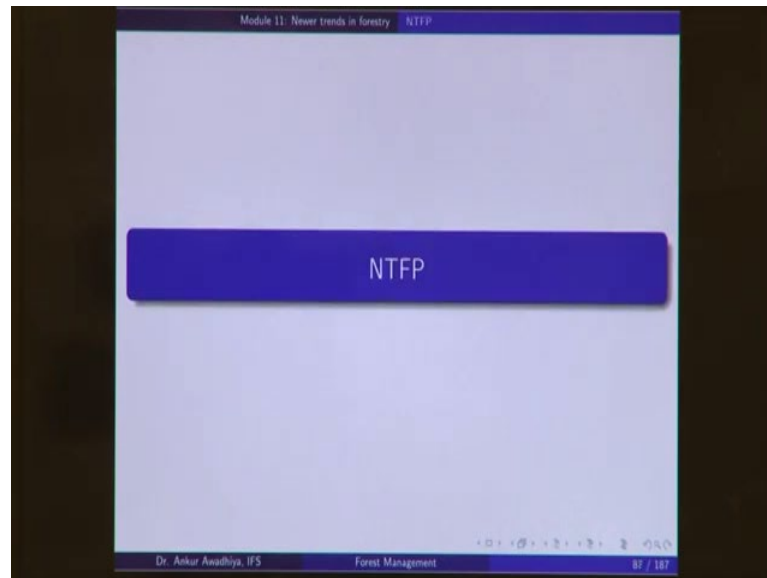


[FL] Today, we begin a new module which is Newer Trends in Forestry. This module will have three lectures NTFP or Non-Timber Forest Produce, Social forestry and tribal welfare, and conservation of wild animals. So, these are typically those areas of forestry that we did not look into much in much detail.

So, classical forestry was more over less concerning itself with the generation of timber, production of timber, extraction of timber and the use of timber, but it did not look at those things that are apart from timber such as nontimber forest produce. It did not look at things such as community management or at things such as wild animals.

So, in classical forestry, the focus goes only on the production of timber. But in the newer trends, we had look also looking at these other things that the forest can be made of use.

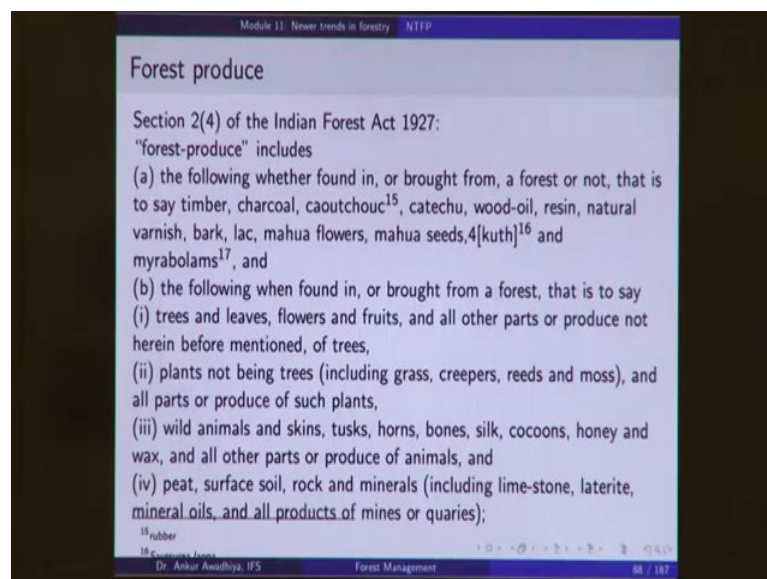
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So, let us begin with NTFP or Non-Timber Forest Produce. So, when we talk about a non-timber forest produce, we need to understand what is timber; what is forest produce.

So, essentially a non-timber forest produces is that forest produce that is not timber. So, you would subtract timber from the forest produce, and you will get the non-timber forest produce.

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So, let us now look at what is a forest produce. A forest produce as defined by Section 2(4) of the Indian Forest Act; is forest produce includes.

Now, in the Indian Forest Act, it says forest produce includes; it does not say forest produce means. What is the difference? When we say forest produce means, it means that only those things that are written below are in the forest produce. But when we say forest produce includes, it means that these things that are out there in this list all of these are forest produce.

But we can also have forest produce that are apart from these. So, forest produce includes these things, but can also include certain other things that are not mentioned here. So, what does forest produce include? It includes the following; whether found in or brought from a forest or not that is to say timber, charcoal, caoutchouc, catechu, wood-oil, resin, natural varnish, bark, lac, mahua flowers, mahua seeds, kuth and myrabolams.

What is it saying, these things whether they are found in a forest or they are found elsewhere that is they are brought from a forest or not; which means that whether you are collecting these things; whether these are found in a forest; whether these are brought from a forest; or, whether these are brought from any other place, all of these are forest produce.

So, whether you find a mahua flower; there is mahua flowers, whether you get them from a forest area; or whether you get them from your own fields; or whether you have taken them out of a forest; and you have collected it in your home; whether it is found anywhere, it is a forest produce. So, these things whether they are found in or brought from a forest or not. That is to say timber wood products of wood such as charcoal; caoutchouc is an earlier term for rubber. So, timber, charcoal, rubber, catechu is kattha. So, kattha is also an important forest produce which is a product of acacia species, from cad.

Then, wood oil; oils that are derived from the wood or resins or natural varnish. So, any varnish that you are getting from of a natural source, all of this will be included in a forest produce. Or, bark is the outer covering of trees or lac. So, lac is a product that is made by insects and it is in the form of solid piece that is let in very easily be treated with heat, it can be made malleable and it can be converted into things like bangles.

So, lac it is also used to make shellac, which was earlier used in the construction of the phonographic records. So, lac earlier used to be a very important forest produce. So, lac,

mahua flowers, mahua seeds, kuth which is *Saussurea lappa* and myrabolams; all of these, whether they are found anywhere, these are forest produce. Then, forest produce also includes the following when found in or brought from a forest.

So, the things below when they are found inside a forest or when they are brought from a forest, we will call them a forest produce. And, this is to say trees, and leaves, flowers and fruits, and all other parts, or produce not here in before mentioned of trees. So, apart from these things, if there is something else that is that you are getting from a forest, such as say some fruit trees. So, if you have a mango tree, and it is full of mangoes, and if these mangoes are being taken out from a forest, then we will call it a forest produce. But if these mangoes are being collected from a mango tree that is standing on your fields, then we will not call it a forest produce.

So, these so all other parts of trees that are not mentioned in subsection a will form a will be considered as forest produce, if they are found in a forest, or if they are brought from a forest. Then, plants not being trees including grass, creepers, reeds and moss and all parts or produce of such plants.

So, those plants that are not trees, if they are standing in a forest, or when they are being cut and brought from a forest; or whether they are being collected from a forest, then we will call them a forest produce. So, if you have grass that is growing inside forest, and you are cutting them, and cutting this grass and taking it to be used as fodder, then we will call this grass as a forest produce. But, if this is a if grass was growing on your pasture areas in a village which is not comprised within a forest, then we will not call it a forest produce.

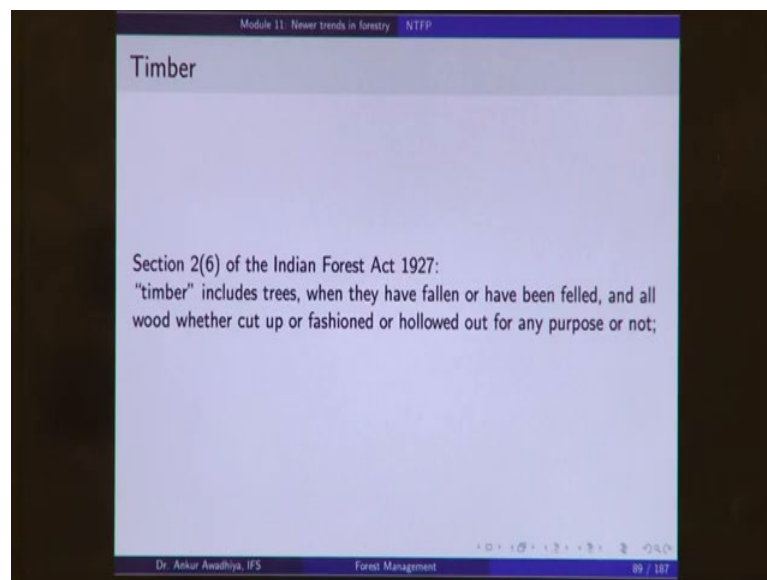
Next, we have wild animals and skins, tusk, horn, bones, silk, cocoon, honey and wax and all other parts or produce of animals. So, animals and their produce, or animals and their parts when they are inside a forest or when they are being brought from a forest, we will call it a forest produce.

And forest produce also includes peat, surface soil, rock and minerals including lime stone, laterite, mineral oils and all products of mines or queries. So, forests produce also includes minerals. So, it is not just talking about the living things the plants and animals, but even if you are you are carrying away minerals, rocks, soil from a forest, then we will call it a forest produce.

So, this is a big definition that comprises of a number of things. Somethings, whether they are found anywhere, or some things that are being taken out from a forest, all of these comprise the forest produce. And, when we say non-timber forest produce; so, from all of these forest produce, if we subtract timber, because as we saw here forest produce includes timber. So, if you remove timber, whatever else remains is a non-timber forest produce.

Now, the next question is how do we define timber? Is timber the wood that is there in the standing trees? whether it is the wood that is coming from fallen trees? or from cut trees? what is timber?

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So, the Indian Forest Act also defines timber as, timber includes, now here again mark the word includes; it does not say timber means; so, timber includes all of these, but it can also include something else.

So, timber includes trees whether they have fallen or have been felled. So, timber includes trees, when they have fallen or have been felled; and all would whether cut up or fashioned or hollowed out for any purpose or not. So, what does it say? It says that timber includes trees when they have fallen or have been felled. So, the wood that is there on a standing tree is not timber, it is a tree, but when this wood is there on a fallen tree, whether it has fallen naturally or whether it has been felled, then as soon as your tree has fallen down, or it has been cut, we will start calling it timber.

So, timber includes trees when they have fallen or have been felled and all wood whether cut up or fashioned or hollowed out for any purpose. So, all the wood that is extracted from these trees all of that is also timber.

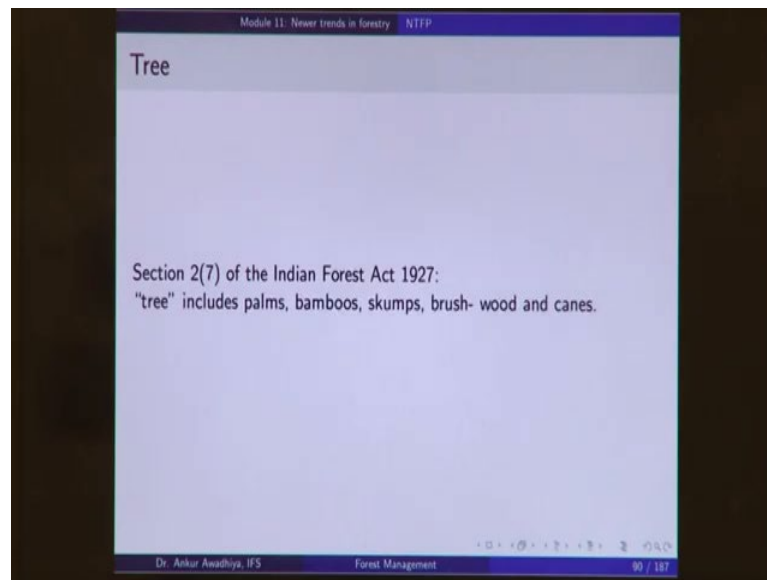
Now, even if this wood has been fashioned in some manner; so, if you have cut up this wood into smaller pieces or say into blocks or slabs; even if it is a cut up wood, we will call it timber. If it is fashioned into something, then also we will call it timber. So, if, for instance, somebody makes a plank of wood and nails two planks - two or three planks together, and says that this is not a wood; this is a table, but then as per the Indian Forest Act, we will still call it timber; or hollowed out for any purpose.

So, if you have a timber and it has been hollowed out, and when you do all of these for any purpose or not; so, whether you have made a plank to carry it away to make furniture or whether you have made a plank without any purpose, will still call it timber.

Now, these definitions have been made. So, intricate because typically the offenders who are trying to cut trees and take them away; they may they try to make use of the loopholes. So, suppose, if this law; if this section only said that if it is cut out for some purpose for any purpose; so, in that case, the person might say, "oh no! I do not have a purpose, I just did it just for the sake of it; I do not have any purpose."

So, will you stop calling it a timber? The answer is NO; so, which is why we need to look into these definitions in very great detail. So, all of these is timber and when you subtract timber from the forest produce, you get the non-timber forest produce. Now, when you say trees - when they have fallen or have been felled; so, how do you define a tree is? So, at what stage, do you call it a tree?

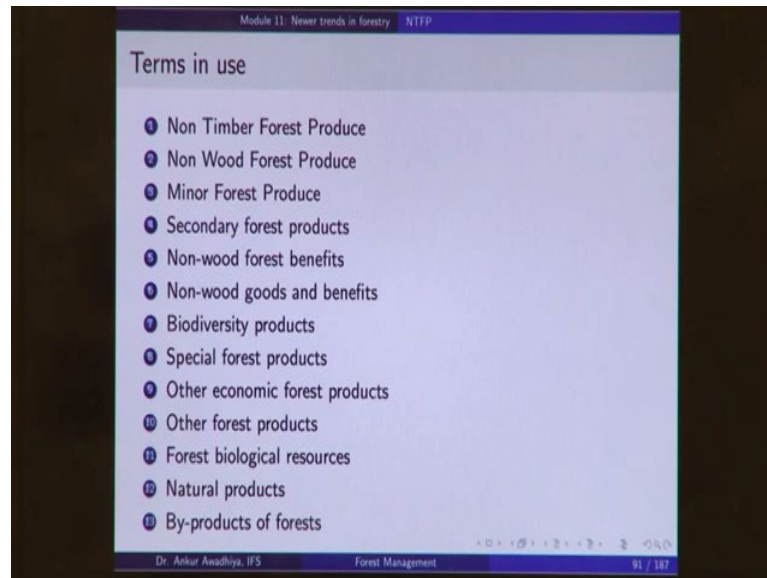
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So, section 2(7) of the Indian Forest Act defines a tree as, “tree includes palms, bamboos, skumps, brush wood and cane.” Here again, it says ‘trees includes.’ So, if it is a palm, then you cannot take; you cannot make use of this loophole and say that this is not a tree, this is a palm. No, tree includes palm; tree includes bamboo; tree includes this skumps, brush wood and canes.

Now, later on with an amendment, we have removed bamboos and canes to promote the use of bamboos and canes for social welfare, and this is something that we will see in the next lecture, but this is the definition of trees.

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Now, when we say non-timber forest produce will also encounter several other terms. So, are all of these terms the same or is there a difference between these terms? So, we have terms like non-timber forest produce, non-wood forest produce. Now, when do you when do you call it a non-timber forest produce? And, when do you call it a non-wood forest produce? Or, things like minor forest produce? So, typically, we will hear this term that when we talk about medicinal plants; when we talk about grasses; people normally call it a minor forest produce.

Now, why that are minor forest produce? Typically, because it does not generate a huge amount of revenue. The highest amount of revenues generated through timber. So, that is the major forest produce; anything apart from timber is a minor forest produce.

So, this term minor forest produce is looking at the economic valuation of the forest produce. Secondary forest products- now, this definition says that wood is or timber is the primary forest product. So, anything apart from timber is secondary or it is a by-product; it is a by-product of forest. We also hear the term non-wood forest benefits. So, in place of product, at times we start calling benefits, because benefits will include not only the products, but also the non-products such as biodiversity.

So, biodiversity plays a role in stabilizing the ecosystem. So, that is a benefit that you are getting out of the forest. So, the NTFP's are also included in the non-wood forest



benefits, but non-wood forest benefit is not a sub-part of the non-timber forest produce. There is also another term non-wood goods and benefits or biodiversity products.

Now, this term biodiversity products is emphasizing the fact that we are getting these non-timber forest produce, because of the biodiversity. So, if we did not have biodiversity, we will not have grasses, we will not have fruits, fiber, fodder and so on. If we were only managing a forest, for timber say, we were we were maintaining it as a teak plantation with nothing else.

So, in that case, we will hardly be getting any non-timber forest produce from that forest. So, if you want the non-timber forest produce, we need to maintain biodiversity. So, this term is emphasizing the fact that to have non-timber forest produce, you need to have biodiversity.

Another term is special forest products. So, these are not the common products; common products like timber or wood, these are something special; because we were not considering them before, or we call it call them other economic forest products, because they have an economic value. But so far, we were only concentrated with timber and these are something that is other than timber. So, other economic forest products other forest products, forest biological resources, natural products and byproducts of forest.

When we say things like byproducts of forest; so, it is a slightly derogatory term because we are saying that these are not a product; this is just a byproduct of doing the main activity, But then, as we will see in certain cases, we maintain a forest primarily for its non-timber forest produce such as a wildlife reserve.

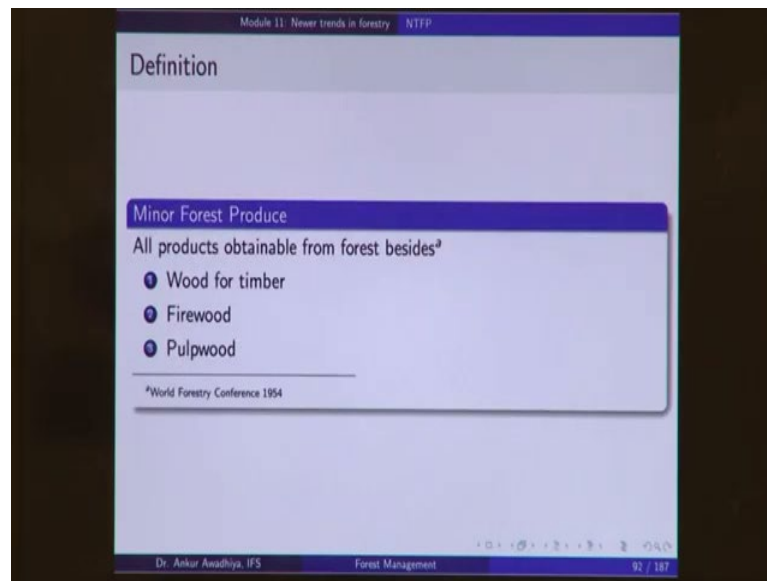
So, if you talk about a national park; we are maintaining this the forest in a national park not for its timber, but primarily for its non-timber forest produce, in the form of wild life tourism; in the form of ecological benefits or ecosystem benefits. So, in that case, if we say that the non-timber forest produce of a national park is a byproduct of the forest that will not be true, because that is the main product. Because, when we talk about management by objectives, there are objective is to have the maximum amount of these ecosystem service benefits.

So, they are the main products. So, in those instances, we will not use terms like byproducts of forest or secondary products of forest; we will call them the main products

of the forest. So, these are all different terms that are currently in use; but whether a particular term is applicable to a particular case or not is something that you will have to think considerably before using any of these terms. Otherwise, these terms will not be able to do justice to what you are saying.

So, these are different terms a few of them are synonymous and a few of them are used in special circumstances.

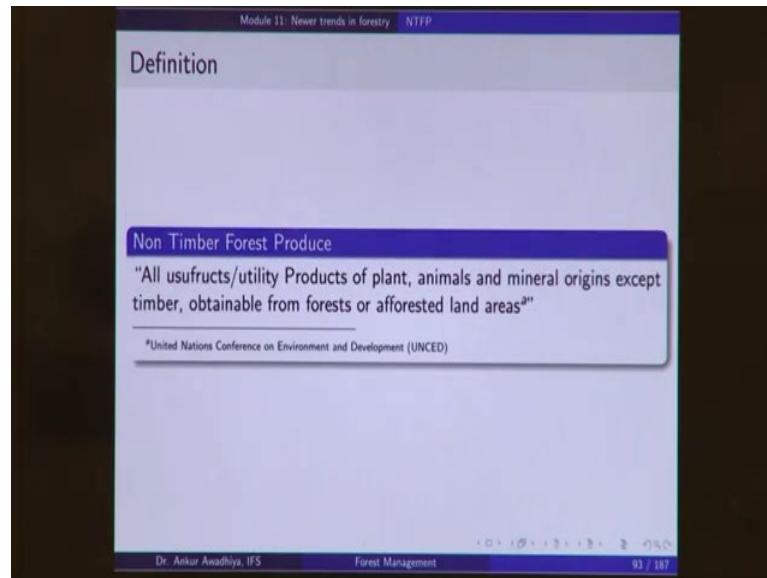
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Now, different organizations; different agencies have tried to define these terms. So, when we talk about minor forest produce, minor forest produce was defined by the World Forestry Conference in 1954, and it said that minor forest produces - all products obtainable from forests beside wood for timber firewood and pulpwood.

So, if we remove timber, firewood and pulp wood; whatever else remains is a minor forest produce is something that the World Forestry Conference said in 1954. So, this is a pretty broad definition, but it only talks about the products from a forest; it does not talk about the services that are being provided by the forest.

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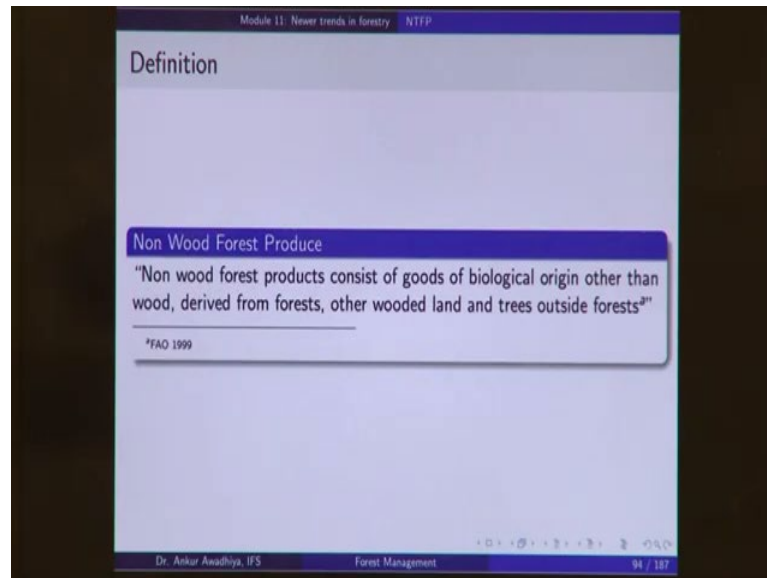


Another definition is that of the non-timber forest produce by the United Nations Conference on Environment and Development. It said that “all usufructs or utility products of plants, animals and mineral origins except timber, obtainable from forest or forested land areas.”

Now, this definition not only includes the forest areas, but it also includes other afforested land areas. So, even if it is a plantation, and if you are getting these benefits this according to this, this definition you will still call it a non-timber forest produce; all the usufructs and utility products. So, anything that is providing you utility, including the services of plants, animals and mineral origins.

Now, this definition is saying that you are not in only including the biological resources, but also the non-biological resources such as rocks and minerals in soil. So, all usufructs or utility products of plants, animals and mineral origins except timber, that are obtained from forest or afforested land areas are non-timber forest produce.

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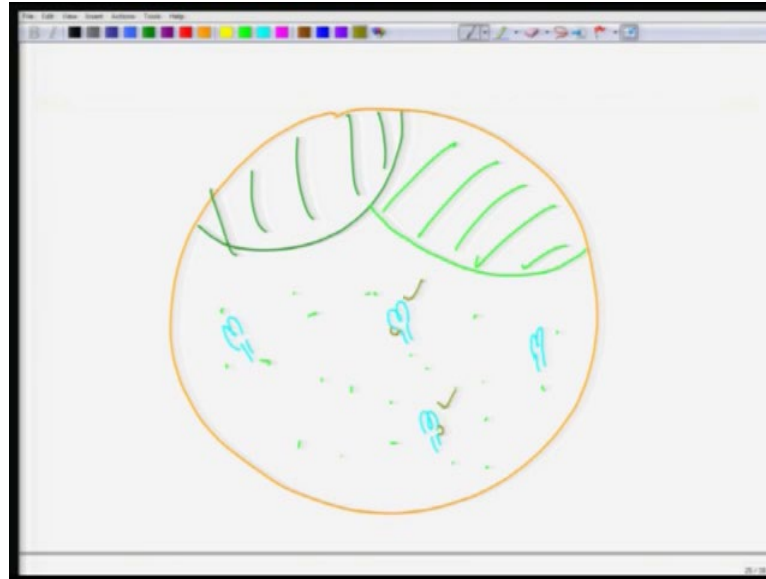


Then, we have the non-wood forest produce. So, this definition is from the wood and agriculture organization in 1999 non wood forest products consist of goods of biological origin. Now here it says goods of biological origin. So, it is not considering the services it is only considering the goods and it is only considering those goods that are of biological origin that is not talking about the mineral resources.

So, this is a pretty weak definition of the non-wood forest produce because it is not including those forests produced that are from the mineral origin; and it is not in incorporating those substances, that we get as services. So, this definition says non-wood forest products consist of goods of biological origin; other than wood derived from forest other woodland and trees outside forest; now, this definition is trying to expand these areas.

So, as we saw before in the previous definition, we said obtained from forest or afforested land areas, but then we also have trees that are neither a part of the forest nor are a part of afforestation.

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Because it may so happen that you have this village area; and here this region is a forest, this area say is a plantation or an a forested area, and this area is say fields and grasslands.

Now, in this field, now it may so happen that these fields and grasslands are also having a few trees. Now, these trees are neither a part of the forest nor are a part of the afforested areas, but still these trees are also able to give you certain resources. So, there might be a say, a hive of a honey bees on one of these trees; so, you can get honey out of it. Now, if you look at the previous definition, it said from forest or a forested land areas.

So, if he consider such a definition, then the honey that you are getting out of this tree. So, suppose you have a hive here; you have a hive here. So, the honey that you get out of these trees will not be included in this definition, because it is neither from forest nor from afforested land areas.

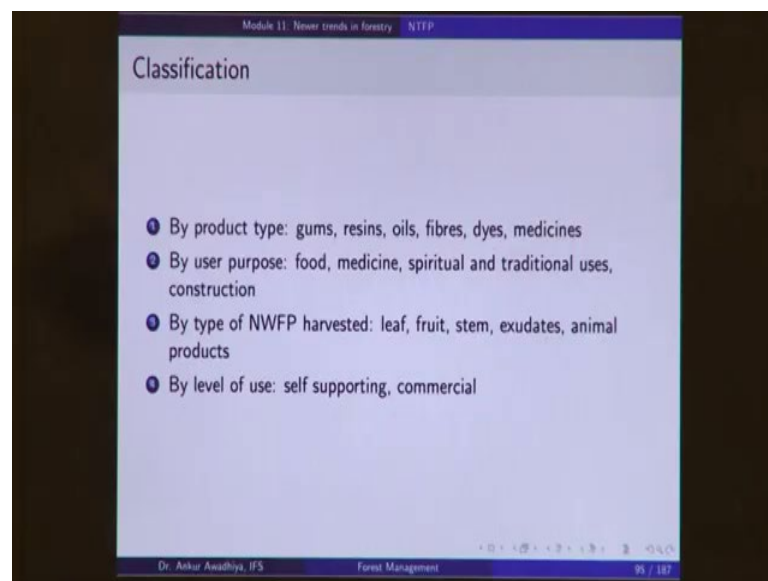
But it will be included in this FAO definition, because it says from forest, other wooded land and trees outside forest. So, all of these definitions have their own pros and cons; they have their own strengths and weaknesses. So, this definition includes the trees outside forest because they are also providing the same resource. If you get timber from these trees versus timber from the forest, it is one and the same; whether you get honey from a hive on these trees or honey from a hive inside the forest, it is one and the same.

Whether you get leaves for fodder from this tree or you get leaves for fodder from the same species that is found inside the forest, there is no difference in the fodder. So, why should you leave that out? So, this is why the FAO definition includes the trees outside forests as also giving us the non-wood forest products.

So, which definition? None of these definitions is able to classify all different kinds of forest produce, but you get an idea of what a non-wood forest produce is. So, typically, it is a forest produce; we can incorporate the forest areas - the afforested areas, other wooded areas, entry outside forests; because they will they are all giving us the same resource.

Now, of all the forest produce and services that we get, if we remove timber out of it, we will get the non-timber forest produces and the non-timber forest services.

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Now, what are the different kinds of products that we get? So, here is a classification we can do a classification based on the products that we get. So, what are the kinds of products we get; we can get gums.

Now, gums are sticky substances; they are typically in the form of a solid mass that is exuded out of the bark of the trees. And, these gums; once they have dried out, they can be collected, and these gums are typically used either for sticking things, or they are used as flavoring substances, or they have some medicinal uses.

But this product gum can be classified as a forest product as a non-timber forest produce. Then, we have resins; now, the difference between gum and resin is that gums are typically more sticky, more solids; whereas, a resin typically is a bit more liquidy and a bit less sticky. So, we have gums; we have resins; we also have oils that we get from forest. Now, these oils can be volatile oils or non-volatile oils. Volatile oil includes things such as the essential oils which give out the essence; which give out certain smells.

So, these include things like cuss oil, or include things like vetiver oil, and so on; or citronella oil and so on. So, you have oils; these oils can be volatile oils or they can be non-volatile oil. Now, a nonvolatile oil is, for instance, the oil that you collect out of seeds, such as Sal seeds. Now, this oil may be used for say cosmetic purposes, or some of these oils may even be used for cooking; for eating; or, these oils may be fed to animals; but you get different kinds of oils.

So, this is another product that you get out of the forest - fibers. So, fibers including the flosses in the fluffs, are things that are cottony; that are in in a fibrous form; you can get it from leaves, you can get it from the stem, you can get it from bark, or you can have it from fruits and flowers. Another product is dyes; so, dyes are those things that can be used for coloring other substances. So, different plant parts have different colors, and you can extract different dyes out of them and medicines.

So, we also get different kinds of medicines from the from the trees; in from the trees and the other plants inside a forest. So, these are all different kinds of products that we get. So, whether a thing is gum and is being used as a food, or whether it is being used for traditional uses; it is immaterial. This classification will only look at what is the product that is you are getting.

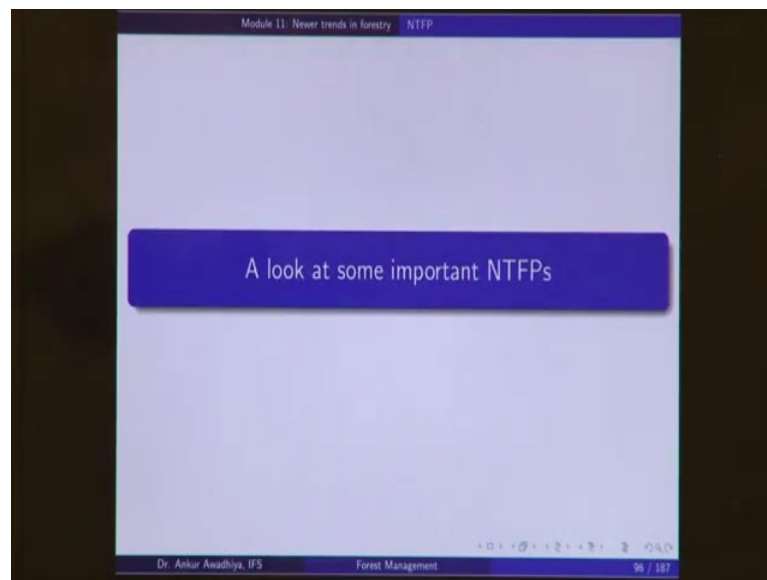
Another classification will look at the use of these products, whether you are using them as food. So, anything that is being used as a food, whether it is a gum; whether it is an oil, it will be classified as food. So, this is the product that you are getting from the plants this is, what is the use of that product. So, you can use it as food; you can use it as medicine; you can use it as spiritual use, or traditional use, or construction use.

Now, in the case of construction use; because we are talking about non-timber forest produce, what can be the construction use well; you can have different ropes and ropes

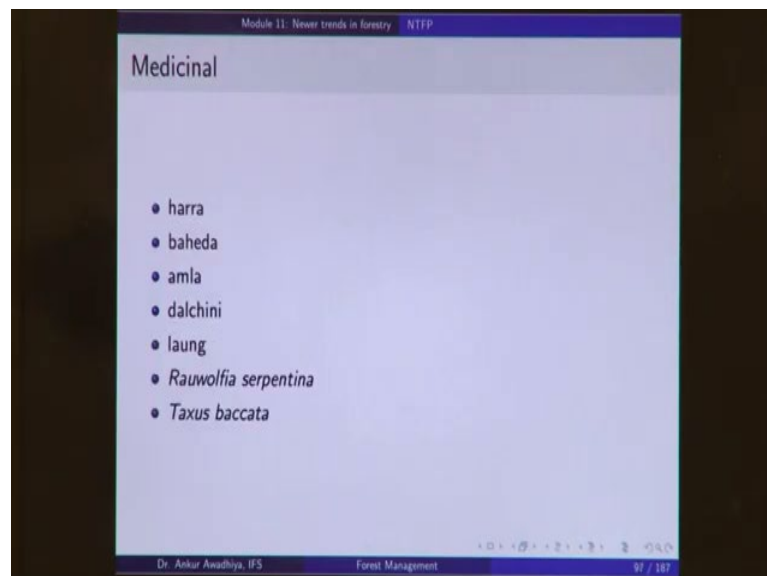
are used in construction. So, this classification will look at the users of these produce, or you can classify things by the type of NT of the non-wood forest produced that is harvested; what are you harvesting? is it leaf? is it a fruit? is it a stem? is it an exudate? is it an animal products? So, this is another classification.

Another classification is by the level of use is, itself supporting or sustainable, or is it a commercial use. So, we can classify these non-wood forest produce or non-timber forest produce, based on these different classifications.

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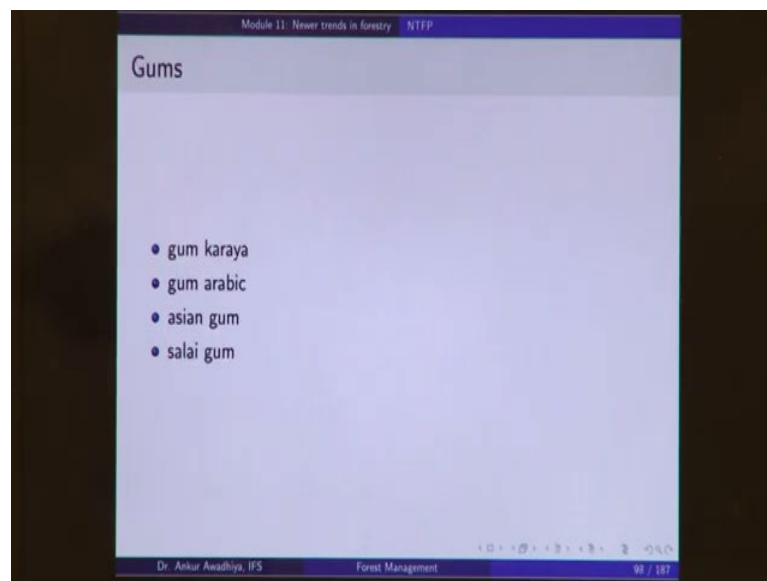


Now, let us have a look at some important non timber forest produce. Let us begin with medicinal plants; now, medicinal plants, especially in Ayurveda, are found in forested areas; they are extracted from the forested areas.

And, they are being used especially by large companies such as Dabur oil or Himalaya, but also by the local bags and hakims. Now, what are some medicinal plants that we get? We have things like harra, baheda and amla. Now, harra, baheda and amla are the component of the triphala and which is used as a medical concoction. We have things like dalchini, which is extracted from the forest; laung; *Rauwolfia serpentine*, which is a plant that is used for heart ailments. You have *Taxus baccata*, which gives you the medicine called Taxol, which is used in treating cancers.

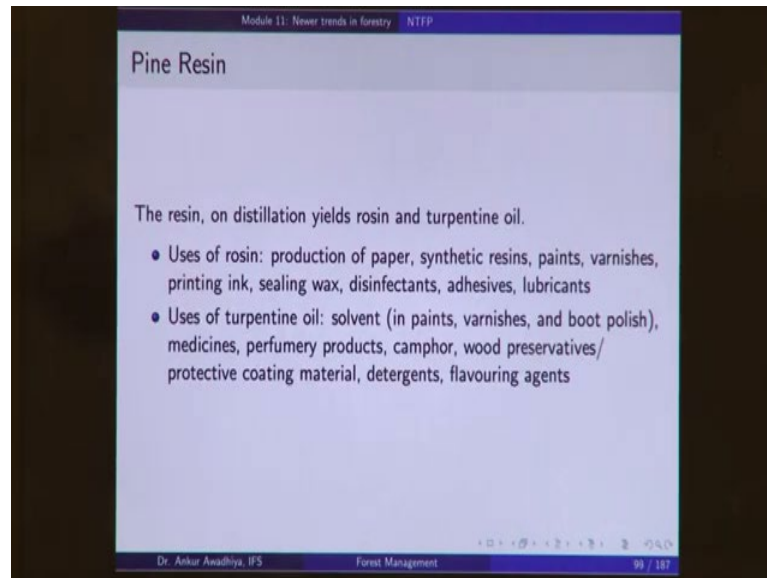
So, there are different medicines or different medicinal compounds that you can extract out of a forest and none of these is timber. So, this is a non-timber forest produce.

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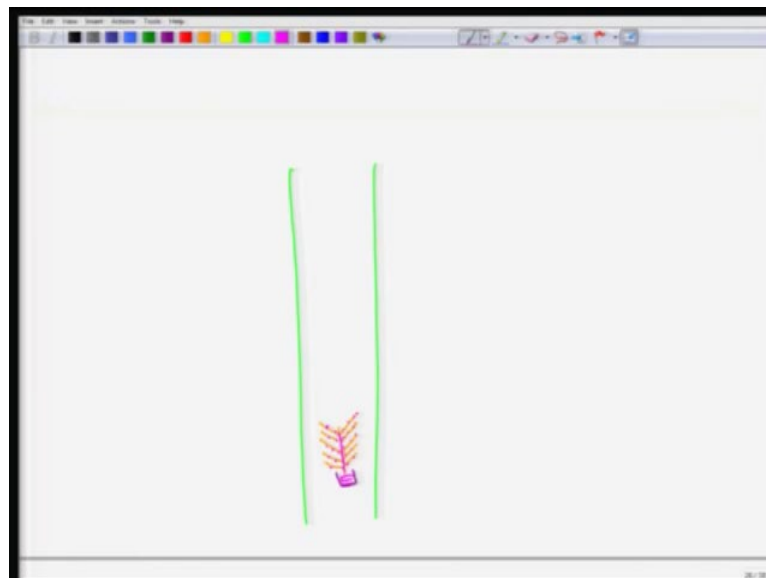
Next, you have gums. Now, these days a number of gums are being used for their medicinal uses. But they are also used, in certain cases, in cosmetic industries and in printing industries. So, these includes gum karaya, gum arabic, asian gum, salai gum and so on.

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We also get pine resin from the trees, especially the that is the pine trees. Now, the resin that you get out of pine; it, on distillation, yields rosin and turpentine oil. So, how do you collect a resin?

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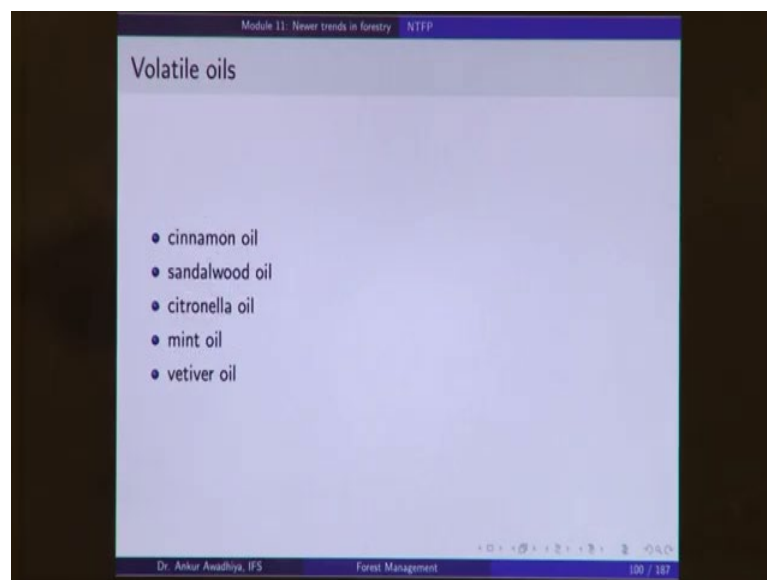
So, suppose this is a pine tree; people will make rills like this; there is a channel. So, essentially, you are putting cut marks on this tree. So, these cuts do not go into the heartwood, they are only on - you can find with the sap wood.

So, you are making these cuts to the trees, and it will give out certain exudates, because that is a defence mechanism of this tree; that to protect itself, it gives out this exudate. This exudate flows through this channel, and you can attach a cup here and this exudate will come and collect here.

So, you do this with a number of trees and you collect a substantial amount of pine resin. In the, what would be the use of this resin resin? we distilled this resin to get two products. The first one is rosin and the second one is turpentine oil. Now, rosin is a substance that is that is more viscous; that is more solid like, and it is used for the production of paper, synthetic resin, paints, varnishes, printing, ink, sealing wax, disinfectants, adhesives and lubricants.

And, turpentine oil is used as a solvent specially in paints, varnishes and boot polish. It is used in certain medicines perfumery products, camphor, wood preservatives, protecting or as a protective coating material. it is added to detergents; it is used as a flavoring agent. So, both of these; that is the rosin and the turpentine oil are non-timber forest produce that you get out of resin, which again is a non-timber forest produce.

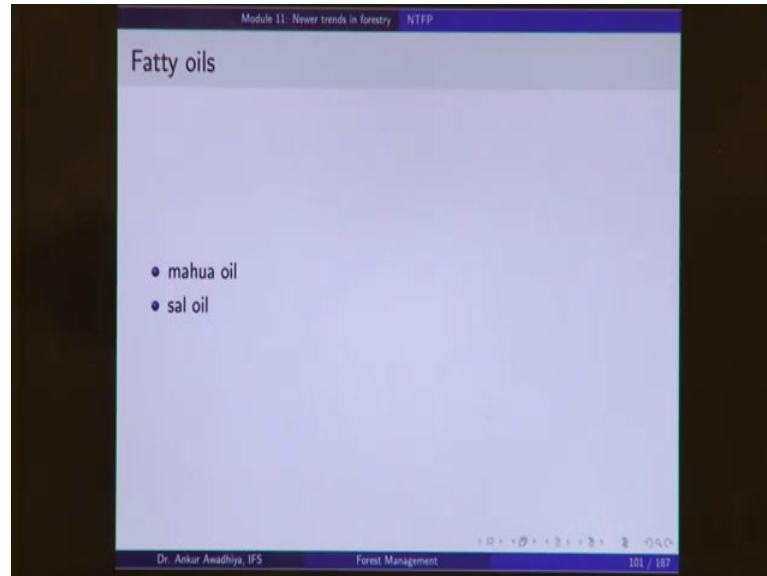
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Next, we have volatile oils or essential oils or perfumed oils. So, these oils give out a pleasant smell; they are generally used in perfume industry or they are used as food additives. Now, some prominent volatile oils include cinnamon oil, sandalwood oil,

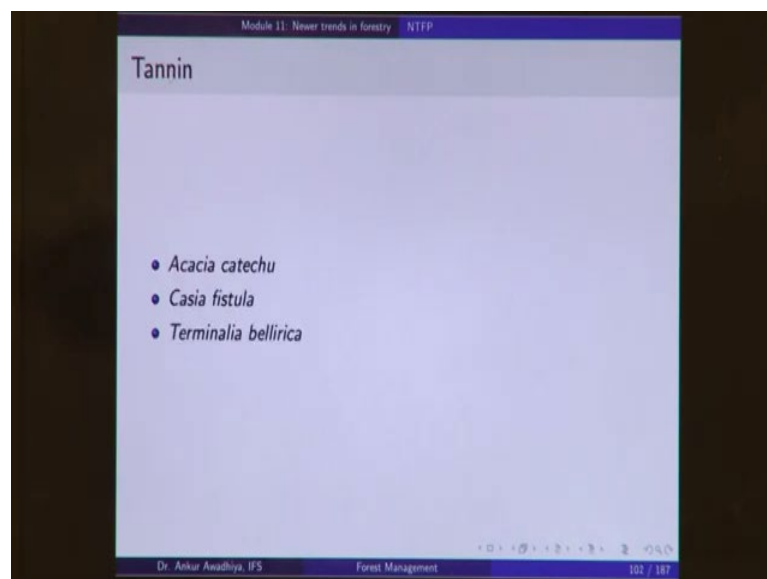
citronella oil, mint oil and vetiver oil. So, these are all different non-timber forest produce that you are getting out of a forest.

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Then, we have fatty oils. Now, fatty oils include things like mahua oil and sal oil. Now, these fatty oils are used in chemical industry, or in certain cases, they are used in food processing industries; but they do not have this is the smell of an essential oil.

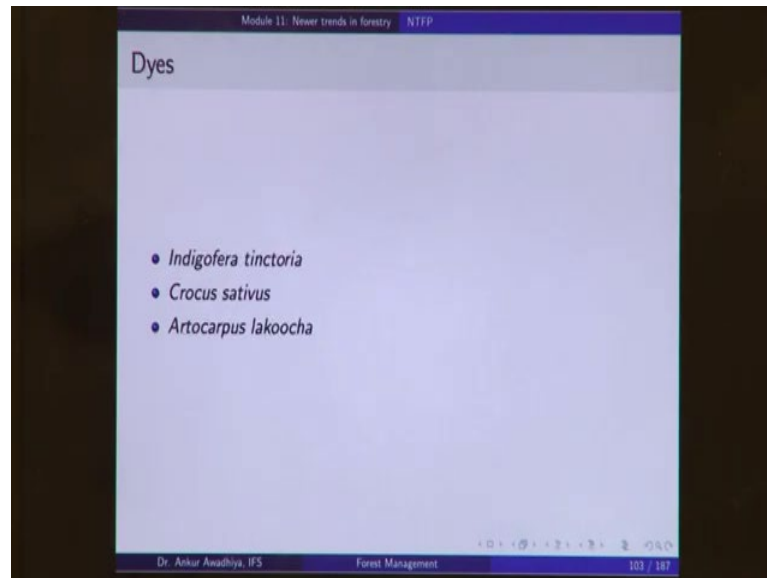
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We also get tannin from the forest. Now, tannin is a substance that is used to tan leather. So, you treat the raw heights with tannin to get leather, and tannin is derived from *Acacia*

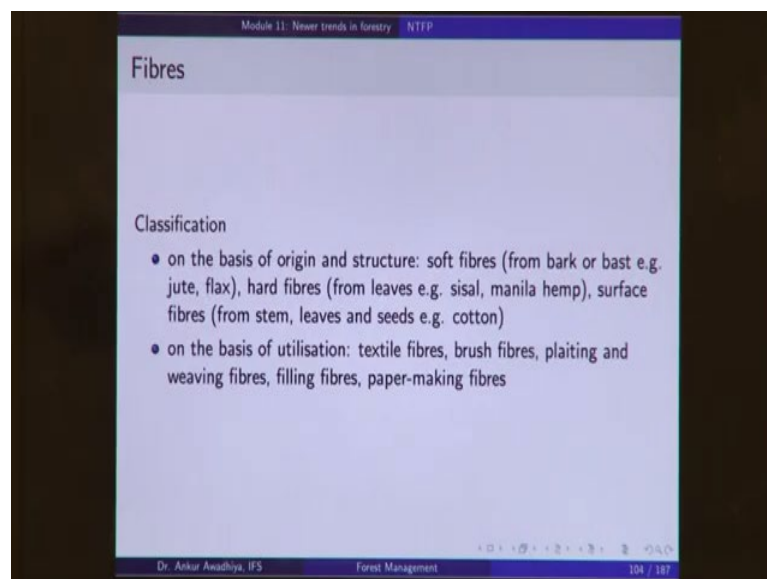
*catechu*, *Cassia fistula* and *Terminalia bellerica*. So, these are three common species that provide us with tannin.

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You also get dyes from plants like *Indigofera tinctoria*, *Crocus sativus*, *Artocarpus lakoocha*. So, we get different dyes from the forest and these dyes also are a part of the non-timber forest produce.

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We also get several fibers from the trees and plants. Now, the fibers can be classified on the basis of their origin and structure; in which case, we have three different kinds of fibers - soft fiber, hard fiber and surface fiber. Now, soft fiber; as the name suggests, it is a soft fiber; it is derived from bark or bast of trees, such as jute and flax. Jute and flax are soft fibers. Hard fibers are typically derived from leaves such as sisal or manila hemp.

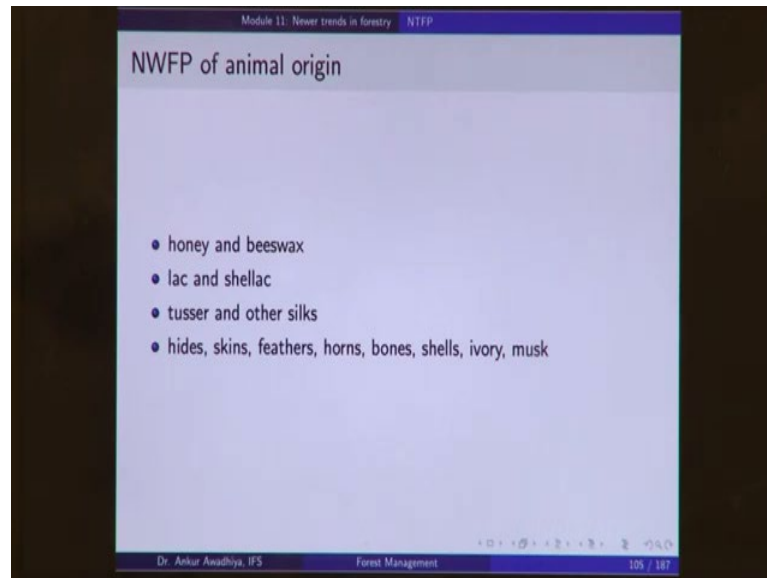
Surface fibers are derived from stems, leaves and seeds such as cotton. So, this is a classification based on the origin; whether you are getting it from bark, whether you are getting it from leaves, or whether you are getting it from stem leaves and seeds. In this structure; whether it is soft, whether it is hard. So, this is one classification of fibers. Another classification is on the basis of utilization - what do you use these fibers for? Do you use it as textiles?

So, for instance, hemp is used in textiles; cotton is used in textiles, but jute is hardly used in textiles. Whether it you are using it as a brush? So, things like coir. So, coir is used to make brushes. So, coir is a fiber which on the basis of utilization would be classified as a brush fiber. Or, do you use it for plaiting and weaving? Especially to make ropes. So, sisal is used to make ropes by weaving it together in the form of a rope. Or, do you use it for filling things?

So, filling; especially that of pillows and mattresses. We generally use things like cotton or silk cotton. So, silk cotton is also derived from trees and that is a very prominent non-timber forest produce. Or do you use it in paper making? So, here again the fibers can be classified on the basis of their origin structure, or on the basis of the kinds of uses that you are putting it to.

So, these different fibers are also important non-timber forest produce.

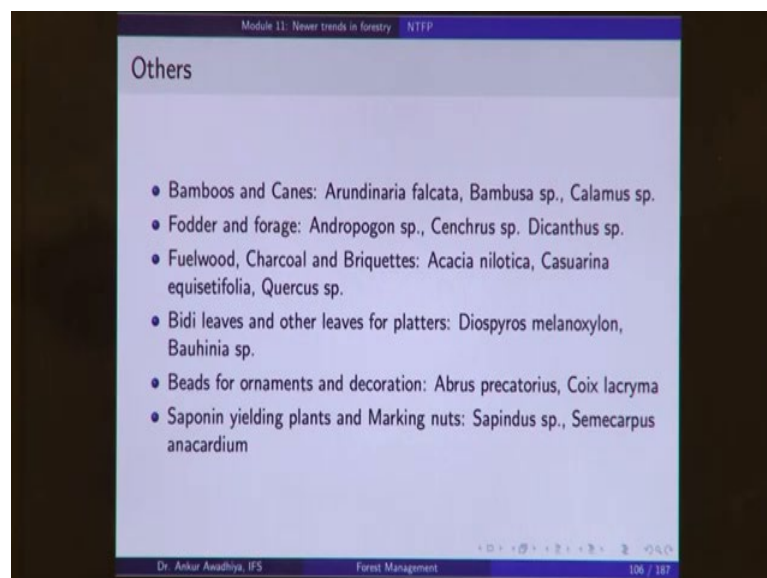
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Then, we have non-wood forest produce of animal origin. So, animals of the forest also provide us with certain resources such as honey and beeswax, which is provided by the honeybees. Lac and shellac which is provided by the lac insect. Tusser and other silks that are produced by the silkworms; and hides, skins, feathers, horns, bones, shells, ivory and musk that are produced by different animals.

So, these are also non-wood forest produce; but these are of animal origin. Then, we also have other non-wood forest produce like bamboos and canes.

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So, now, because we have removed bamboos and canes from the definition of timber; so now, it will be classified as a non-timber forest produce; different species - *Arundinaria*, *Bambusa*, *Calamus* and so on.

We also have fodder and forage that we get out of the forest typically in the form of grasses and leaves. So, these are also classified as non-timber forest produce. Fuel wood, charcoal and briquettes that we get out of forest. Bidi leaves and other leaves for platters, such as *Diospyros melanoxylon* which is the tendu leaves, *Bauhinia* species, and so on.

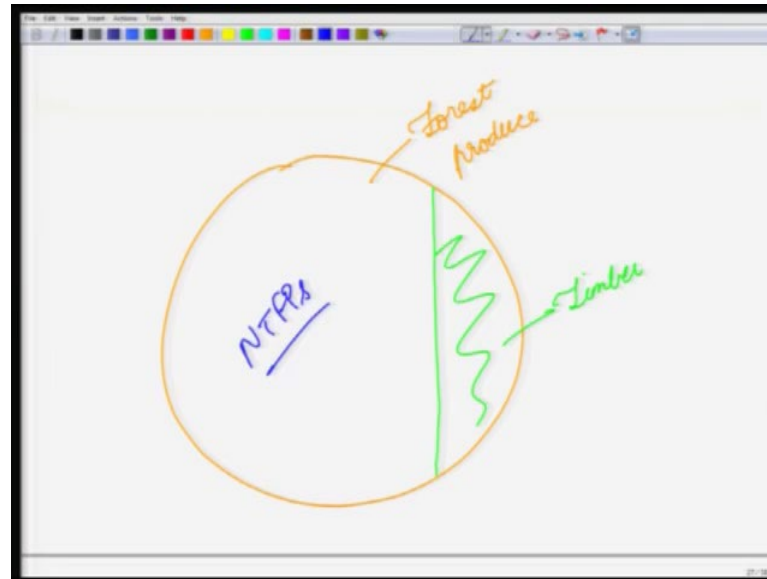
So, tendu leaves are used as bidi leaves. *Bauhinia* species is used to make plates, which we typically call as dhonas and pattals. So, dhonas and pattals; even things like the leaves of a banana tree or a banana plant, these are all so the non-timber forest produce. Then, we have beads for ornaments and decorations. So, different plants also give out seeds that look in the seeds and fruits that look like beads.

And, they can be used for decorative purposes or they can be used for religious purposes. Then, we have saponin yielding plants and marking nuts. Now, saponin is a substance which is alkaline and which is highly caustic, and it is used for marking of clothes. So, if we talked about the earlier washerman, they used to use a nut that is known as the dhobi nut. Now, dhobi nut can be used to mark a cloth because it has a high saponin content; dhobi nut is its *Semecarpus anacardium*.

So, these are all different non-wood forest produced that we are getting out of the forest. Now, in this lecture, we saw that we have different produce that we get out of a forest; we get timber, and we get the non-timber forest produce. Now, timber and forest produce both are defined in the Indian Forest Act.



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So, if you if you make a set of the forest produce, it can be divided into two parts. So, we have timber and we have the NTFPs.

Now, we have different terms that emphasize different components of these forest produce. So, if we talk about a minor forest produce, it is something that is not a major economic activity. So, you can have a forest where your say tendu leaves are the major forest produce, and you do not have anything else. Or, you have a definition of non-wood forest produce; anything apart from wood. You have definitions like the primary forest produce and the secondary forest produce, the by produce of forest.

And, we have different agencies that have defined these non-timber or non-wood forest produce, in different ways. Some only look at forest; some look at forest plus plantations; some look at forest plantations and trees outside forest. Similarly, some definitions look at only plant parts; some look at plant and animal parts, that is biological parts; and some incorporate not just biological parts, but also the mineral resources that is plants animals and the minerals.

So, we have different definitions. So, it is not very crucial to get into each and every definition, but what is important is to realize that a forest is not just for trees. So, earlier when we were managing forests; when we were doing silviculture, we were only looking at the amount of wood that is being produced in a forest; the amount of timber that we

can extract from a forest. But these days, if you are managing a forest, it is quite possible that you are that you will be managing it just for the non-timber forest produce.

You can have a forest that you are only managing to get gums out of it, especially if the market price of gums has gone up. Or, you can have a forest that you are only managing for wildlife not for timber at all. So, we looked at different non-timber forest produce. We looked at different classifications; you can classify it on the basis of origin, you can classify it on the basis of usage, you can classify it on the basis of whether it is being harvested sustainably, or not you can classify it based on what part of the plants are you collecting and so on.

And, all of these non-timber forest produce these days are becoming more and more important, especially for social forestry; because, if you talk about of a person who is living inside the forest; he is living inside a village in in a forest area; he is not that much concerned about timber, but his daily livelihood is intricately linked with the amount of food that he can extract from the forest.

The fibers that he can get from the forest. The minerals that he can get from the forest. The fodder leaves that he can get out of the forest. So, if you look at a forest from the point of view of a person who is living nearby, and is not in the profession of timber, then to forest has a very important usage, and we can make use of these resources for our social forestry. So, when we talk about social forestry; it talks about the utility or the cooperation between the forest department and the general public so that the forests are maintained they are managed properly.

So, if you want that people should be conserving the forest, you have to provide them with certain benefits. Now, you cannot ask them to go and cut the trees, but you can at least give them the non-timber forest produce. So, the NTFPs these days are becoming very important in forest management, and this is a new trend in forestry. So, that is all for today.

Thank you for your attention. [FL]