Introduction to Environmental Economics
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Lecture – 35
A Stated Preference Approach

Hello, everyone. Today, we will discussing the Stated Preference Approach and under this stated preference approach we will be discussing the contingent valuation of method. As you understand under this stated preference approach, we will be discussing two methods; one is contingents valuation method and second one is choice modeling method.

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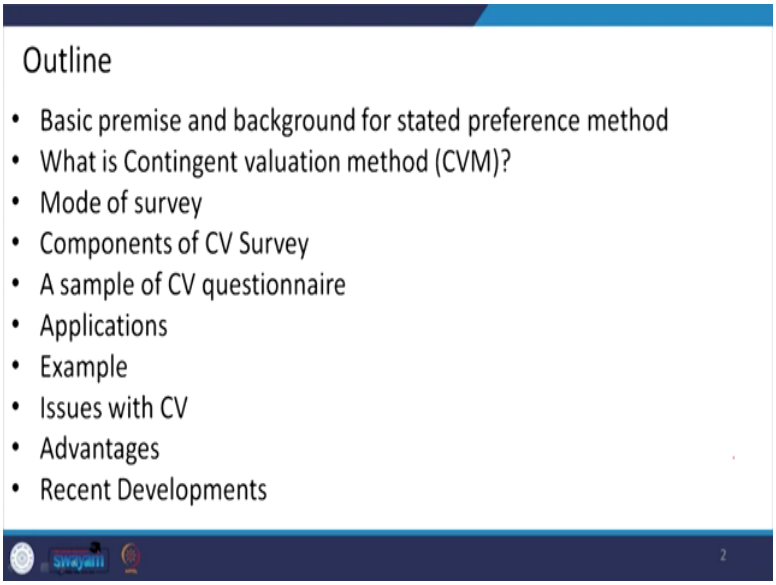

So, just discuss the contingent valuation method and under this contingent valuation method we will be discussing what is the basic background for this stated preference method?

Because as you are already understood we do have revealed preference method and we discussed several methods under this revealed preference approach.

And, then in this context what is the necessity for having a this stated preference method what is the urgency and importance that will be discussing. Then will be discussing what is the contingent valuation method exactly and as it is a survey based method we will be focusing more on the surveys that, what is the mode of the survey in the contingent valuation method what will be the components of contingent valuation survey and what can be the a sample for a developing a contingent valuation questionnaire, what are the applications of the contingent valuation method, giving certain examples. And finally, we will be discussing what are the limitations and advantages along with what are the recent developments in the contingent valuation method.

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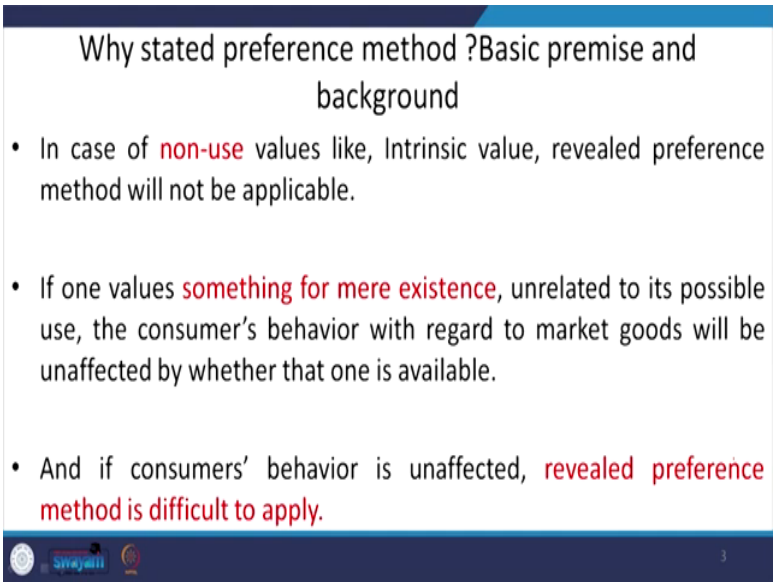

So, let us start with what is the necessity for this stated preference method. Why at all we are needing this stated preference method? Although we have developed another non-market valuation approach that is under the revealed preference approaches.

So, the basic thing as you understand that we have already completed this revealed preference approaches and several methods under it so, there we used to say that this revealed preference approaches are basically meant for estimating the use value of the environment use value of the environmental goods and services. But, in case of non-use values, this revealed preference methods they cannot be applicable and again for estimating the total economic value of the nature or the environment we need to estimate both the use value and non-use value.

So, in this respect we actually are seeking for a method which can be able to estimate the non-use values like your intrinsic values or existence values and for that reason your revealed preference method methods they are not capable. So, in this context another method we had developed which is known as the stated preference method, but the basic thing is that why the revealed preference method is not capable to estimate this the in non-use values.

So, the answer could be that as you understand revealed preference methods, can estimate those values those use values where the behavior is revealed the consumers behavior related to the market goods they are revealed. And, we are actually taking into account some of the environmental goods, which are and then we are actually thinking about a market good which can be a proxy for this environmental goods and they are we are actually finding and following the consumers behavior for that market goods.

So, in that way we are capable to estimate the use value of those environmental goods and services. But, however, in case of the non use values, as you understand the very meaning of non-use values so, it means it is something for it is mere existence. It is not related to the a possible uses of the consumers. So, when it is unrelated to the possible uses of the consumers then; obviously, the consumers behavior with respect to the market good it will be unaffected, it will not be affected.

So, in that context if the consumers' behaviors are not affected then revealed preference method is actually difficult to apply or it is not reliable to be applied. So, because of this reason that the revealed preference method they cannot be applicable for the for estimating the non-use values.

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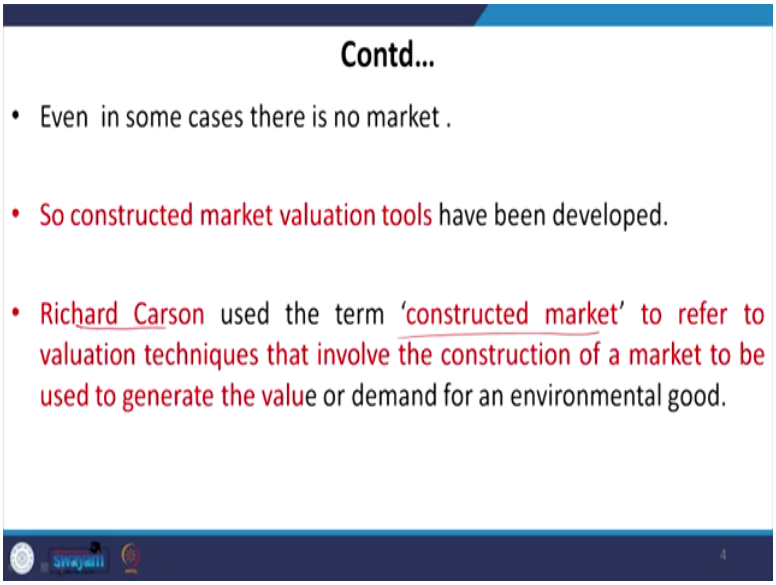

And, moreover the other reasons that, we can also explain that in certain cases we do not have any markets. So, in that case it is really difficult to apply the revealed preference method in order to capture the non-use values of the environment. And, based on the scenario, where the where we do not have any markets and where we need to estimate the value of the non-market or a value of the environment, then we are seeking for a new market which is known as the constructed market.

And, therefore, the constructed market valuation tools have been developed. So, Richard Carson first of all used this term constructed market in order to refer to the valuation techniques that involve the construction of a market to be used to generate the value or demand for an environmental good.

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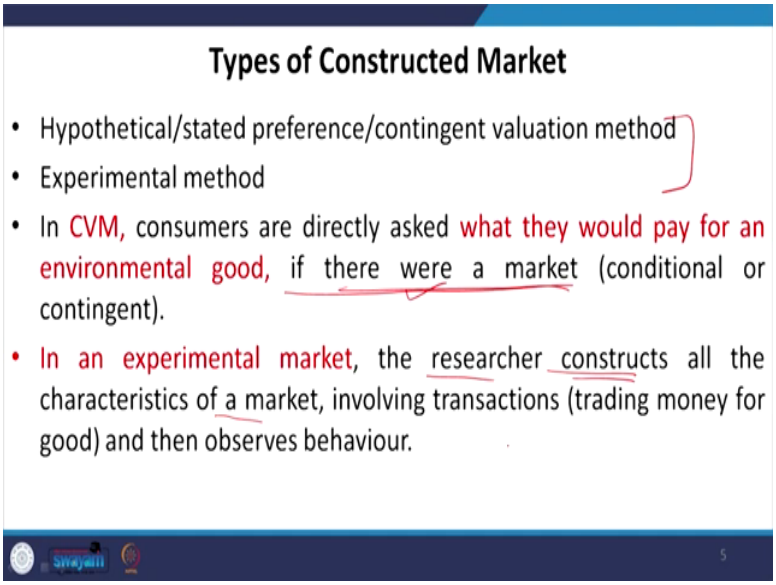

So, for the first time this fellow Richard Carson he developed a market if by using this market we can actually estimate the non-use value of the environment. And this market is known as the constructed market.

So, how to define this constructed market? So, it refers to a kind of valuation techniques that will be involving the construction of a market to be used to generate the value or demand for the environmental good. So, the basic thing here in the stated preference method is the

constructed market here. So, what are the different constructed markets are there or what are the typologies of constructed market are there in order to capture the value of non-use values?

So, the first type of constructed market can be in terms of purely hypothetical in nature which is also known as stated preference or contingent values in method. And, the second constructed market is in terms of experimental method, where we need to experiment in order to know what is the value of the non-use values or non-use value of the nature.

So, if these are the two types; basically two different types of constructed market, now let us explore what exactly are the meaning of this hypothetical market or contingent valuation market and the experiment market. So, in contingent valuation method, here the consumers are directed they are they are they are directly asked that what they would be for an environmental good. So, if there is a market situation that is existing market situation, but here we need to you need to understand that it is purely hypothetical in nature because we are actually putting this sentence if there were a market; that means, it is conditional one.

So, if there were a market then what the consumers would be interested to pay for an improvement in an environmental good. But, actually this there is no market for it. So, this market is just an just a hypothetical one, we need to imagine that as if a market exist for this type of environmental good so that we can capture if the quality or quantity of an environmental good increases then how we are going to pay for it.

But, in case of experimental market, this is not the scenario that we will be finding in case of contingent valuation methods. So, this experimental market is something different. So, here the researcher constructs all the characteristics of a market. So, they are actually creating the researchers are creating a pseudo kind of market. So, there also the researchers involved the transactions including the financial transaction or a money trading transactions and then observes the behavior of the consumers that if the environmental characteristics or quality or quantity increases how the consumers are ready to pay or willing to pay.

So, here the researchers they construct a kind of pseudo market and they do all the all kind of features they or characteristics of a market, even involving the transactions to occur.

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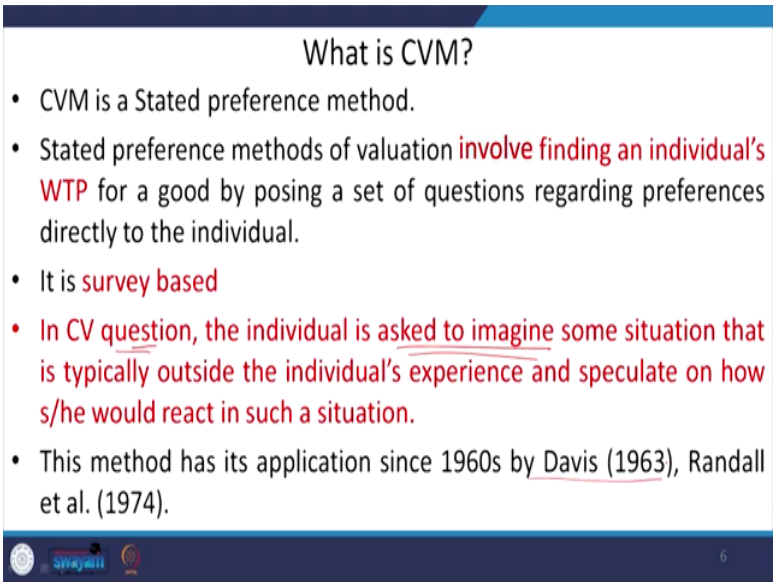

So, we in this respect we will be now highlighting what exactly is the CVM method; because that is the focus of our discussion.

So, obviously, this CVM is a stated preference method it is a included as it is characterized as a family member of the stated preference approach. And, in stated preference methods of valuations, we are it can be involved in finding an individual's willingness to pay for a good by posing a set of questions. So, what we are doing in an in the stated preference method? We are we are involving this willingness to pay. So, that means, we need to estimate individuals

willingness to pay for a particular environmental good, by asking the consumers a set of questions regarding their preferences directly to them.

So, in stated preference method directly pose the questions to the individuals or whosoever are the beneficiaries or the stakeholders and we can get a to know what is the willingness to pay. Therefore, the stated preference methods are the survey based methods. So, as you understand this contingent valuation method is a survey based method. So, the real task is to develop the contingent valuation questions or questionnaire.

So, here in developing this contingent valuation questions the individual is asked to imagine some situation, that is typically not available and that is outside individuals experience because it is not real, it is a really highly imaginary. And, then the individual will be asked to speculate on how he or she would be reacting in a particular situation increase or decrease in the quality or quantity of an of an environmental attributes.

So, in CV in CV a questions we are developing some hypothetical questions, which are imaginary in nature are based on a particular theme or a particular situation that we want to picturise. And, so far the history is concerned, these CV method it has its application since 1960s. So, first of all we have this CV literature by Davis in 1963 and also the Randall and their co-authors they also developed this CVM method in 1974.

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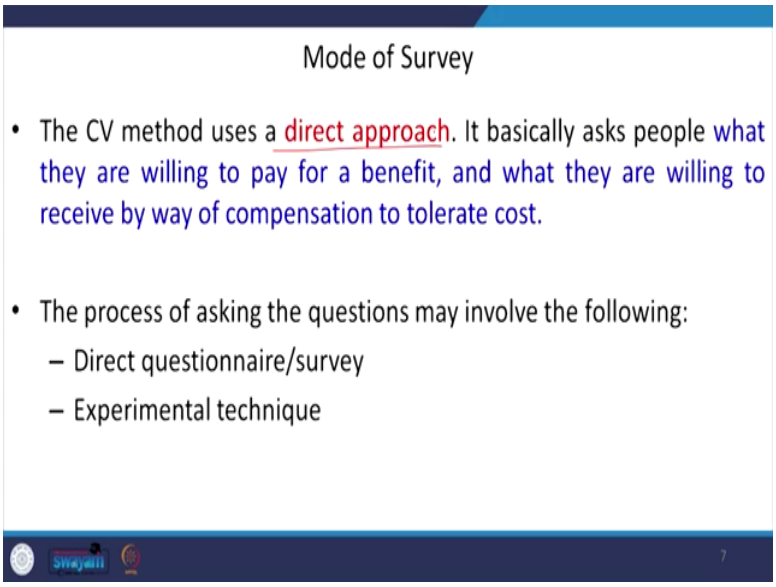

So, as you understand that this CVM is highly based on the survey, so, the real questions raise on the mode of the survey itself. How we are going to do the survey conduct this survey? So, again from the very beginning I have already told you that, this contingent valuation method are direct in approach because here the individuals they are directly ask the question that how much will how much amount are you going to pay if this happens; that means, whatever the situation is going to happen.

So, which is highly conditional? So, it is this CV method it uses a direct approach. So, it basically asks individuals what they are willing to pay for a for a particular benefit or what they are willing to receive or accept by way of compensation, if they are not going to get this benefit and they have to tolerate the costs.

So, in this context the process of asking this questions that whether they would be they are willing to pay for getting a benefit or they are what is their willingness to accept in order to come in terms of compensation in order to tolerate the costs we need to ask them. So, what is the mode of this asking questions to this individuals? The first mode could be in terms of direct questionnaire or direct survey. The second one could be in terms of experimental techniques.

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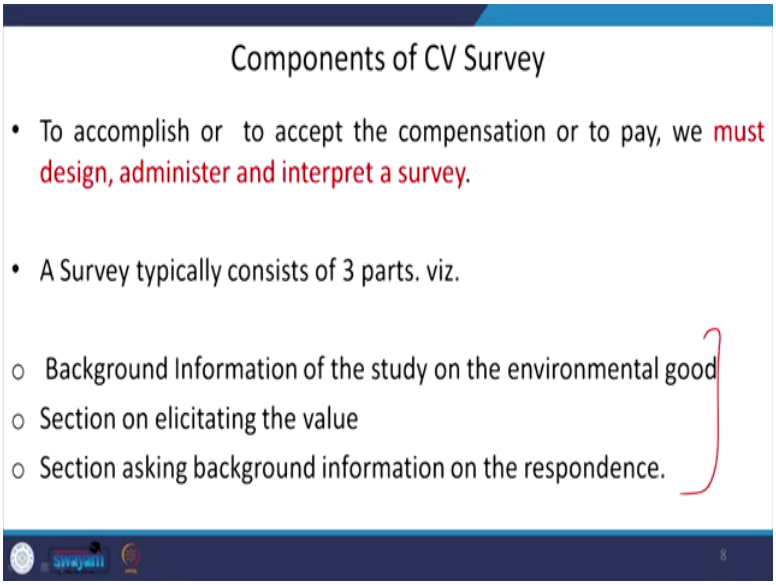

So, now let us understand the components of the contingent valuation survey. So, in this contingent valuation survey, we need to see a the what is the compensation amount or what is the willingness to pay amount. And in order to in order to accept this compensation or in order to willing to pay we must actually be able to administer or we must able to design the mechanisms and interpret the survey in a right manner.

So, for that region that how we can go for conducting a survey CV survey; we can divide the survey typically into three parts. So, what we will be highlighting in order to conduct this CV survey? So, first one we need to highlight is the background information of the study on the particular and environmental good. So, what exactly would be this environmental attribute on which we are we are bothering or we bothering about for which we are interested to value?

And, the second one could be the sections on elicitating the value. So, how we are going to elicitate the value on that environmental attributes? And the last one can be in terms of asking background information on the on the respondence or the individuals whom we are putting the questions on this environmental goods or environmental attributes. So, these are basically three different sections, that are must in a typical contingent valuation questionnaire.

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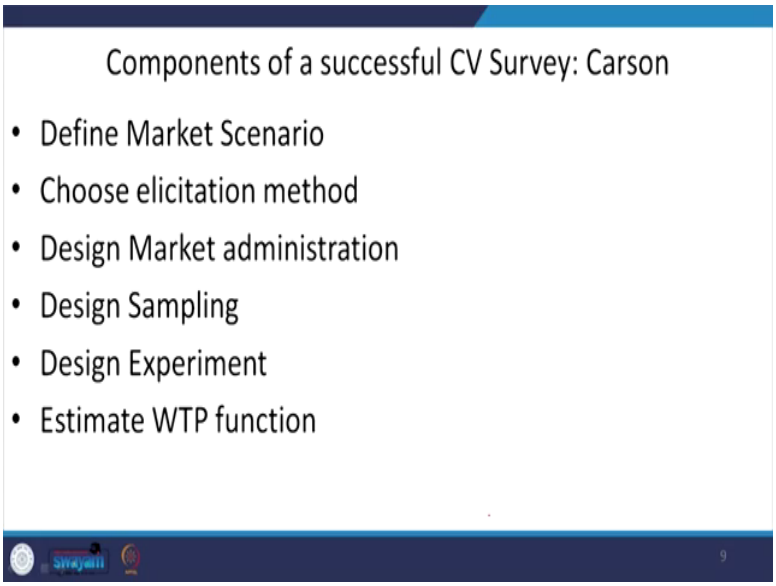

So, now let us discuss some of the components for conducting a successful CV survey and which is which it advocated by Carson. So, here a Carson appoint that we need to follow certain steps in order to conduct this CV survey successfully. So, the first one is defining the market scenario – what exactly we are going to value so that we can create that kind of market.

And, the second one would be the choosing the elicitation elicitations method. So, what would be the medium of a the elicitations value and ah this next one is how to design the market administration, how to design the sampling, then designing the experiment itself and finally, estimating the willingness to pay functions on the particular market scenario based on this environmental attributes in discussion.

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So, let us understand the first components that is defining the market scenario. So, what exactly we had we need to do here? What is the market scenario we are talking about?

So, in market scenario, we are we are trying to have the information that needs to be conveyed to the respondent or individuals whom we are putting the questions. And then to place the this these individuals in the right frame of mind so that they will be giving some meaningful responses to the questions posed. So, the first thing and the first task that we need to do is, we need to convey all the necessary information to the respondents. So, that they will be actually in a judgmental mode and they will be taking the right decisions and they will be in a right frame of mind in order to respond to the questions posed.

So, for that reason we need to follow certain steps that how we are going to convey the information desired information to the respondents and so that the respondent will be in right mode to respond to our questions. So, for example, how to define the good to be valued? Because here we are talking about some environmental attributes, right. So, if we need to value some environmental attributes so, for example, that is a case of a sea beach that has been harmed by an oil spill.

So, if this is the problem that we are encountering then what environmental goods should be valued that we must be making it clear; so that the respondents they will be clear that this is the problem or this is the information on the particular environmental good in questions. That is why the interviewer is posing us and questions and giving us the information that because of this oil spill the how the sea beach is going to be is being affected and what are the characteristics of beach sea beach that are being affected.

And, finally, we will be asking that how the how this individuals who are party to this sea beach, they are going to value this degraded environmental qualities and attributes. Then we will be describing the market to be realistic to the respondents that although we know that this is a contingent valuation and method is purely hypothetical, but based on this scenario we can actually generate the scenario and we will be conveying as if there is a real market existing and we need to value those environmental goods or services for which it is in stake.

And, then we need a talk about the payment mechanisms, that how the these respondents they are going to pay for it if they are willing to pay or willing to free charge the values or the environmental characteristics in questions. So, the payment mode can be in terms of tax, that if you have to use the sea beach and enjoy all the attributes of the sea beach then a this much of the tax is to be imposed or if you want to revive the original qualities and the attributes of the sea beach before this oil spill, then your user fee would be hiked or it is in terms of entry fee.

So, mode of the mechanisms or mode of the a payment mechanisms need to be discussed and need to be conveyed to those respondents. And, finally, we need to actually highlight what exactly is the context in this oil spill case, whether we are talking about the groundwater contamination because of the oil spill or it is the peripheral surroundings which is which has been destroyed or whether the biodiversities the water biodiversity they have been destroyed because of the oil spills. So, we need to activate contextualize in the survey and convey it to the respondents.

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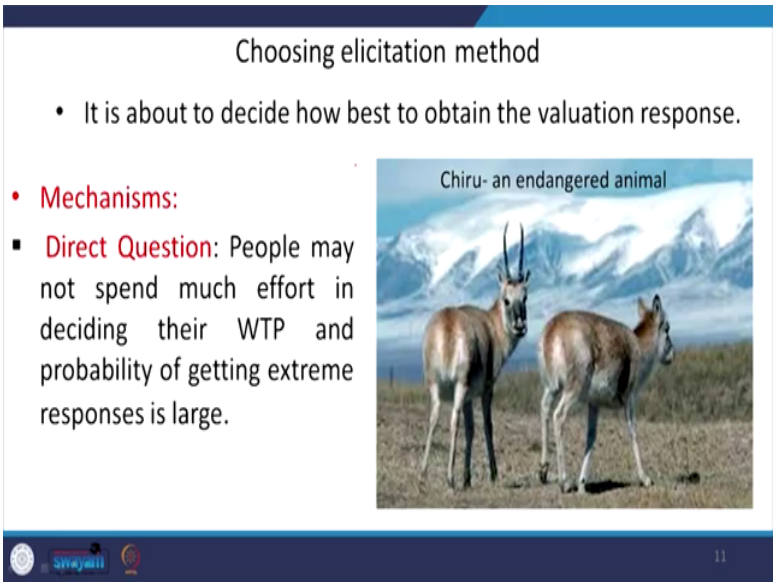

Then, the second one a second stake that we must take into account while designing this a CV survey is that choosing elicitations method. So, what exactly is the elicitations method? So, it is about to decide how best to obtain the valuation response. So, that means, we need to discuss about different mechanisms and which would be the best mechanisms to obtain the valuation responds from the respondents.

So, the first one can be in terms of direct questions. So, here the interviewer will be directly posing questions to the respondents. So, people may not spend much effort in deciding their willingness to pay and the probability of getting the extreme kind of responses is very high.

So, the thing is that when you are directly putting posing the questions, that what is your willingness to pay in a particular situations, then people will not be thinking that whether they are capable to pay whether they are actually willing to pay in this context that is why they

there the probability of getting very extreme ranges or extreme amount of willingness to pay is very high.

So, for example, we can here we are looking to this picture. So, this animal is an endangered animal. So, it is the name of the animal is Chiru and it is we can find these animals in higher altitudes basically the Himalayan areas. So, the question is that is the interviewer is interested to know, how people are valuing this endangered animals, so that this animal will be preserved forever. So, the interviewer is directly posing the questions that what is the willingness to pay to conserve this or preserve this Chiru for next 30 years.

So, the respondents they can make some amounts or willingness to pay which is very extreme one extremely large because we are directly posing the questions. So, one of the limitation of the direct question is that the probability of getting extreme values extreme responses of willingness to pay is very high.

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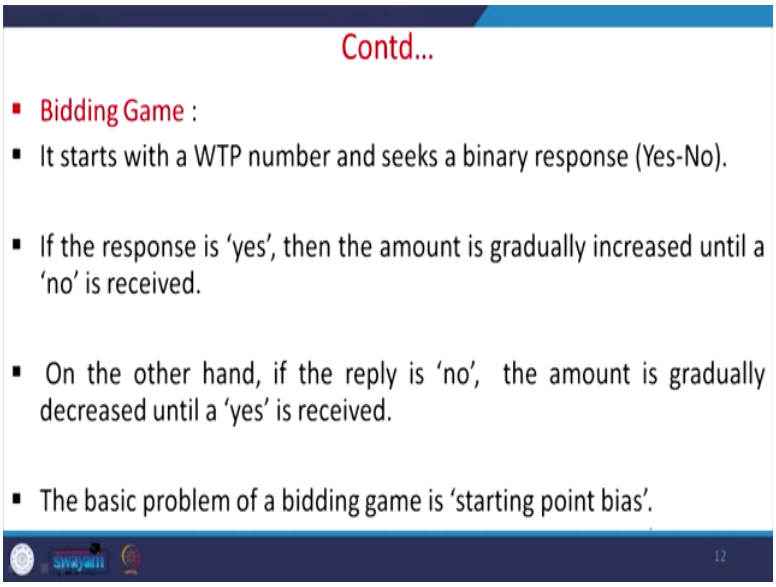

The second mechanisms could be in terms of bidding games so, what is bidding games. So, it starts with a the willingness to pay quantity or number and then seeks a binary response that is yes or no response.

So, the; that means, we are starting with the willingness to pay number let us say are you going to pay or are you willing to pay a 100 rupees for you know, if you have to conserve this Chiru for next thirty years or 50 years? So, the respondents would be saying whether they are willing or not willing by stating yes or no. And, if the response is yes, then the amount can be gradually increased from 100 to 120 or 150 and likewise and until this exercise can be carried on until a no is received.

So, when we are saying on the other on the other hand, when you are receiving the reply that is no that the respondent is saying we are not going to pay 100 rupees, then the amount is a

gradually decreased until yes answer is received. So, in this context if initially the respondent is saying no I am not willing to pay 100 rupees in order to conserve this species so, now, the interviewer is decreasing this willingness to pay amount maybe to 80 or 70. So, this process can be continued till yes, answer is received from the respondents.

So, in this mechanisms, the basic problem we are facing is the starting point bias that how to start that what would be the starting point of willingness to pay whether 100 rupees, 200 rupees, 50 rupees how much, how to know.

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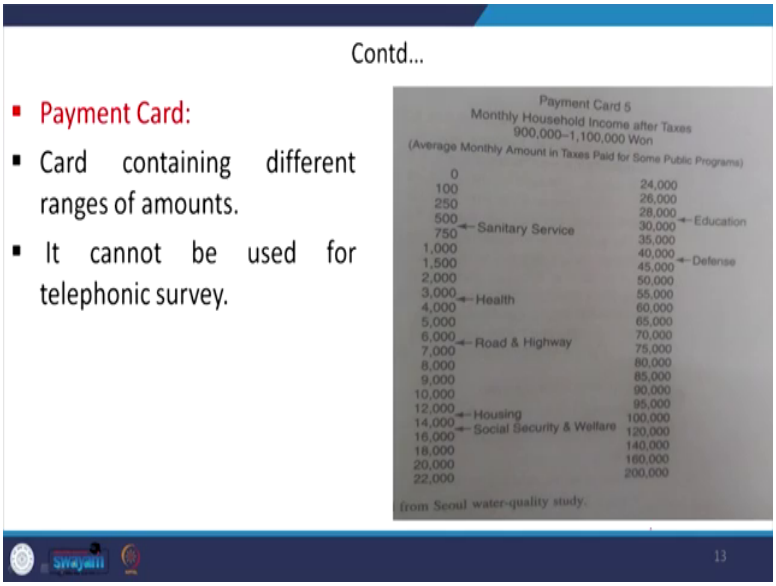

So, another mechanisms is the payment card they are we are we are showing different ranges of amounts so, it is reflected in a card. So, it cannot be used in telephonic survey. So, if you are using this mechanisms, then obviously, it cannot be used to used if you are conducting a survey in telephonic mode.

So, here what we are doing, we are actually containing different ranges of household income and then we are saying what is the amount that we are willing to pay or what is the what is the income household income you were having in the last year after tax.

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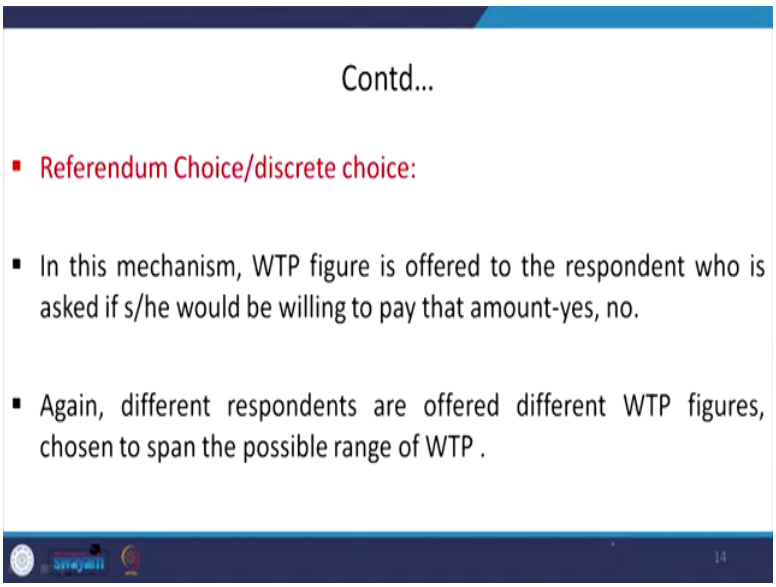

Another method is the discrete choice method or which is also known as the referendum choice. So, in this mechanisms, the willingness to pay amount is offered to the respondent. And then will we are asking that whether he is willing to pay the amount in terms of yes or no questions.

And, again for different respondents based on their socio-economic characteristics, we are offering different willingness to pay figures and then will be getting a very possible range of willingness to pay amounts. So, that can also be taken into account.

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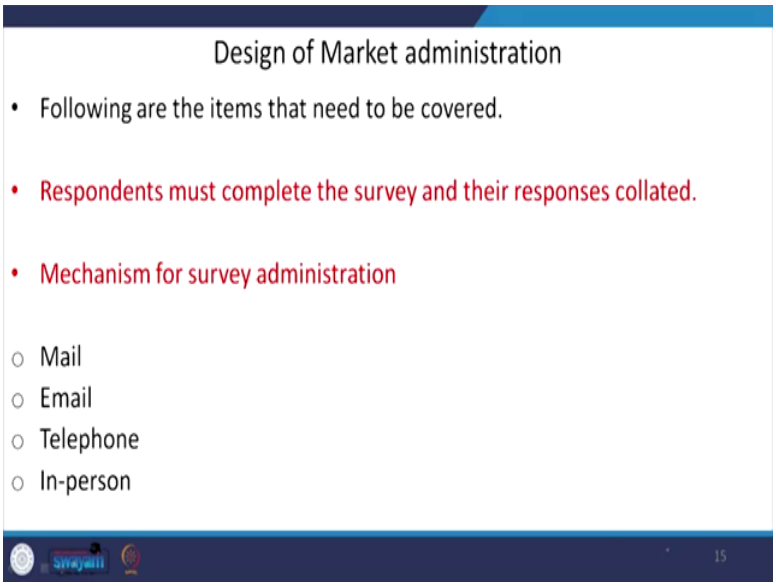

The another method for conducting another step next step for conducting the CV survey is designing the market administration, how to design this market administration process. And, generally the these are the items that need to be covered under this market administration the first one is respondents must complete the survey and their responses must be corrected collated and that is how the mechanisms for this survey administration can be conveyed.

When you are designing this market administration and the survey administration basically we need to think about what are the different mechanisms for this survey administrations so, how to contact or how to administrate this survey itself. So, the first one can be in terms of mail your postal mail or it may be in terms of the internet like your email or it may be in terms of telephoning surveys or direct face to face or in-person surveys. So, these are the standard mechanisms for surveying the surveying the CV method.

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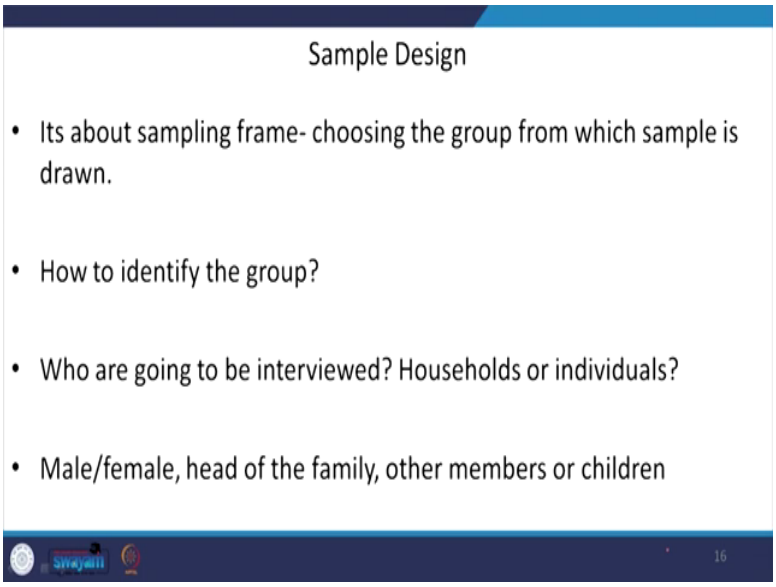

And, next step is the choosing the sample design. So, it is about sampling frame work, choosing the group from which the sample is drawn how to drawn this sample from the population itself.

So, how to identify that a particular group which can be included in your sampling and who are going to be interviewed whether you are your focus is household or the individual beings so, whom you are going to include in your sample. So, some of the other questions are whether you are going to interview only the male person or female person or only the head of the family or other members like children's.

So, it depends upon your focus area and the attributes environmental attributes that is highlighted.

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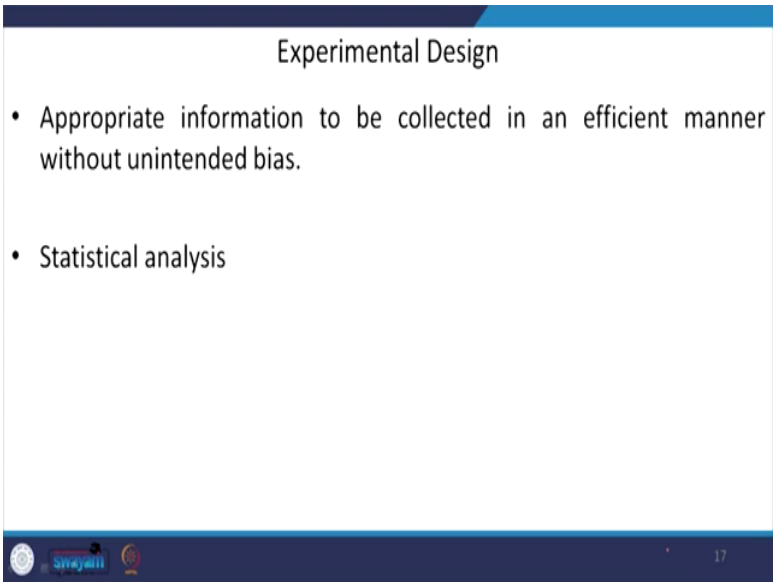

So, next step is a experimental designs. So, there we are interested to appropriate the information, that to be collected and it must be collected in an efficient manner without any bias.

So, sometimes we are facing some biases in collecting the information from the survey. So, in order to so, enough care must be must be taken into account in order to avoid this unintended bias particularly. And, in this exercise also another thing that must be taken into account is going for right kind of statistical analysis from this survey data and information. So, that is how we need to look into in the experimental design.

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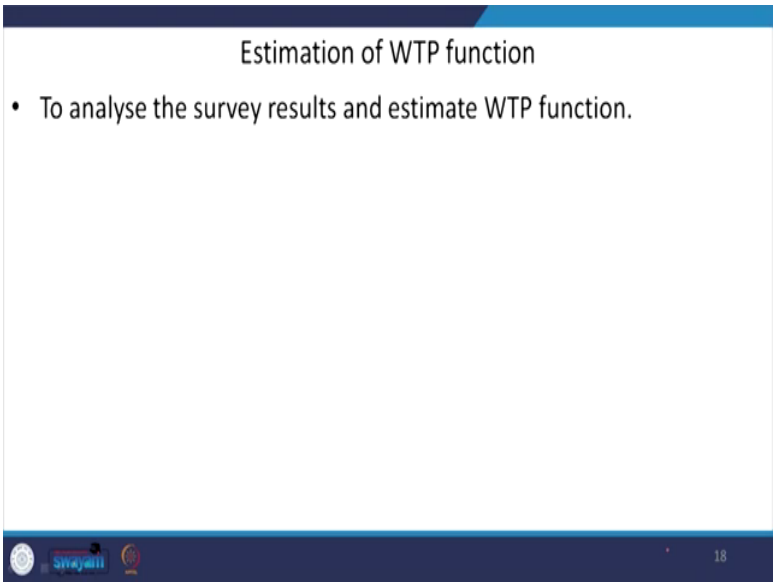

And, finally, the final step in the CV study is estimation of willingness to pay functions and there we need to analyze the survey results and estimate what is the willingness to pay functions. So, there are we need to take into account the socio-demographic characteristics of the individuals or respondents, we need to take into account their behavioral attitude attitudinal responses. And we need to take into account what are the characteristics or what are the improvements we are actually conveying to them and what would be their willingness to pay in order to get this increased environmental qualities.

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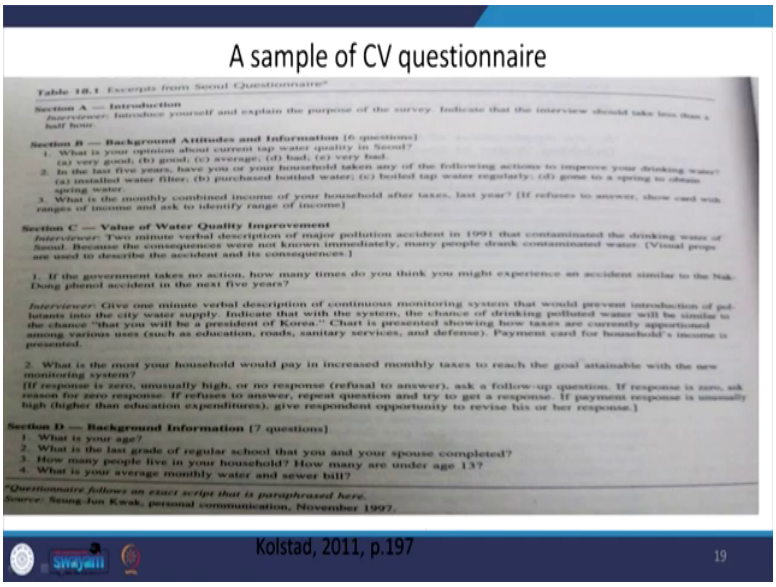

So, based on this understanding we can actually discuss the sample of CV questionnaires. So, I have borrowed this from Kolstad, Introduction to Environmental Economics. So, as you understand that we need to segregate this CV questionnaires the first one is introducing the interviewer yourself right, we need to explain what is the purpose of this survey.

And, then we will be discussing what is the background attitudes and informations right. So, why we are doing this kind of survey what is the background information for this survey. Then, we will be posing the what exactly we are going to value whether it is in terms of increasing the water quality improvement or it is the air quality improvement. Then we will be posing the questions on the background information of the respondent itself.

So, here it talks we are discussing about a questionnaire on the water quality improvement in sewer.

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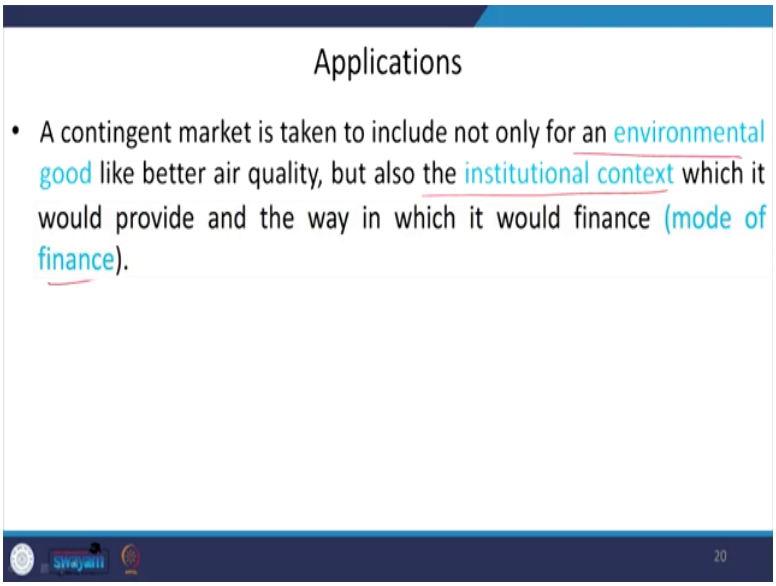

So, having understood after understanding all this all this steps we need to actually look into that what are the probably applications of this CV method. So, this CV method is having so many useful applications as you understand we can apply this for estimating the non-use values of the nature. So, here we can we can include or we can estimate the value of environmental goods like better air quality or the water quality can be improved.

And, we can also apply this in the context of institutional development right. So, or we can say that the way in which it we would be framing our institutional context or the principles

just like what would be the mode of the finance for a particular environmental goods to the attributes of particular environmental goods to increase.

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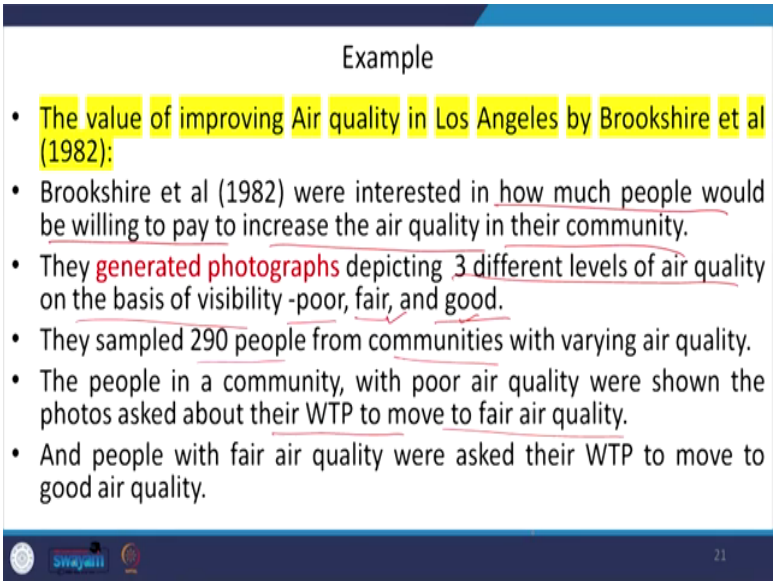

And, some of the examples that we can discuss that that is by Brookshire and there and his co-authors it was in 1982; they have gone for a CV study in order to estimate the value of improving air quality in the Los Angeles.

So, there they are interested in how much people would be willing to pay to increase the air quality in their local community. So, this authors they are interested to know how what is the willingness to pay of this community people, if they have to increase the air quality in comparison to the existing one. So, for that reason they generated certain photographs on the air qualities in their areas.

They depicted in three different levels of air quality and posed to the respondents on the basis of visibility. And, so, it was categorized in to poor, very poor visible air quality containing this photographs then the fair kind of visibility of air quality. So, it was there in the photographs and the third category is very good visibility in the air quality and it is it was there in a photograph also.

Then they sampled 290 people from these localities right and so, in this in this community the people where asked who were living in the poor air quality there shown they were shown the other two air qualities like your fair and good. And they were asked to compare the air qualities – poor, the existing one that they were they were having and the fair air quality and also the good air quality. And, then they were asked about their willingness to pay if they are interested to move to fair air quality.

And, likewise the people or the communities who are having fair air quality they were asked their willingness to pay if they are interested to move to the good air quality.

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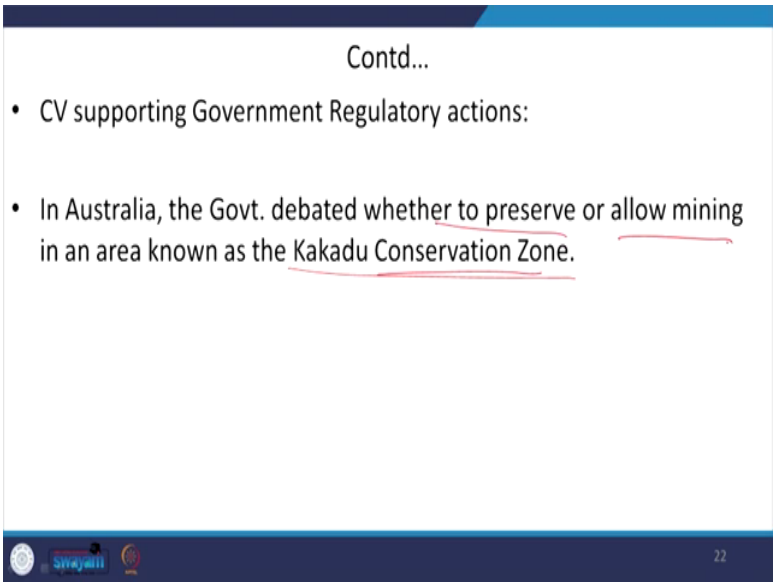

So, in this way they try to value the how the respondents are willing to pay in order to have improved air qualities. So, another example can be in terms of supporting the government regulatory actions. So, the CV can also be applicable in this context. So, for example, in Australia the government of Australia debated whether to preserve or allow mining in a particular area which is known as the Kakadu Conservation Zone. So, which one which would be the government policy which would be the public policy so far the actions are concerned, whether these particular conservation zone needs to be preserved or they can be allowed for mining.

So, based on this so, the government actually take in to the account this CV method in order to know what people what would be the kind of public policy people were interested.

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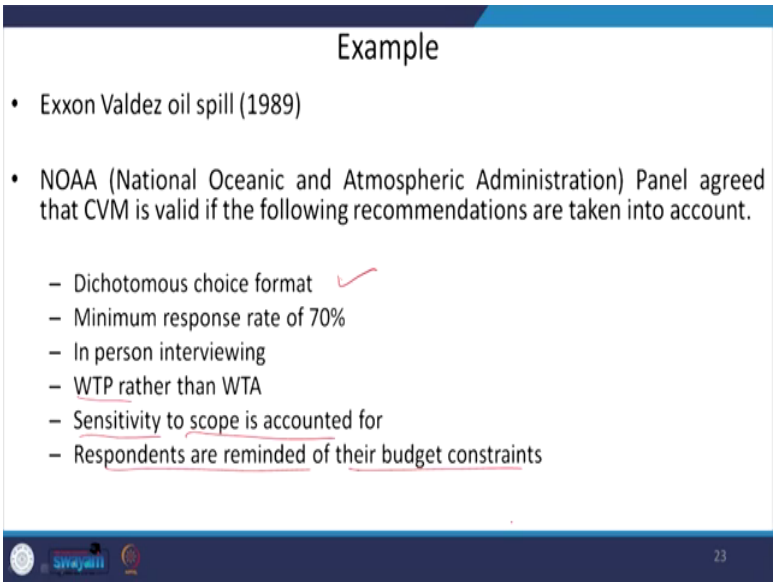

So, another example is the Exxon Valdez oil spill. So, there they also talked about they used this contingent valuation method. And, however, because this contingent valuation method found to be very debated because it is hypothetical in nature they. So, with time this National Oceanic and Atmospheric Administration and they have a found they have constructed a panel and they actually talked about that how this CVM method can be valid and reliable.

So, for that reason they this panel recommended certain criteria, that if this criteria are taken into account in designing the survey and conducting the contingent valuation in certain survey then this CVM method can be reliable and valid. So, these recommendation are we need to take into account the dichotomous choice format yes or no format or there should be two choices. And, a minimum response rates must be at least 70 percent. So, that is again a must and.

So, far mode of interview is concerned it should be in-person interview. And, another thing is is the mechanisms whether we are interested in willingness to pay for an environmental attribute instead of willingness to accept. And, another recommendation they have also suggested that we need to go for sensitivity to scope it to scope for the for this particular study we need to actually find which one is the very sensitive factors and so that we can actually go for the sensitivity analysis.

And, another thing that must be take in to account is respondents are must be reminded for their budget constraints. Suppose, say you were you are asking a person and you know from his background data that his income level is not so good. But, when asked about this improvement or his willingness to pay for a particular environmental attributes he is saying something very higher values.

So, in that context the responsibility of the interviewer is to remind the respondents that on the basis of your information on income so, how you will be able to pay this much of amount for this environmental quality.

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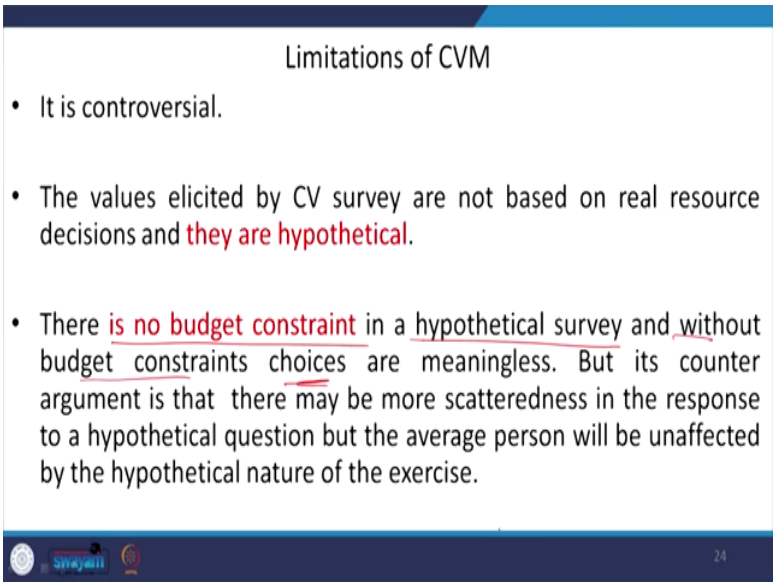

So, based on this understanding you can also discuss about some of the issues of or challenges of contingent values and method. So, the first thing that we are discussing that it is very controversial. So, why controversial; because it is highly hypothetical. So, the values elicited by this contingent valuations surveys they are not actually real, rather they are hypothetical. So, because of this reason their they are highly controversial so, the controversies are around that whether it is reliable or whether it is valid or not.

So, another limitation of the contingent valuation method is that there is no budget constraint here; because this already itself is very hypothetical and that is why there is no budget constraints. And, without this budget constraints, whatever the choices we are we are making or we are finding from the respondents they are meaningless.

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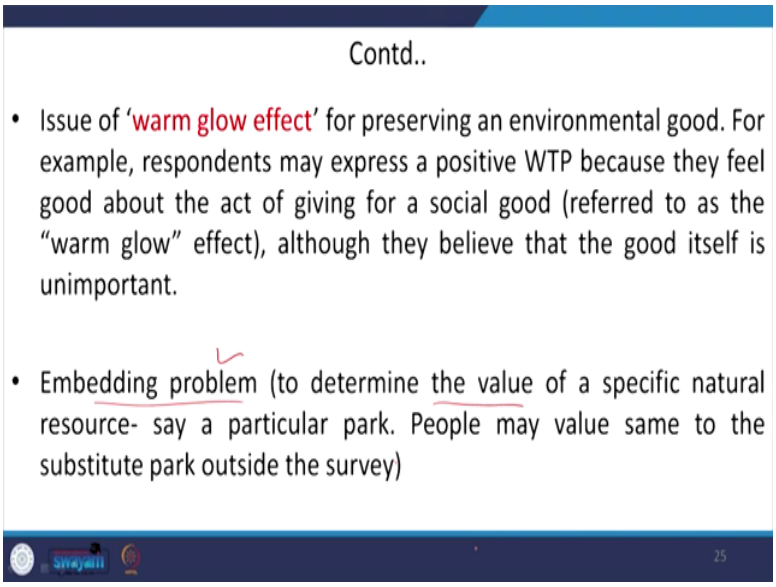

And, more about we can also suffer from this warm glow effect while conducting this CV survey. So, what is this warm glow effect? So, that means, in a particular situations when you are asking the respondents that how much what is your willingness to pay or how much you are interested for a particular scenario and then you will be saying this is a very high amount right if he is actually eliciting something some amount which is high amount.

But, actually in fact, in situations so, that particular fellow is not may not be interested to give that that much of amount for the for that environmental attributes. So, in that case we will be saying that this situation where we realized the respondents suffered from warm glow effect. Because in a particular situation in a social context because the interview is going on, survey is going on that is why he might have expressed his willingness to pay in a very large amount, but actually it is not reflected in the in his attitude or in his behavior.

So, for example, in his survey CV survey, it was found that for a particular environmental improvement, 70 percent people they are interested to pay if they are going to get an increased environmental quality. However, when actually this payment system were introduced, only 10 percent they paid for this environmental increase in environmental quality.

So, this is how we can say that this contingent valuation suffers a high amount of warm glow effect. Moreover this CV problem is also suffering from this embedding problem. So, what is embedding problems? So, let us take this example that we are interested to determine the value of a specific natural resource say a particular park and that is why we are asking people the value of the same park right.

And, however, so, there are there maybe another park or a dozen of parks there situated in the nearby area and the same mechanisms or same value can be put right. So, if the people they are thinking that this is the particular value for this park in discussions, but the same value they will be same thinking the same value can be actually assign to the other parks. So, that is what is known as embedding problem.

So, here we can say the people may value same to this substitute park, which is outside the survey. So, if which may not be true because these are context specific and situation specific.

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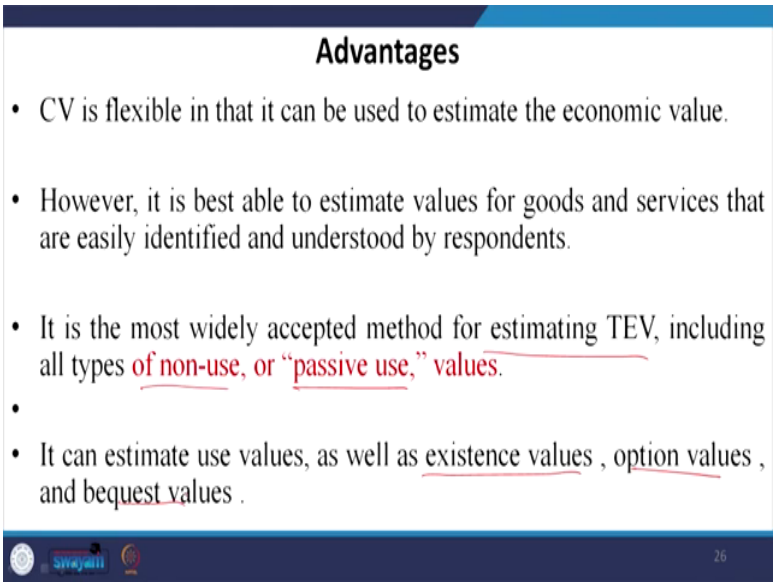

So, however, even though this CVM method is suffering from this limitations, it has certain benefits. So, as you understand that we do not have any mechanisms or methods to estimate the non-use value and CV is very flexible in estimating the economic values. While using while estimating this non-use values like your passive values, we can also estimate this or you can also use this CV method for estimating the total economic values.

And, also we can we can estimate the other values like your existence values, option values, bequest values and this CV method can also be used in estimating the use values. So, that is what you can say this the total the total scenario or total for estimating the total economic value this CV method can also be used.

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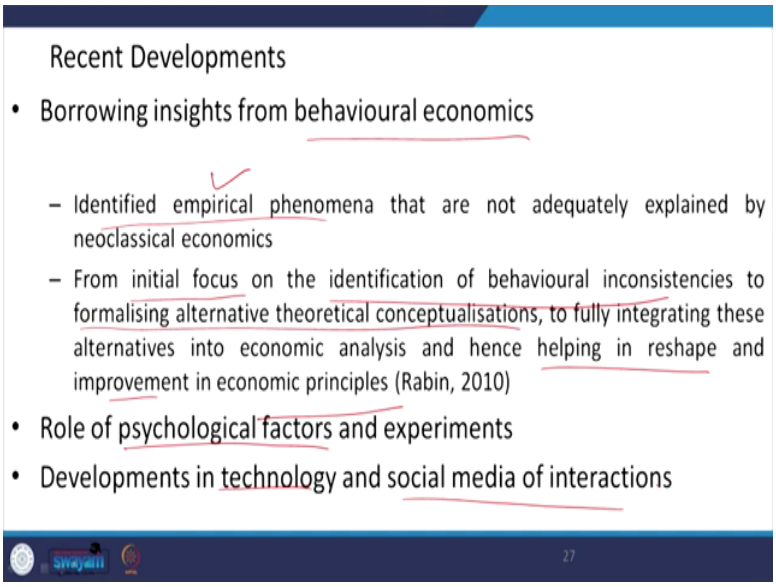

How about the recent developments are in terms of the insights from other sub disciplines like your behavioral economics. So, in the recent literature we can find that the CV survey are basically is having is being benefited or is actually getting theoretical backgrounds or theoretical feedbacks from the behavioral economics. Particularly in identifying the empirical phenomenon, that are not adequately explained by the neoclassical economics. As you understand this CV study is highly related to the welfare economics and which draws much of the theory from the neoclassical economics.

And, moreover these from not only from identifying this empirical phenomenon that are not adequately explained from the neoclassical theories. It we are also relying or borrowing insights from behavioral economics in terms of initial focus on the identification of

behavioral inconsistencies. And then formalizing this alternative theoretical conceptualisations.

So, there were thereby we are actually able to develop or formalize alternative theory theoretical frameworks in order to value this environmental goods and services. So, thereby we this behavioral economics is also helping in reshape and improvement in the very economic principles as wells. So, these are these additional developments we are finding from the literature, that how are the CV itself is being enriched from the from the behavioral economics.

Moreover, this CV is also being enriched by the psychological factors basically the experiments part of the psychological studies. So, we are also finding the these are recent developments in the CV literatures. And, moreover because of this increase or advancement in technologies and social media of interactions, this CV study has also been increased and has enriched its scope.

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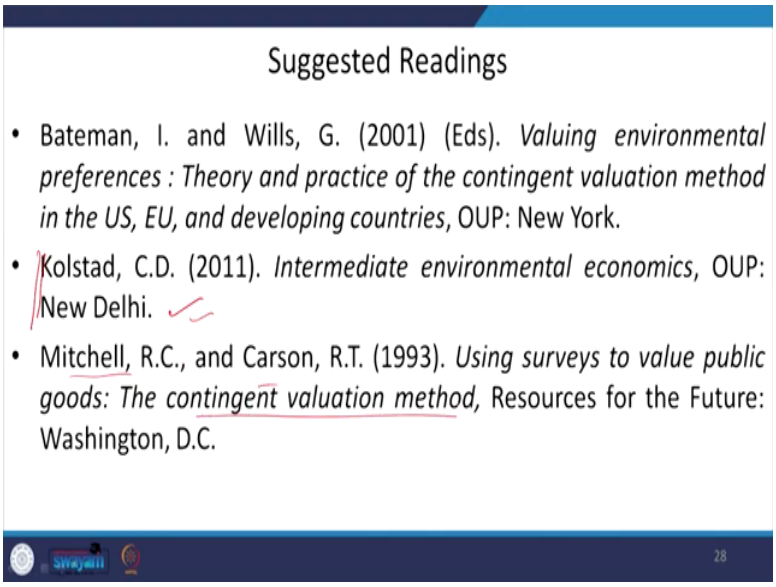

So, based on this understanding we can say that we need to go through certain readings for this CV. So, the first one is the Kolstad. So, this is the intermediate one so, you can go through it. And, after going through it you can actually follow this Mitchell and Carson Using surveys to value public goods: The contingent valuation method. So, it is a specialized book. Moreover, you can go for this edited book, if you need to exploit more about the contingent valuation surveys.

Thank you very much.