Growth of Crop Area in Command Area and Impact Climate Change
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Now we will be talking about growth of crop area and its implications what happen is everywhere we are interested when the food securities of our concern and as well as the livelihood of the people then more and more area has been brought under cultivation and whereas our resources are it is not increasing. It is it is depleting at a slower rate in some places at a higher debt in some places. So now it is essential so at this condition is it possible for us to developed our crop areas if it is so then do we have enough water availability to grow those crops. So that it doesn't wake up because of water availability and then if there is going to be once you develop date then the test we developed for all the periods whether it is then climate change climate change is nothing but it is either the temperature is going to be on a higher side or the rainfall intensity is going to be on a higher side.

So for that what is needed is what is the water demand which is there and if the area is already developed what is the type of growth and where it has grown and what type of growth it is so that will help us in deciding or in planning it for the future now what is done in this river basin scale; this river basin has got many reservoirs as you could be able to see it over here. Now what will happen how old these reservoirs and what is the reservoir conditions in this area. This is the Ktvair and where that sedimentation has taken over here whereas this is a Ktvair area where so much of siltation has taken place and which is being removed. So to enhance the capacity of the Ktvair now this is the status of the individual water infrastructure and whereas in the other side what do you see that is this is the catchment area of a particular reservoir and this is the entire area is the command area.

Now the command area is big and production from this area is significant. So we need to understand what is the catchment area; how it is going to influence the storages and their surface runoff as well as then there storage is sufficient to do whatever which we have got that is of interest. Now this is the reservoirs and water storage capacities as well as of the individual reservoirs which has been then some of the villages comes under the command area things like. Now what we have done it what is the irrigated land which is grown in this command area is over a period of 10-20years has been done. So it is seen some places there is a large-scale growth even 100 percentage whereas in some areas there is a negative growth in this area over 20 to 30 years. Now we need to understand why this negative growth in these areas as well as what is the positive parameter which allowed this type of large-scale growth in this area. So that this higher growth areas can lead to a sustainable growth rather than a short time or a spike type of activity whereas what is the natural processes which can improve the negative growth in this area.

Now and also there has been some input which we have able to do that is there are the sustainable growth potential of the villages are very high or very low depending upon the water availability depending upon the land which is availability as well as the water availability for crops as well as for the human being. These are all done and it has been grouped into some cluster of villages which has got either maximum cultivation is happening as well as low water demand crops are there and normal supply is possible if it is very high

whereas maximum cultivation of the villages are happening and the higher water demand and poor supply or the supply is not that well connected. So this is the four criteria which has been used in grouping them these villages into so many categories what do we do with this type of classification is try to issue or try to sort out if it is going to be minimum cultivated area or the maximum cultivated area the type of crop so type of crop is important if it is going to be a what intensive crop the sustainability may not be to that extent when compared to the poor or a dry scale cultivation is possible.

So this is how villages or areas can be grouped whether you can develop your agriculture or develop with caution are avoid developing it. So that it may not be a sustainable agriculture for your area. For this for your section now second thing is about canal irrigation growth over the combined areas. So this is there are canals and based dependent closer to the canals that is lot of improvements whereas away from the canal then the growth is very less. So the ground problems is that the secondary and tertiary canal system is not well maintained or it is in a depleted conditions or degenerated condition so that water requirement is not when why this area so that what is the improvement need to be done is the improvement is improving the colonel delivery system so what we have seen in this lecture is we have seen the agriculture development depending upon the water availability and the water availability is depending upon the storage capacity as well as a distribution capacity of those areas and if the distribution capacity storage capacity is maintained then much more the agriculture development can be done and the development should be sustainable over the period rather than a short spot of activities and another thing which has been found in this region is that cash crops and as well as water intensive crops are the crops of the of liking of the farmers for the development which needs to be realized that it should not be a unrealistic development or a growth rather than it should be a sustainable growth of that area. Thank you.