Land Information System
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What is the difference between the land information system and the cadastral system is; cadastral system normally; it is of a local use whereas the land information will give you it is a base layers capable of integration into other geographic information systems where it is you will be able to attain better information for your decision-making. There is other differences the cadastral map is related only to the parcel or the shape of the parcels whereas the land information system does everything what is there in a particular place.

Now what are the constraints in creating a land information system is the cadastral maps system do not meet the requirements; it is not done supervision, management is not done decision-making forecasting and development is for the purposes. Now if you want to come down what it is still further you have the low precision of geometric data which you have got, geometric shapes may vary from place to place and size to size. Then quality and speed of the data axis is not that good, many of the times the map information and the registered information there is a mismatch. All those things happen because of the supervisory thing is not available now but all the issues in the land information system is; I was talking about the physical monuments which identifies physically on the ground list now I was telling about stones in the earlier days it used to be a clay table tablet type of thing is fixed over there or a paper or a microfilm or databases.

These are all the way places where you have the physical thing as well as you have the information on a paper or microfilm or a database availability. So cadastral maps results in distortion that means that cadastral maps which what you get see now for your activities are warping, so there is going to be a projection all the things this result these distortions with reference to geo-referencing activities it should be minimized. So, now why it is happening is because the maps are the representation of the yet surface earth surface as you move from the equator towards the polar side there is a warping out on that type of thing it's where I have done.

And whereas the projection is latitude lunch to the 180-180 of that kind of categories. Now every projection induces geometric distortions of latitude and longitude further thing is the scale of mapping that's what it is coming out as the scaled distortion due to the scales. Now the parcel number system is one thing it is hierarchical; if you have a larger area one, you denote it by one like a Tahsil, one. Under the Tahsil you have got different villages that is 100 that means first you digit it for the Tahsil and the second digit is the neck number of village. The village number which you have identified that type of top-to-bottom approaches is always available and if you do it with the easting and northing that is nothing but lat-lon it's a unique identification number this is the thing which we need to do that.

Whereas how do we tackle this land records in the land description coordinate based systems are used and this overlapping boundaries they have to be highlighted and they have to be rechecked and then before you finalize those boundaries and these land records are complex

attribute relationship you have to find a way how this relationship could be solved and it should have an access to the public and with a public. Public who is authenticated to do that.

So now this is their land information system you have parcels, you have settlements like that there are different layers, different layers of information and these layers has got these are all the attribute table on a different thing attached to each other. See what is happening is in the accuracy of the service. If you pay more then the accurate service you will be able to get it. So if it is urban cadastral requirement suppose agriculture land is converted to urban land that means each inch has got its own means centimeter to sub-metric is available or it has to be made whereas ruler very little accuracy so that metric to decametric possibility is possible.

So the cost should be borne by the buyer not by the agencies so they try to use the triangulation stations, distance bearing as well as photogrammetric technique and global positioning techniques which they try to do it and make it more accurate and the cost may be balanced in the value of the plot.

Now what we have seen is the different activities which are available for updating the cadastral maps into the land information systems. Now we go on to; how this is done on a GIS mode; now what we try to see here is as we have seen the days is this is the boundary of the river basin, these different colours they show about what are all the different administrative units are a Tahsil administrative units and these are all the boundaries of the individual village there if you look at it the village boundaries are in some way it is so sinuous in nature matching them is going to be a tough job. We had a tough job in mosaicking it are joining it before we get into the system. The villages are identified a village names, which we have given it for the area. How this could be used in the water availability is these are all some of the as I said in the previous lecture these are all some of the lakes whose water spread is known; if which one to prioritize the water spread areas for the storing purpose this is has been used.

Same thing is about the if you look at it this place whatever you see the bluishness is the type of lakes that is aerial spread some of them are bigger, some of them are very small, some of them are medium in nature and this is the land the river are supposed to be a drainage line which doesn't have water but whereas there are water in the lakes which can be used for the agriculture as well as for settlement purposes. So, this is about the buffering; so that the same development of these lakes could improve the water availability, water shortage problems in these villages. Now this is again it’s a cadastral map of that area we have just given some shadings and these are all the villages boundaries, the plot boundary, this is the road boundary this is the drainage boundary; drainage means surface drainage or stream boundary and these are all the lakes are cheroos or ponds which are there.

Now, how do you compare this village boundary with the images? This shows the images or a satellite images and what does it show is the red ones; you have got a cultivated lands. So the cultivated lands and this is a non-cultivated lands and the some of them in a different shape these are all the areas of lakes where this is the lake where there is a water and this is the area, this is the area where without water is also shown over there.

So, now when you want to do it so this type of geo-referenced village map could help you out; how much is the water in monitoring that one thing is the water surfaces and another thing is who is growing what crops or how many acres of land is being cultivated during a particular period. So, this is to verify the land administration datasets or this is to compute how much is the information how much is the food production which can happen from this type of areas. Now why this is little hazy because the scale difference, the scale which the original image was taken. It is of a one scale and the world the scale wind which it has been brought down is in a different scale. If you have money, if you have finance you will be able to get a more large images. So, that you will be able to see these of overlapping with plot to plot…