

Innovation by Design
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Module – 04
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Lecture - 22
Understanding constraints: Stepping outside to cook

So, you go deep dive after you found at the first issue that is inconvenient to use it is not enough, you need to go and check why is inconvenient to use what is happening in the city. Avinash came about this, Mister Vipin was a very ardent enthusiast and he had two types of solar ovens in his house in Bombay.

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So, Avinash I like you to tell us how this user was so passionate and what are the type of things he was doing and what are the insight he gave to you.

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Avinash- So, actually the whole project changes when I met this guy, this guy using the solar cookers in his balcony since like 15 years. My perception about solar cooker is entirely change then because he can use the solar cooker why not others.

This man actually got this the box type and he has the parabola also. These two work phenomenally well you all know the best technologies have come into this, then you all know the procedure you cannot really do in line cooking like Avinash was saying.

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That you add things in the middle and when you open you lose a lot of heat.

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Look at that lady she is making [FL] on that parabolic cooker, very hot. And look at a posture look at the issues. Multiple aspects were consider. When I told you about the comprehension I also mentioned to you that you have to look at the diachronic and synchronic analysis.

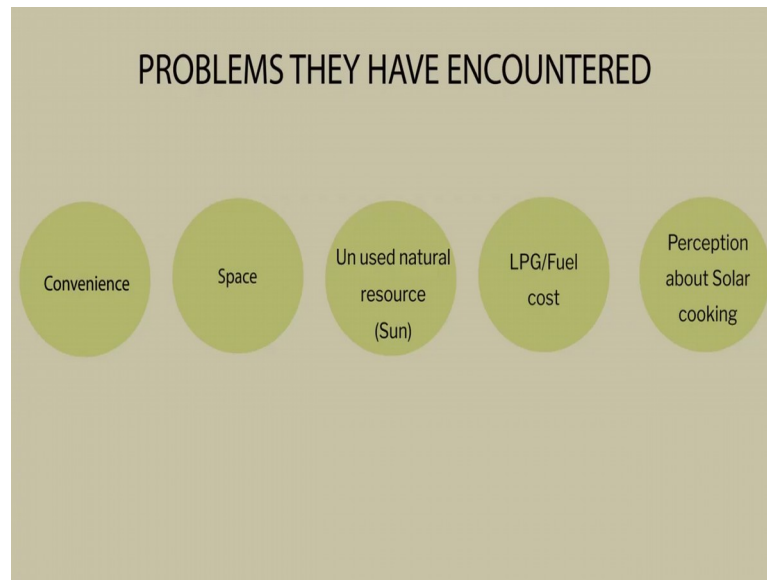
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You have to look at all solar cooking devices available in the market and see the problems and analysis. Now, coming back to Avinash's focus he said today most of the people are living in flats have serious problems in multiple ways like drying pulses as

well as cooking who are finding it very very inconvenient. So, looking at that inconvenience as a focus and these high raised buildings have very good sun coming and one of the south side windows you have lot of sun coming in and you can really use this very effectively.

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So, we identified all the key you know aspects of Convenience the space. The box is so big they said '*kaha rakhenge*'[FL] (Translation: Where to keep) and they keep the box in the attic (Refer Time: 02:01) and then you cannot bring it down you need you know husband or somebody in the house to bring the thing down and so where you store.

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- Convenience of storage
- Saving fuel

How you store. The size is an issue, then for example you have the issues of saving your fuel. Some people genuinely want to save fuel by using solar oven, but they are not able to do it because of the inconvenience of taking it to the balcony and going to the terrace. Perception about solar cooking is that it is cumbersome, it takes long time and it is away from you. So, these are all the local issues which came up and you will see how you know we solved all that. We comprehended we found out all the aspects of various types of ovens how do the Panel cooker work again concentrated reflection on to the vessel.

Student: And absorption

And absorption of the vessel itself. So, here we go with our traditional box type cooker. It is around 5 to 6000 and you get a 2000 rebate. So, you spend around 4000 bucks on this so what should be your comprehension here. I must make a cooker which is less than this right. Every time you do a new design, it has to be cheaper and better than the earlier one and it should use the best of the technologies. It should use the best of materials and you should have everything, but it should be cheaper that the earlier one.

And this example is very clear from the mobile phones you use to the laptops you use every day. Every time you buy a laptop within six months it is two times better and you know 30 to 40 percent cheaper you noticing this. So, this is the very critical factor for us in design that you need to work on base and methods, where you can build the type of

capability of reducing cost drastically. So, here we are saying now it is 6000 we should be able to reduce it 4000 to 3000 if possibly. So that they can become popular.