Understanding Design
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Module - 04
Start of Section 4
Lecture – 21
The perspective of engineering

I have some examples of design for sustainability from The perspective of engineering.

That is very usefull.

So, for civil and structural engineers, the central question is, how can waste be reused in construction, right. So, good example is fly ash bricks which Ravi explained really well.

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So, fly ash is actually a waste that is generated from the coal thermal power plants and rather than discarding the waste into the environment and causing more damage to the environment.

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If that can be used in other industry then it closes a loop.

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Now, we created also these fly ash bricks which are very useful in infrastructure projects in the built environment.

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So, civil engineers and structural engineers would be interested in materials like this which can take waste out of an other industry and make a very useful product for the build environment industry. So, this way the loop is completely closed, not necessarily in that particular industry, but from one to the other. This is an another way of making sure that you're closing to loops in sustainable design.

Then there is the concept of effective microorganisms or EMs and chemical engineers would be interested in this. So, here is a bottle of EM where Ravi uses in his home, he adds it to jaggery solution.

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And it is easy on the hands.

Ya it is easy on the hands. You know there are some great examples of design that address sustainability issues on the index website.

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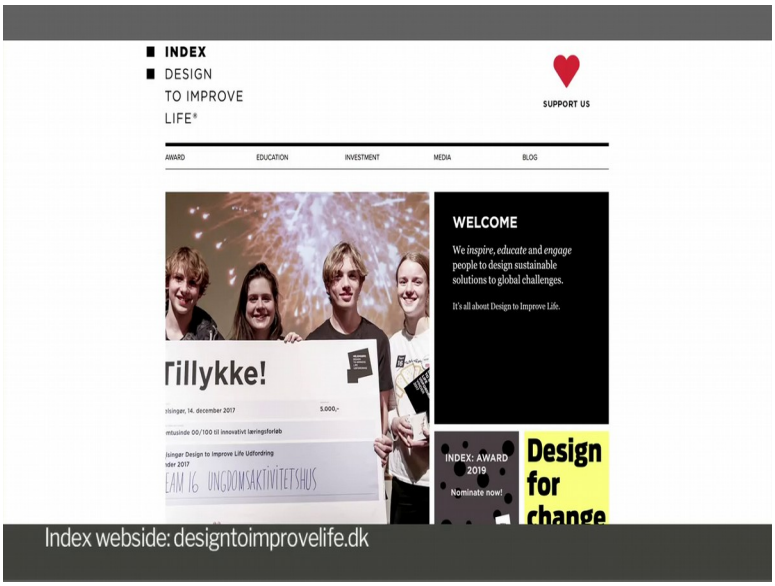

This is a group that promote sustainable design by sponsoring competition and giving awards to the best entries.

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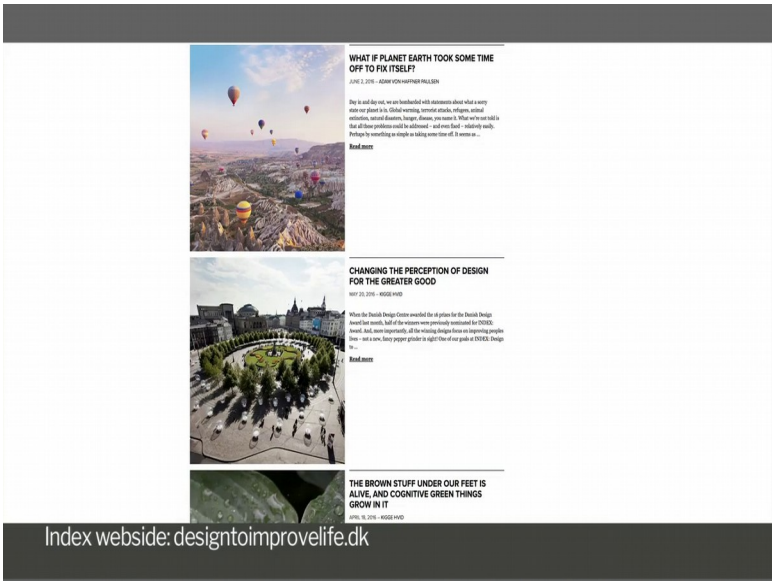

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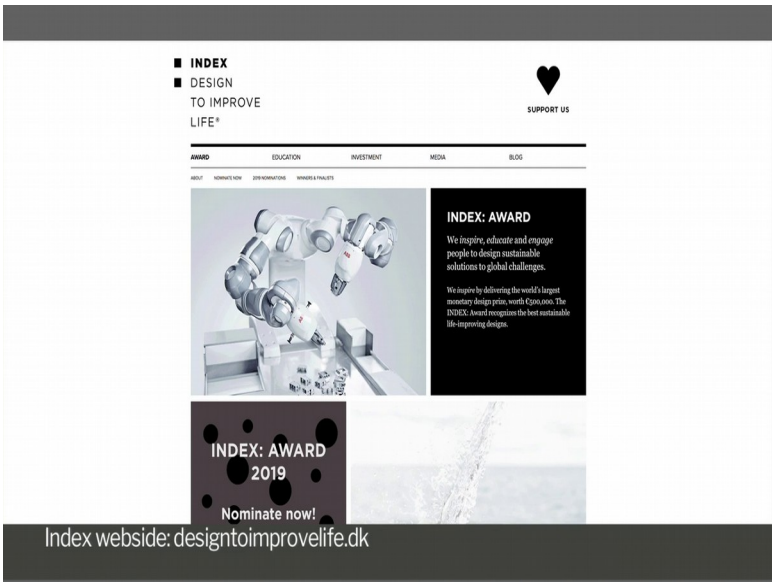

You will find this link among the resources on the course platform. So, you can browse it later at leisure.

And there are couple of more stories of design for sustainability that I would like to share.

You have the floor Geetanjali, but I have a request first. We have been working with the example of a chair in every module, applying the design topic of the module to the chair. Could you help us think about design for sustainability with the chair as an example?

Sure. You know as my colleague Janak Mistry ms research design today is not about creating new and charming products or one of a kind products its more about how the products are manufactured, who manufactures them, who will use them and what are the resources going into making them. So, when we look at it chair you know he asks how could we look at in terms of contemporary conversations surrounding design and sustainability and what are these actually. When we say about makes a sustainable designed chair the whole question is posed keeping in mind a time frame, you know, will the product last a lifetime and what about after its lifetime.

The life of a product is much longer than what you think it is. So, when you use a chair and when it stops functioning as a chair like you say *na, tango toot gayi hai* (leg is broken), right, we need to think where is the product going after its useful life right. So, he

urges you not to design only up to a certain point. You know do not just make things market ready you need to go beyond the market when conceptualizing the design of a product.

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So, the chair could be handed over as an heirloom.

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You know it could acquire value as it becomes older.

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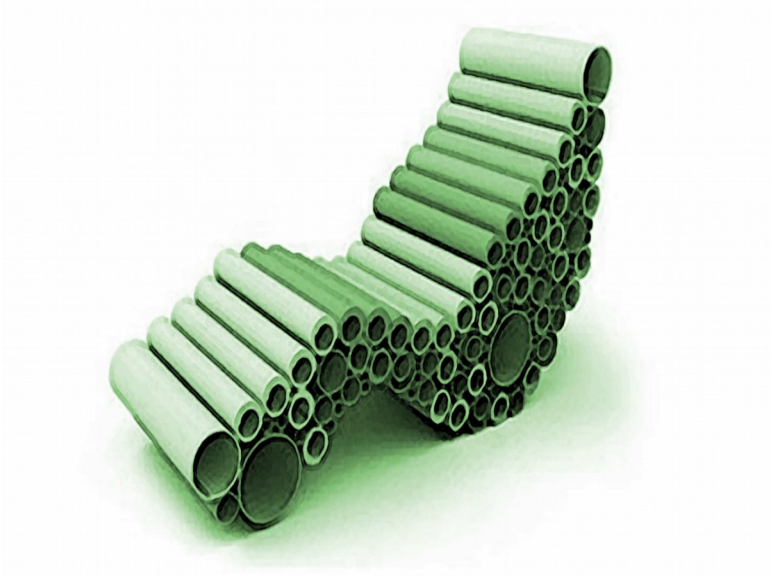

It could be a disposable chair or a biodegradable chair and it does not create any harm the environment when its life is over. These are essentially the questions you need to ask when you think about designing a chair at the onset.

So, what would you advise our students about this?

So, a good exercise that Janak does not his class is to ask students to visualize if they can make a chair that acquires totally different function after its life, you know.

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So, for example, if you think about toilet commode when it breaks, you can convert it into a planter and you can grown your plants in it, right? So how can you incorporate this kind of thinking into say the design of a chair. How would you do it?