

VINOD KANTAMneni

# want to BE AN ORGANIC FARMER?

READ THIS FIRST!



**ALL THINGS ORGANIC**  
**E-BOOK SERIES**

# ABOUT THE AUTHOR

Vinod Kantamneni works as Special Operations Manager at Farmizen. He has a Masters in Pharmacy and has worked for a few years in the pharma industry along with a teaching stint at a pharmacy college. Following his interest in wildlife he worked as a research assistant and Project Coordinator with WCS India and Centre for wildlife studies, internationally recognized for their work in field of wildlife research and conservation.

Coming from a family of which has been into farming for 4 generations, he was always interested farming. In 2018 he started his own organic farm in Bellary. Always a naturalist at heart, he has incorporated sustainability, diversity and resilience into his farm while planning it.

# ABOUT FARMIZEN

Farmizen is an app-based marketplace that connects consumers directly to natural and organic farmers. Get fresh fruits, vegetables and staples home delivered from local farmers.

All produce sold at Farmizen is grown organically, without the use of any chemical fertilizers, pesticides, weedicides, fungicides or ripening agents.

To know more, visit [www.farmizen.com](http://www.farmizen.com)

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PRASHANT KURUP

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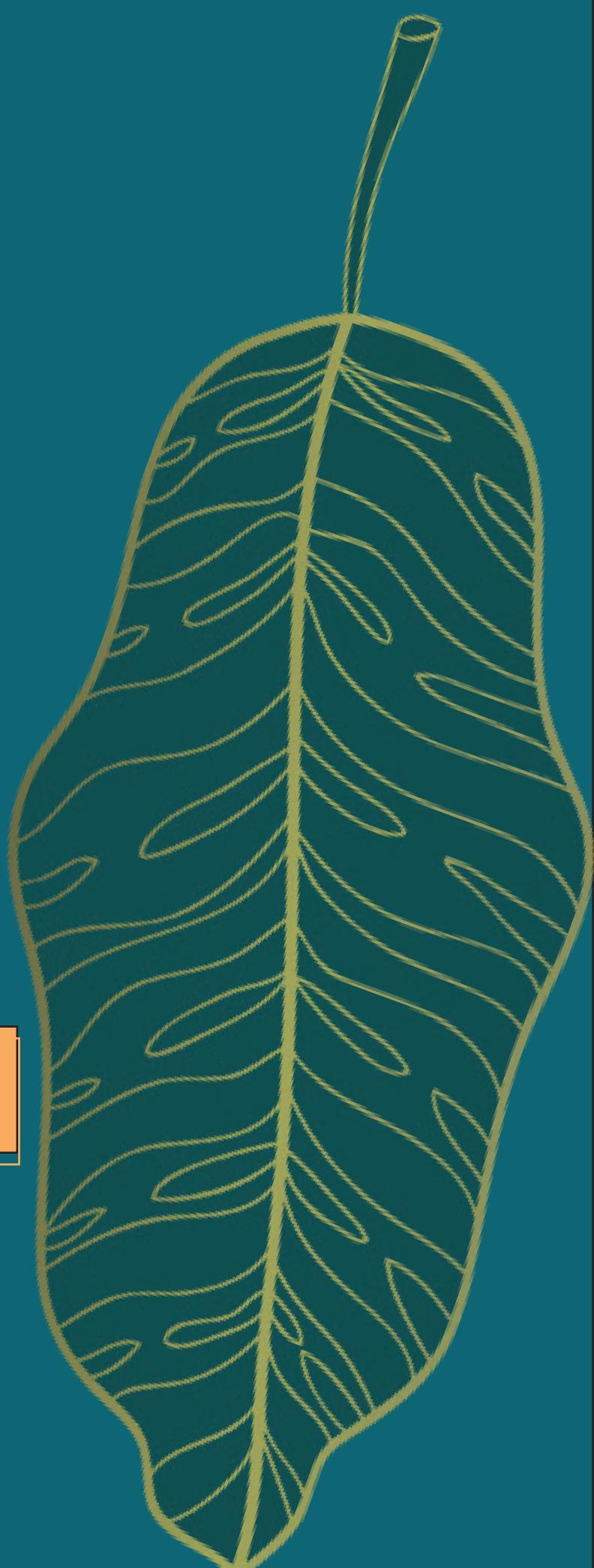
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# INTRODUCTION

So you have decided to start a farm, get your hands dirty, add zing to your life, and want to see if that green thumb of yours works when scaled up. Your reasons could differ from mine, as organic farmers come in all shapes and sizes.

This book is based on my experience of starting a 2 acre food forest and knowledge gained from visiting and interacting with organic farms and farmers over the years. An open and unfettered mind that is unbiased in its acceptance of knowledge will be very helpful on this journey to becoming a organic farmer.

## **What this guide will try to help you with -**

- 1. Selecting land**
- 2. The infrastructure**
- 3. Planning your crops**
- 4. Marketing**

## **What this guide won't help with -**

- 1. Convincing your family, neighbors and that nosy aunt whom you met in 3rd standard**
- 2. Solve day to day problems on the farms - each farm comes with a unique set of challenges**
- 3. Calculating ROI on your time and money invested**
- 4. Mentoring you - for that you will need to network with people like seasoned organic farmers**

# Chapter 1

## Selecting land

If you are one of the lucky guys who inherited the land, then you can skip the next few paragraphs entirely. If not then land is the most important requirement for discovering the joy of farming.

If you are interested in aquaponics and vertical farming then you can join the number of workshops advertised on social media and you will be good to go, if not let's delve into buying land.

## **Size of land**

2 acres is a manageable size for a new farmer, it gives you enough space to learn and experiment. 10 % of it can be used for putting in a house, storage, parking , cattle shed etc. The remaining can be divided to grow different crops or trees.

To give you an idea on how much an acre is, a typical two bedroom house would be around 1000 sq ft. An acre of land would be 43000 sq ft. You can grow 80 large trees (like Tamarind) or 200 small trees like Guava on an acre of land or harvest 2000kg of rice. Farm workers are hard to hire and can be quite expensive. A two acre farm can be managed by two people using a few motorized agricultural equipments available today.

Even if you have purchased a larger parcel of land, its advisable to start work on a smaller subset of it and learn, experiment, understand market conditions and then increase the area under cultivation.

## **Location**

Location would determine availability of farm helpers, ease of selling produce etc.. If given a choice I would buy land next to a mall with a Domino's and a KFC!

A good location would be around 100 kms from a major city like Bangalore. The land costs should be reasonable and the city would be a couple of hours drive away. Produce can be delivered on the same day of harvest. At a later stage farm stays for staycations can be planned to augment the farm income.

Select land which is 1-2 kms from the nearest village with a decent all weather road. If the neighbouring farms have residences and farm houses it will be an added bonus as they can help with manpower and other day to day tasks .

## **Water**

The quality and quantity of water is a very important factor in determining what type of crops you grow.

Water could come from one of three sources -

- 1. Borewell**
- 2. Irrigation canals**
- 3. Rainfall**

If borewells are the only source of water on the land, enquire if any borewells have run dry due to over exploitations in the last couple of years. If not one borewell with two inches of water should suffice for a two acre farm. Do plan for water harvesting and a borewell recharging structure for future water security. Get the water tested - too much dissolved salts will be detrimental to the crops and may render the soil saline and infertile due to accumulation of these salts especially in regions with less rainfall to wash away these salts.

Lakhs of kilometers of irrigation canals exists in India, delivering fresh water to parched landscapes from rivers and natural streams. If the land is served by such a canal, do check out what season of the year the water is available. Crops like rice will need a lot of water which is possible only from such canals. If the water availability is only seasonal, crops can be planned accordingly and borewells or water storage ponds can be dug.

## **Soil**

The soil type will determine what you will be able to grow. Conventional wisdom says orchards are best grown on red gravelly soils and crops like rice, chilies etc. can be grown in black loamy soils. But this has exceptions with some fruiting trees like pomegranate and sapota doing exceptionally well in black cotton soil. So it is all up to you which crops you want to grow. You can observe what's being grown in surrounding farms and follow the same trend or you can experiment with different options and buck the conventional trend.

Continuous use of mulching and other organic farming techniques can add strength to the soil and remediate some of the inherent weakness of the particular soil type.

**Note:** Only buy land from known sources and consult lawyers to check the paperwork. Some states may have laws preventing people from non agricultural families to own land but provisions exist for buying land for those who are determined. Sometimes all it takes is a letter from the District Magistrate.

# Chapter 2

## INFRASTRUCTURE

Finally you have bought your piece of land, all that remains to be done is to plonk in some saplings and you have your very own piece of paradise on earth with humming bees and singing birds in the green orchards. But wait if it was so easy why are there so many acres of land lying fallow when you travel outside the city?

The reality is that, to create a lush productive farm you will need to protect and nurture the land and the trees. The following infrastructure needs to be in place before you even think of planting something. Plan all of the below activities in dry seasons as progress will be slow in monsoons

## Fence

The countryside is full of domestic, feral and wild animals with not much to graze on, if you raise a farm without a fence you are actually starting an all you can eat buffet for these animals. To avoid this the land needs to be fenced off.

Start with marking your boundaries. You can request for a survey of the land from the concerned government department. Make sure your neighbor land owners are present on the day of the survey so that all are on the same page.

Based on your budget select which type of fence you want to go for -

**Live fences** composed of hedges and thorny plants can be used but they require years of time to grow and require pruning from time to time.

**Barbed wire fencing** can be used if the only danger to the farm is from large herbivores like cattle, the same can be replaced with wire mesh fence if there is a problem with smaller animals like goats. It is even useful to keep humans out!

The poles can be made from locally available materials which are cost effective. If there are local stone quarries, stone pillars will be available cheaply. If not, cement or steel poles can be used.

**Approximate cost for fencing** 2 acres would be 75k - 1 lakh based on the shape of the farm. A farm which is square will require less fencing material as compared to a farm which is rectangular due to its circumference.

1-2 lines of electric solar fence can be added to the above setup to increase security at a small additional cost. A rough estimate of the number of poles required and length of fencing material required can be done by measuring your land on Google earth. A pole may be required every 8-10 feet of the boundary.

## Farmhouse

To enjoy the peace and quiet that comes with living on a farm you will need to construct a home. Coming from a person who has spent a decent amount of time camping, tents and other temporary arrangements are not comfortable or suitable for longer durations of time.

Locate your farm house at a location of your farm which is at a higher elevation than the rest of the farm, even in case of heavy rains this will prevent flooding. Its also a good idea to construct near to the entrance of the farm. This will not only make it easier to approach the house from the road, but also save money and space wasted to construct a road inside the farm if the house was situated in the middle.

Aim for security and utility rather than Aesthetics if you are not planning to live here full time, go with local contractors, they have better access to local manpower and know which materials to use and where to source them efficiently. A simple single room with kitchen and toilet will cost around 2-3.5 lakhs, the budget will have to stretch to 5-7 lakhs if it's a small 1bhk around 600 sqft. This estimate is from using sturdy yet not fancy materials while building my farm house.

Raise a foundation 2-3 feet from ground level, this will reduce chances of snakes and other adorable critters from entering the home. If the rainfall is more or the soil is clayey, dig a trench around the house for rainwater to drain away, and put in a layer of gravel for easier access in all seasons. Avoid planting trees which shed a lot of leaves in the immediate vicinity of the house. Plant fast growing and evergreen trees to provide shade.

If regular construction techniques are used, the house may take 3-5 months to complete. if time is at premium try prefabricated concrete houses which will be assembled on the site. Shipping containers homes may look like the way to go but they are not so comfortable to live in long term due to insulation issues. To remedy all the shortcomings the container homes come with you will have to spend more than what you would on a normal brick and mortar one. But if the location is remote and there is no manpower available this would be the only choice. Even to install a container home, a foundation needs to be laid in and heavy machinery like hydraulic cranes will be needed to come on site.

Do put in larger windows and ventilators to enjoy the fresh air but fortify them with metal bars and insect proof mesh, a lot of time on the farm will be spent outdoors, a simple verandah made using sheet metals will make this much more comfortable.

## **Electricity**

India is shining right now but the interior far flung places are yet to be fully integrated into the electric grid. Most agricultural landscapes do have free or subsidized electricity to run water pumps, but like most freebies in the country these electric grids can be used to safely hang dry clothes and as temporary swings for better part of the day. At best they will have 3-6 hours of electricity at ungodly hours plagued with low voltage.

Electricity for the house will have to be drawn from lines installed for domestic purposes. If the line is far from the farmhouse, then poles and wire will have to be installed from money out of pocket. When you are spending money on the electric infrastructure it's better to go the full length and install a three phase connection. As petrol prices soar, more and more battery powered alternatives of commonly used agricultural equipment are being manufactured, even electric tractors are not far from becoming mainstream.

At completely off grid locations A solar power system can be installed for powering the home but will need substantial investment upfront along with the cost of regular maintenance of the batteries. Solar powered pumps are heavily subsidized by the government under different state and central government schemes and can be a decent alternative where power cuts are frequent and long.

## **Irrigation**

Water is the life force of the farm. The quality and quantity of water will determine what and how much you will be able to grow on the farm.

Fresh water coming from streams and rivers is the best source as it will have a good amount of dissolved minerals and organic content accrued from the journey from its source all the way to the farm.

Borewell water needs to be tested for salinity before being used. If it contains high amounts of salts, the salinity of soil will keep rising with each irrigation and will need to be remediated using various techniques . A borewell will cost between 1-1.5 lakhs inclusive of pipes and submersible pumps.

Whatever the source, water needs to be used carefully. Precision irrigation techniques are mainstream now and with a small investment, the precious resource can be made to go a long way.

Even crops which require flood irrigation like rice and sugarcane are being grown using a fraction of the water used before by utilizing drip irrigation. The main pipelines carrying water will be life giving arteries and will have to reach all corners of the land where you plan to cultivate. Installing drip will cost 20-30k per acre based on the brand of supplies. Installing these complicated water saving systems may look complicated but many farmers install them themselves or take the service of installing teams available in even small towns who will charge a small fee for the same.

A main PVC pipeline carrying water from the source to the end of the farm will have to be laid, a lateral line will have to be added to this main pipe to distribute water to the areas horizontal to the main line. To maintain even pressure, the size of both the main and lateral pipes will be reduced as it goes farther from the source.

Another useful feature of drip irrigation is that it can be automated at an additional cost. These systems are available easily and can be programmed to turn water on and off at intervals.

# Chapter 3

## CROP PLANNING

So you have sweated enough blood and money to put the infrastructure in place, the next logical step would be start planting crops and saplings

What you plant in the farm will depend on type of soil, climate and how much time you will be able to spend on the farm. Plants are like kids, some will require more nurturing and care than others, some just grow and grow with minimal intervention. it will also depend on how involved or hands off you plan to be.

The soil can be broadly generalized in two types - Heavy clay ones and gravelly sandy ones

The heavy clay soils are rich in nutrients and store a lot of water once irrigated, which could be seen as positive but not all plants like their feet drenched and waterlogged all the time. Some kinds may survive but not thrive in these soils, but some citrus species, sapota and pomegranate do well here. These soils will also normally be deficient in nitrogen so plants that can fix their own nitrogen can also thrive

The sandy soils are poor in nutrients, but they don't hold water so roots are not waterlogged for extended period of time which leads to good aeration, their gravelly sandy nature also means crops which form tubers or rhizomes have an easy time penetrating and growing to larger sizes.

If the soil has been under extensive chemical farming, it's good to grow green manure crops for 2-3 crop cycles and till them to improve the soil. This will improve the soil extensively at a low initial cost.

A soil sample can be tested at the nearest KVK. Once tested they will be able to advise you on which crops or trees to grow. Advice of neighboring farmers can also be taken. If something is thriving on a neighbor's farm, chances are it will do the same in yours. And as they have manpower trained in planting and harvesting of these, you can also utilize them without having to train people again.

Also think about how the produce will be marketed. If it takes a long time to ship your produce to the nearest city, then choose crops which will be able to handle these shipping conditions. Something like mango will ship fine and can be stored for a week without ripening but another crop like figs will hardly last a day when shipped without spraying harmful fungicides on the harvest.

Check whether the crop you select has a good long term market. Don't just go by videos posted by nurseries or other over enthusiastic people on social media. More often than not, their interest lies in making a quick buck selling you seedlings or seeds. Do not fall into traps of companies offering buybacks. Thousands of farmers have been duped by such buyback schemes over the last decade. If the returns are too good to be true, they are best avoided.

Some fruits may be easy to grow like Jamun but harvesting and shipping is a hassle thanks to the size of the tree and shelf life of the fruit. As it was aggressively marketed to farmers 6 - 8 years ago, now there is a glut in the market when the fruit is in season leading to low prices. The same may become true with Avocado and Dragonfruit in a couple of years.

Growing more varieties of fruits in the same land instead of mono cropping would be good idea. The income would be spread out over the year and chances of all the crops failing is very low. When choosing cultivars or breeds of a fruit it's advisable to go for varieties which are liked by customers but are being replaced by newer cultivars due to higher yield.

A good example of the above would be Raspuri mango. Once cultivated and preferred by people of Bangalore and Mysore, the trees were replaced by Banginpally on a large scale in pursuit of higher yields. Now a glut of Banginpally hits the market fetching very low prices for the conventional farmer, whereas the humble Raspuri fetches a good price due to its scarcity.

Similarly all season cultivars of seasonal fruits are available for almost all fruits. These fruits will fetch a better price compared to the seasonal variant. Multiple such opportunities exist in the market, which can be utilized. All it needs is a keen eye and some research.

There also exists a market for exotic fruits. Some of these may have found their way into home gardens and could be doing well in local conditions, but they are never grown on a commercial scale. A part of the farm can be set aside for experimenting with these.

## **Where to buy saplings**

Calculate how many saplings would be necessary, most experienced farmers and some agricultural university websites will have this information.

Good quality saplings can be bought from below sources -

## **Agricultural universities**

The most economical option would be to buy from a nursery in the agricultural universities. These seedlings would be around half

the cost of private nurseries and they will fruit true to breed as most of them have mother plants to graft on site. The stocks of saplings at these places are limited and available seasonally. Multiple visits to the university and follow ups with the staff maybe required.

## **Forest department nurseries**

Most forest, avenue and timber saplings can be bought from forest department nurseries at very cheap prices ranging from 3-10 rupees, most of these will be grown from seed so will need a long time to grow compared to grafted saplings. Availability will be during monsoons and a copy of land document may be required

## **Private nurseries**

Most large nurseries will have required saplings at decent prices all over the year, buying from them is easier than jumping hoops around government nurseries. Only sources from accredited and certified nurseries, if needed, take addresses and visit the farms which have used the saplings from these nurseries. If the required cultivar of species is not available it's better to visit cities which are hubs for these horticultural nurseries. An example would be Kadiyam city in Andhra pradesh, The whole region has thousands of nurseries with saplings of all fruiting trees in India along with exotics, similar places exist in Kerala. Trucks can be hired here easily to transport them to your farm.

## **Farmers Cooperatives And NGOs**

Both can provide very good quality saplings at subsidized prices, but these nurseries are very thinly spread out.

## **Sapling age and health**

For most fruiting trees go with grafted seedlings which are a year old, these will be easy to prune and train. The graft would also have healed and sealed by this age. Larger saplings will be prohibitively costly for a farm and difficult to transport. These are more suited for home and rooftop gardens.

**Note:** Always aim for diversity on the farm. Plant fast growing pioneer species which grow fast in treeless landscapes and provide much needed shade for younger more sensitive saplings. They are nitrogen fixing in most cases and also shed

copious amounts of leaves every year which provides valuable mulch.

Timber and bamboo planted at borders will provide natural windbreak. They will also host beneficial birds and small mammals. Once they mature in a few decades, money can be made from timber

# Chapter 4

## MARKETING YOUR PRODUCE

In recent years the market for organic produce has grown by double digits. To put it in simple words, the demand for organic products has grown inorganically :)

With the advent of social media and growing popularity of various healthy living gurus, even people not living in urban centres are aware of the benefits of consuming chemical-free food. Due to high demand outstripping supply, organic produce still commands a premium, providing incentives to farmers which are attracting more farmers to organic farming.

But farm produce, organic or not, comes with its own challenges like perishable nature, seasonality, and logistics. Organic farmers will have to embrace new marketing strategies and execute marketing plans along with managing operations on their farms, lets look at some ways to effectively create a market and sell your produce.

## **Documenting the journey**

Organic farms are places of beauty and biodiversity, the journey of this transformation needs to be documented. People (potential customers) would love to watch this transformation. So document as many details and important milestones on the farm regularly. With a smartphone in our pockets all the time, it's a very easy task. This story of transformation will help in marketing.

If you can manage create a blog about the farm, even a social media account for the farm, it can be greatly beneficial. Initially it could only be your family and friends following this, but as the farm transforms it will draw people farther in your circles. They could be your first customers or could help you sell your produce.

## **Managing logistics**

The biggest challenge of selling your produce would be the logistics. With proper packing and a logistics partner, anything can be shipped anywhere in India these days. The main challenge here is to keep the cost in check. It does not make sense spending Rs.100 shipping something that costs Rs.30.

When it comes to logistics, volumes bring the cost down. The more the volume of items you ship, the cheaper the prices. Instead of going for a courier service, you can send via transport services like VRL or even by train. Fresh fruit can be sent by overnight buses to metro cities most of the time. They will need to be packed in boxes or crates.

A lot of farmers send their produce by these methods to Farmizen, as do I. The first few times may seem challenging, figuring out how to pack, which travel or courier company to use, coordinating pickups etc, but after sometime it becomes a routine task.

If your volumes are low, inspire a few neighbors to shift to organic farming. They may not be as tech savvy as you, so you can help them sell their produce. Staples like rice, dal etc. ship and store well unlike fruit, so cut your teeth with these.

You maybe actually be surprised by demand for organic produce in villages and towns. An uncle of mine grew rice organically in 2 acres for personal consumption. Only 10 % what he grew would suffice for his requirements. the rest 90% of the organic rice was

pre booked and bought, surprisingly by neighboring rice farmers. They knew how much pesticides they were using would not consume the rice they grew themselves.

## **Adding value to your produce**

With a small investment of time and capital, the organic produce can be converted into a product more nutritious. Local knowledge can be tapped to make traditional snacks and sweets. These homemade goodies have a decent storage life and ship well and you could provide employment to locals

Even highly perishable fruits can be converted to squashes and preserves. These will be preferred by customers over store bought ones which are full of food coloring and artificial flavor anyway. Surplus fruit can be dried and powdered or dehydrated and packed.

Multiple such marketing opportunities exists, all it needs is some thorough research on your part.

For small farmers with varied produce, selling via farmizen is a great option. You get access to thousands of customers who understand the impact of organic farming. The produce is listed in your name so the consumer is actually buying from you directly with farmizen handling the last mile logistics and packing. You can sell your produce even before harvesting using the pre-order system and also get a sense of what customers need and plan future crops. Do check out the Farmizen website to know about this unique platform.



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