

Overview of Entrepreneurial Environment with Special Reference to Agribusiness

W1L1: Overview of Indian Agriculture

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Hello friends.

I welcome you all to this course on entrepreneurship development with special reference to agriculture.

As we have already mentioned in our introduction, this course is specially meant for the students who are coming from various other streams other than agriculture.

It does not mean that it is not for students of agriculture and allied sciences. It is suitable for them also, but the focus of this entire program is for the students who are coming from various other streams but directly or indirectly associated with agriculture from their family background.

So, when agriculture is part of your family, the source of income, so how can a student or how can an individual be part of that and how can he contribute for enhancing the income of their family. So, this is what is the core of the discussion that we will be taking up.

To begin with, we let us have a basic understanding of the Indian agriculture. So that is why the first topic that we are taking up is overview of Indian agriculture. If you look into Indian economy there is a traditional slogan. I hope all of you are aware of that we say that agriculture is backbone of Indian economy. Is it that agriculture alone contributing for Indian economy? No. There are various other sectors. So, if we look into the history of Indian economy agriculture has always been one of the major contributor, but over the period of time in the last three or four decades, the scenario is changing. But before that, agriculture was the major contributor, but now it is changing.

So, when we look into various sectors of Indian economy, agriculture is one of them. The primary one then it is dealing with the primary production. Then the second one is the industry or the production sector largely we can say and the 3rd and the most important as well as the sector which is contributing to the maximum extent is the service sector.

So, all these three sectors put together forms our Indian economy. So now let us look into how these sectors are contributing for Indian economy.

So, in the entire scenario in Indian context, agriculture is contributing to the extent of 6.1% and industry is contributing or the production is contributing about 30.5% and the service sector, which is a major contributor as on date as on date. If you go back to.

Maybe four or five decades back, agriculture was contributing more than 50 to 60%, but now the scenario has changed. When we compare the figures associated with the Indian economy to the global economy, the scenario is not much different than what we can say.

In the global scenario, when we look into the contribution of various sectors to the Indian economy, agriculture is contributing to the extent of 20% and industry is contributing or the production sector is contributing to the extent of 25.9% or you can say that roughly it is 26% and service sector which is the major contributor as on dates so, this is the latest figure that I am trying to put before you is contributing to the extent of 54%. If you look into the similar figures, maybe five to six decades back. So, it was just a reverse that what we can say agriculture was contributing to the maximum extent more than 50% and the rest of the sectors put together were contributing about 50%. So, when we compare these figures with the global figures, the scenario is also similar, the contribution of agriculture in the global economy is about 6.1% industry or the production is contributing to the extent of 30.5% and service sector is contributing to the extent of 63%, it means the situation that what we find in case of Indian economy and the global economy are similar that what we can say.

When we look into the growth of population and agricultural production in Indian context, we find the parallel rays. So, the first census when which was conducted in 1950, the population of the country was about 30 crore, 30 crore plus and the agricultural production was 55 million tons (MT) in 1950.

If you come back to the figures of 2023, the previous production year, so the agricultural production has increased to the extent of 140, the population has increased to the extent of 143 crore. It means we can see about 4.73 times the increase in the population. In the similar way, the agricultural production which was 55 million tons in 1950 if we look into the figures of 2023, it has come to 329.7 million tons means almost there is 6 times increase in the agricultural production, so with this we can say that as the population is also increasing in the similar manner or we can say that the growth in agriculture is relatively faster, we have reached 6 times we have achieved 6 times increase in agricultural production.

So, keeping these things in view, so if you look into the final estimates of the major crops grown in 2022/23 includes food grains to the extent of 329, million tons put together all

these things. So why we are looking at these figures is so this gives us an idea that how there is change in the scenario over a period of time.

So, there are a number of factors which are contributing to these growth that I will be covering one by one.

So how did we achieve this impressive growth? So this is very interesting. So in the Green Revolution period that what we can say or we can say that in the pre Green Revolution period and what we achieved in case of green Revolution period was we developed the technology and the technology was transferred to the masses but the result was there was partial adoption or non adoption of the technology was observed. So now when we started pondering on why people are not accepting these technologies or why people are partially adopting these technologies or why people are accepting these technologies. The major factors emerged where in the development of the technology as well as in transfer of these technologies, the human element or the social factors were given least importance, so then the next round of transfer of technology process involved invariably the human element or the societal elements that what we can say. This we can observe in the post Green Revolution period. So we developed the technologies along with the human element or the societal factors, and we made an effort to transfer these technologies again the result was not much different.

The reasons behind this thing was even though theoretically we said that we are involving the societies or we are developing these technologies with the participation of the stakeholders primary stakeholder of agriculture, obviously it is farmer. But it was only for the namesake. We developed many technologies without taking into these primary producers into confidence they formulate the major chunk in this particular society, especially in Indian context that I am telling you. Even today if you look into statistics about 15,00,00,000 farm families are there, so they should be taken into account which was largely absent in development of these technologies the results are with us.

So now let us have a brief understanding of the Indian agriculture from the context of the nature and the Indian culture and the Indian agriculture. When the figures or the things that I am sharing with you are specific to Indian agriculture. There are natural factors because we find salubrious climatic factors in Indian conditions.

We can cultivate the crops throughout the year. All the 365 days we can engage in agricultural operations in different parts of the country with one or the other crops, may it be the cereals may it be pulses may it be perennials may it be spices and condiments. Oil

seeds, number of such crops that we keep on cultivating throughout the year in different parts of the country.

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Which we cannot even imagine in the countries like maybe it is the Russian continent or parts of China, or the entire European continent, or to some extent in the American continent, made with the Caribbean countries or the North American part, so cultivating the crops throughout the year is almost impossible in these countries. So, this is what the gift of the nature of what we can say. So based on these natural factors, the culture of the country was developed. What is that culture?

So there is the close relationship with the nature and the culture because in Indian context every natural factors are considered so seriously and they were given the status of God and they were given the status of celebration at regular intervals. Even if you look at the English calendar, the year begins with in the month of January the 1st festival that what we celebrate is the Makar Sankranti, so which indicates the change of the direction of the moon. So which moves from the southern hemisphere to the northern hemisphere we say that now Sun has become uttarayan means the temperature is increasing immediately after that we start celebrating this Basanta Panchami then Holi which is marked with the harvesting of these crops. All these things are as per the natural factors as per the natural factors. Accordingly, we started developing the agricultural practices and accordingly, our food habits were also developed and the clothing pattern is also developed. The clothing.

pattern there is a clear-cut distinction in the north as well as South in the East as well as West and if you look into the northeastern part again it is different. All this clothing pattern is based on their natural factors and accordingly the cultures were developed and even if you look into the food habits. Even though the most commonly consumed product in agriculture is the rice and wheat, but the preparations vary from place to place. Even though rice is consumed the form in which the South Indians are consuming rice is different from what the North Indians are consuming. The similar practices when we look into the eastern India or the western India, the practices are different. It is based on their climatic factors, their natural factors and accordingly the cultures were developed.

In which if you look into the practices, indigenous technical knowledge systems nowadays we are calling it as Indian knowledge systems IKS. So, all these natural factors and the cultural factors led to the adoption by the communities. They had their own experimentation process and they had their own adoption process. There were number of herbal medicines that we come across for human consumption, for protection of the crops, maybe it is orchid, or maybe it is animals, or whether it is perennials. All these

things that what we can find there and accordingly the festivals were developed. I have given you some examples, it is Makar Sankranti, or maybe it is 2 navratri's what we celebrate the Sharada Navratri as well as Chaitra navratra. Both this navratra signify the change in the climatic factors. In one part we are moving from summer to winter and in other part from winter to summer. So, they signify the change in declamatic factors accordingly our festivals are decided and accordingly our food habits were also developed. It means this particular piece of information establishes the fact that there is a perfect relationship between the nature, the culture as well as in the agriculture that we try to understand here, and accordingly the medicines were also developed.

Now coming to the concept of entrepreneurship, keeping these things in view, understanding these things in view. So how can we understand the concept of entrepreneur? So there is a very famous definition given by Professor Deepak Day in 1986. Whether a farmer can become an entrepreneur.

So when this question arised, he tries to conceptualize this concept with Indian context that a farmer does not become an entrepreneur just by adopting a new agricultural technology. But he becomes an entrepreneur only when he comes to be an operator of a farm business. So, this is why I took some time in explaining the relationship between the nature, culture and Indian agriculture. So in in Indian context, largely agriculture is the cultural aspect the cultural aspect, the subsistence aspect, so it was never observed as an enterprise, even though it is an enterprise. But we did not attach this prefix of enterprise in case of agriculture. That is why he says that a farmer can be an entrepreneur only when he looks into it from the point of view of business. What is that? A business involves rational decisions on investment and assessing the risk and other alternatives and possibilities for ensuring the profit, as well as the loss.

So how can he come to this situation or how can he achieve this situation? So that's what is the core of this entire course that what we are trying to present you. So how can you assess the risk and how you can invest and what are the possibilities and how you can earn profit and minimize the losses or eliminate the losses from your operations? So, this is what we will be studying throughout this course.

Then coming to an effort to understand the Indian agricultural scenario by its strengths, weaknesses, opportunities and threats, what are the strengths of Indian agriculture? The first and foremost point is the rich biodiversity and the arable land what we have 142,000,000. So this much amount of land is very rarely available in any of the countries. The climatic factors that I have already told you that throughout the year, we can cultivate the crops because of the availability of sun and various other natural factors and strong and well developed research and extension system that we find in the entire country

starting from Jammu Kashmir to Kanyakumari, Gujarat to Arunachal Pradesh, we have a series of agricultural universities, ICAR research institutions Krishnan Kendras, state departments of agriculture, all these people are part and parcel of research and extension system, so this is the strength of Indian agriculture.

Then coming to what are the weaknesses of Indian agriculture? With your family background only you must be very well understanding the weaknesses of Indian agriculture. The first and foremost among that is the fragmentation of the land. So the number of people dependent on agriculture in Indian context is highest than what we can say it is. Even today it is about 55% as per the available statistics. But when we look into the so-called developed nations, maybe in the European continent or American continent or Australian continent, the number of people who are dependent on agriculture is less than 2% or in some cases it is 1% or less than that.

So there the size of the holding is larger, but Indian context it is smaller this is one of the weakness.

Then low technology inputs because of the few quantity of land or the small quantity of land. What you are cultivating you are unable to adopt all the technological options that are available with you. Then unsustainable water management so this is another important aspect. Even though we have sufficient water sources, but its management is not proper when it comes to cultivation of the crops and utilization of the water. Then infrastructure is relatively poor over a period of time it is being strengthened, but still there is lot needs to be done and low value addition. So, this is another important factor that what we need to keep in the mind hardly less than 10% or even less than 8% of the total agricultural produce in Indian context is being processed or is being value added. Rest of the things is consumed in a raw form or it is exported in a raw form, so this is another weakness wherein all these weaknesses can be the opportunities can be the opportunities for the students not only of agriculture, but the other streams also. So that is what is the focus of this particular course.

Coming to the opportunities, what are the opportunities that what we find in Indian agriculture? Bridgeable yield gaps when we look into the total production India stands at the top of many countries in the entire world scenario. But when it comes to the productivity, so we are at the lowest part because of the weaknesses that what we have discussed so far. So that is why it is an opportunity for all of us. Then export of agricultural produce is another opportunity as on date, so it is limited to certain crops and certain commodities, so that can be expanded over a period of time. The Agro based products that what I am talking about. Then Agro based industries are at the minimum in the country that what we can, that is why we said that there is low value addition then explored potential in

the Northeastern region, especially in the horticulture sector, we are focusing more on the field crops, rice and wheat and some oil seeds and some other crops. But the horticultural crops may be it is, fruits and vegetables and various other crops, so which are having highest potential when we look into the export market also. So this is untapped potential is there in the country so this is another opportunity. Then what are the threats for Indian agriculture. Unsustainable resources used what we have already said as a part of weakness is the threat. If you continue with the similar situation maybe in the days to come, water may be scarcity and the soil quality. All these things are important issues.

Then unsustainable regional developments - within the country if you look into a particular state, we classify it as the highly developed state and another state, we say that it is less developed state. I am not going into the names of the states which are developed and which are undeveloped or underdeveloped that you know very well but the thing that what we need to understand here is why a particular region of the country is developed and why a particular region of the country is under developed or not developed, so that is what is the biggest threat and how can we establish the balance between these regional imbalances? So this is one of the threat that what we can say and as a part of the policy of the government, the imports that what we have, so you might have heard about the imports of the silk and many times we start importing the onions, we start importing the oils and oil seeds. All these things are important factors that what we need to keep in the mind as the threats of Indian agriculture.

Now with this basic understanding, let us move on to the availability of the land and how it is being used in different areas. Maybe it is forest or agriculture, uses or barren, uncultivated land put together. We can say that 142,000,000 hectares of land is available for cultivation, and when we look into the cropping intensity, it is coming to about 141 percent. It means we are cultivating about 40% of the land again and again because of the water availability and this can be enhanced to the maximum extent, so this is just for our understanding. Then what is the amount of irrigated area? If you look into this? So maybe with the government canals or the private canals, the tanks, tubers and other sources of water put together there is about 50% of the land is under irrigated cultivation it means there is a gap of another 50%, which can be cultivated again and again if we manage these water bodies in a proper way so this is what is the idea just I am trying to put before you.

Then area under different crops. If you look into rice and wheat is taking away the maximum amount of land in the country and obviously there is more demand for rice and wheat. But on the contrary, another interesting fact I am trying to put before you. If you look into the figure of pulses and the oil seeds and it will be coming to the fruits and vegetables in the later stages. If you look into the pulses and oilseeds, the irony of the fact is India is

the largest producer of pulses and India is the largest producer of oil seeds. This is 1 fact in the world I am telling and on the contrary, both these pulses as well as oil seeds, we are the largest importers in the world also it is because of the population that what we have and the demand for these two that is pulses as well as oil seeds pulse as a source of protein and oil seed for extraction of the edible oil what we are consuming. Largely the population in Indian context is still vegetarian, so the source of protein is coming from these pulses because of that, so there is a gap that what we can identify with these figures is. So there is larger scope of production of pulses as well as oil seeds and as you are already aware they are fetching the highest price in the market also.

And if you look into the area of production and productivity of different crops over a period of time, so just I'm trying to give you an idea the figures per say are speaking maximum extent. If you look into the figures of 1920, 2021-2022, you take any crop, there is constant increase in the area, there is constant increase in production and there is constant increase in the yield KG per actor or what we call it as the productivity also, but when we compare these figures with the world averages, so we are lagging behind. So, but that is not a determining factor for all of us. The only thing is how we can enhance the marginal increase in these things is the things that what we need to understand. So just for that purpose, I am putting these figures with you.

Then the various crops, if you look into maybe the the growth in these courses, maybe it is food grains or oil seeds or the cotton so over a period of time in 20/22/23. So there is a significant increase over the previous averages that what we can see, but still there is lot needs to be achieved. So I am trying to put before you these figures for understanding only we are registering constant increase in these figures, but there is still need for increasing these averages. So that is what is the point to be considered and if you look into the last one decade data, 2010 to 2022/23 that what we can say there is a constant increase in productivity, there is constant increase in productivity but in few exceptions in in between. So what these figures are telling us there is constant addition to the technological aspects.

There is constant addition to the extension efforts and farmers are also responding to these technological changes over a period of time but to what extent that we can take it to the different levels so that is what is the core of the discussion here.

Then I was mentioning about the oilseeds, even though there is constant increase in their productivity over a period of time but still lot needs to be achieved in the days to come this is giving you an idea. So how the area is being increased there is margin increase. If you look at from 1617 to 2021.

So there is marginal increase of about 2,000,000 hectares, but it is not sufficient because of which we are importing these crops. So what are the achievements of Indian agriculture with these facts and figures the latest statistics what we saw. So we can say that there is record production in foodgrains obviously, we have achieved that. Then we are moving towards diversification with millets and horticulture crops. In the recent years, I hope all of you are aware 2023 was declared as the International Year of Millets and India also responded to that now millets are becoming the mainstream crops every individual is aspiring for getting the millets, so that is how the prices are also very high in the market. So, this is another opportunity and achievement that what we can say.

Then growing importance of Allied activities in addition to the agricultural production like maybe it is processing or value addition and focusing on horticulture crops and the animal husbandry sector is also coming up very well. Maybe the fishery sector is contributing to the maximum extent that what we can say.

Then changing dynamics of agricultural trade. Traditionally, we started with this discussion saying that the agriculture is more of subsistence in nature agriculture is more of cultural aspect, but now there is paradigm shift that now we are taking it as an enterprise and it is getting an international demand for Indian agricultural produce in the world. What are the key growth enablers? How did we achieve these things? So by achieving the change in productivity, what we have seen in our previous slides, there is constant increase.

and because of Labour problems, we started going for mechanization, farm mechanization, that is also giving us the positive results and growing irrigation coverage. So that is also very significant. We have crossed the mark of 50% and in the days to come definitely it is going to be increased and accordingly we are going to get the results also.

Then what are the challenges before Indian agriculture?

The factors associated with the climate change this is a global phenomenon, not only specific, not only limited to Indian context, so how we can combat with this. So, there is constant increase in temperature, the global temperature that what we can say definitely it is going to influence crop production process and accordingly we need to develop the technologies we need to adopt ourselves for these things. Then the waste management in agriculture is another important aspect. Many times you might be coming across the issues associated with this in Delhi and other metros. The burning of the waste crop receivers and all those things. So again that is adding to the climate change.

Then fragmented land holdings, is another important aspect. So, what kind of policy issues that what we can take up there and how we can sustain that is the biggest challenge then disguised unemployment is another important aspect because farmers are not getting the

fair prices for their produce. So, this is another important aspect in the subsequent issues, we will be discussing about how they can maximize their profits and how they can come out of this disguised unemployment.

Then food inflation and volatility in food prices that you might be observing in the market, that prices of the some commodities are increasing like anything and after some time they go to the minimum also especially the commodities like potato, tomato, then the pulses and the oil seeds there is sudden increase in the market and there is sudden decrease in the prices also both the things are harming the interest of the primary producers that is, the farmers that you might have observed in your families also.

So how can we overcome these things by minimizing the post harvest losses as on date the post harvest losses are estimated to be to the extent of 25 to 30% scaling up of this storage infrastructure by developing this infrastructure we can minimize the post harvest losses as well as entering into the production also.

Then food processing industries can reduce the post harvest losses and operating the food quality and safety standards we can minimize the losses and maximize the profit for the primary producers.

And attracting the public investments not only from the government sector, even the private investments can also add to these sector so that we can see the quantum changes in these things. So with this, we will be coming to the end of today's discussion and in the subsequent classes.

We will be focusing on the concerns as well as issues associated with Indian agriculture.

Thank you.