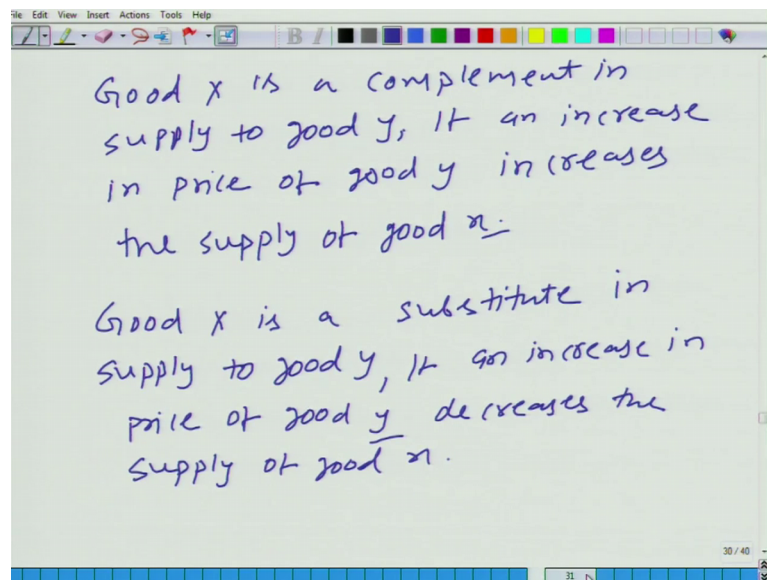


**An Introduction to Microeconomics**  
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**Lecture – 13**  
**Supply: Effect of Substitutes and Complements**

Now, earlier in the demand context we talked about complement in conjunction and substitute in conjunction all that, I did not use the term in conjunction, but now we need to distinguish because when we talk about complement and substitute, we have to be clear whether we are talking about the demand side or the supply side. Just as convention if it is not mentioned that whether it is demand side or supply side you should take it as demand side, that is why I did not mention the in conjunction part but when you are talking about substitute and complements on the supply side, you should always mention it that it is for the supply side. So, what do we mean, when do we say a good is complement in production or complement in supply? Let me write it.

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Good, X is a complement in supply to good Y, if an increase in price of good Y increases the supply of good X, and similarly good X is a substitute. So, we are talking about good X and good Y good X and Y are complement to each other, if an increase in price of good Y increases the supply of

good X and their substitute if an increase in price of one good, decreases the supply of the other good can you give an example first substitute think about it?

Student: Plastic chair to iron chair like.

Plastic chair to iron chair; again think about it we are talking about supply side not the demand side. So, do not think from a consumer's perspective, but think from a seller's perspective. One example let me give you from very low tech to high tech the simple let us take let us say that here supply a of milk, the milk man he supplies milk let us say that there is market for cow dung also earlier when our economy was not developed cow dung was quiet popular mean means to get energy to cook food. So, let us talk about that example. So, let us say if there is an increase of price in cow dung, what would happen? Your willingness to supply milk at the same price would increase.

Student: (Refer Time: 04:11) increase.

Why think about it. Price of cow dung is increasing you want more cow dung.

Student: More cow dung.

To get more more cow dung what do you need? More cows.

Student: More cows.

More cows means more.

Student: More milk.

Milk; so, you will be willing to supply more milk at the same price. So, of course, here cow dung and milk are complement in production. So, that is a very low tech example let us talk about a very high tech example Boeing Company. Boeing is a manufacturer of air planes; it makes civilian airplanes as well as military airplanes. Now Boeing uses the same assembly line or same work shop to make civilian as well as military aircrafts. So, if there is an increase in price of military aircraft what would happen? Boeing the (Refer Time: 05:05) more a space to.

Student: To military.

To manufacturing into manufacture military aircrafts, what would happen to the supply of civilian aircraft? It would go down Boeing willingness to supply civilian aircraft at the same price would decrease. So, that is why here civilian aircraft and military aircraft they are substitutes in supply or substitutes in production. So, be very careful these are confusing term; you have to be very certain that whether you are talking about demand side or the supply side is it clear ok.

So, now we have enough knowledge so that to talk about the factors of affecting the supply schedule or supply function.