

## Cultivation of Medicinal Plants offering Opportunity for Income Security among small farmers: a Case Study of Bihar State

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### Abstract

This document explains that the cultivation of medicinal plants can serve as a tool to enable smallholders to earn income and fight poverty. The study was conducted in the Indian state of Bihar, where continued belief in the use of medicinal plants even under non-traditional conditions has led to increased trade requirements and the use of modern technology. It is based on the assumption of a struggle against poverty, which involves not only an increase in income and employment, but also an increase in social capital and human dignity. This study examines local perceptions of the use and cultivation of medicinal plants and the need to protect them, as well as the specifics of existing cultivation practices and opportunities for improved cultivation. Studies show that the increasing demand for medicinal and aromatic plants is related to the high cultural importance of medicinal plants. Increased demand has not only resulted in an increased risk of overfishing for wildlife populations, but also increased interest in agriculture. It is concluded that the opportunity to grow medicinal plants that provide income security and poverty alleviation among small farmers should not be taken lightly. However, the effect could be positive if cultivation is viewed in the context of securing employment opportunities and seeking additional markets for medicinal plants.

**Keywords:** Medicinal Plants, Growth, Income Security, Small Farmers.

### Introduction:

Information on the propagation of medicinal plants is available for less than 10%, and agrotechnology is available for only 1% of the commonly recognized plants worldwide. This trend indicates that the development of agricultural technology should be one of the main areas of research. To meet the growing demand for medicinal plants, the cultivation of these types of plants is also important. In addition to meeting current needs, agriculture can preserve the wild genetic diversity of medicinal plants. Agriculture allows the production of homogeneous materials from which consistently standardized products can be obtained.

Aquaculture also allows for better species identification, improved quality control, and increased prospects for genetic improvement. Selection of planting material for large-scale agriculture is also an important task. Therefore, the propagation material must be of good quality, rich in active substances, resistant to pests and diseases, and resistant to the environment. For large-scale agriculture, it should be understood whether monoculture is the right way to grow all medicinal plants or whether multicultural models for better production of medicinal plants need to be promoted.

Studies on medicinal plant agroforestry elsewhere show that agroforestry offers a suitable strategy for its cultivation and maintenance, as many medicinal plant species prefer to grow under forest cover:

1. Integration of shade-tolerant medicinal plants as sub-layer species in a multi-layer system,
2. Cultivation of short-lived medicinal plants as catch plants in existing plantation forests,
3. Planting medicinal trees as suppliers of shade and boundary markers and
4. Mutual planting of medicinal plants with food crops.

### Opportunities in developing the medicinal plants sector

For the development of the "herbal industry" in India, there is a rich diversity of medicinal plant species in different types of high-altitude gradient forests (as discussed in the use and diversity of medicinal plants). The diversity of medicinal plants will be useful for further research to examine the medicinal properties, added value, and usefulness in the treatment of various diseases, both old and new.

India has made a name for itself in the world market as a producer of high quality generic drugs at low cost. This fact can be used as an important tool for the marketing of herbal products made in India. India's goal to build a golden triangle between traditional medicine, modern medicine and modern science is expected to be a boon for the development of traditional herbal medicine and medicinal plants sector.

The rate of change in cultivation models, production and productivity, consequences of agricultural diversification in terms of net income and job creation in the use of land available for high-quality crops and prospects for future diversification across different geographic locations of the country

In recent years, America's conventional medical system seems to have reversed and taken over the patient's use of drugs and flavorings. However, unstable product quality due to variations in the genotype of plant species and environmental factors that change the amount and distribution of ingredients remains a problem for the use of medicinal and aromatic plants that will continue to be faced by farmers and processors in the near future. Quality is often judged on the basis of color, aroma, taste and effect of the plant material, although concentrations of various chemical elements can also be analyzed in facilities equipped with or attached to testing laboratories. Additional terminology related to medicinal and aromatic plants used to assess quality aspects includes organic (produced according to certification rules, even without the use of synthetic fertilizers or pesticides) (USDA 2006), growing wild without contact with humans before harvest), growing on wood (growing in natural environments with protection and care as they grow) and commercial (made with the possible use of synthetic pesticides or fertilizers).

Charan, K., (2013) Production of Herbal and Medicinal Crops: Innovative Sustainable Development (The Bihar Case) Bihar's economy is almost entirely related to agriculture, which is full of innovation potential in terms of sustainable development. Those who grow various crops are small and small farmers with small plots of land (less than 1 ha). Due to the weak economic situation, they do not use the essential raw materials for their harvest in a timely manner. It turned out that this resulted in low crop productivity, so there were innovative farmers in Bihar who started growing medicinal plants. Especially in flood-prone areas, farmers tend to be unconventional between February and July, which is before the rainy season” (National Mission Report on Medicinal Plants - Bihar Government). In Bihar there are many opportunities to diversify sustainable agriculture across different agroecosystems. Systematic cultivation of high quality medicinal and aromatic plants under prevailing agro-ecological conditions is one of the sincere endeavors for sustainable development.

**Komaraiah, J.B., (2012)** observed and highlighted the positive effects of government-led intervention programs and support systems provided by NMPB, SMPB in Utarakhand and Madhya Pradesh in India in large scale research projects funded by UGC. The purpose of this study was to determine the economic development through the cultivation of medicinal plants in Utarakhand and Madhya Pradesh. The institutional support system developed so far cannot cover the huge difference between supply and demand for medicinal plants. Lack of marketing network, guaranteed repurchase opportunities, educational and promotional activities, and low productivity hinder large-scale cultivation of medicinal plants, regardless of organization and scope of work that can affect returns to medicinal plant cultivation. Madhya Pradesh is one of the few states in India that is endowed with rich and diverse natural resources, especially in terms of the medicinal plant resource base. The collection of medicinal herbs secures the livelihoods of most of our rural population, most of whom are tribal and other underdeveloped strata. Over the past decade, MP has become one of the leading countries in the country for the cultivation of Medicinal and Aromatic Plants (MAP) in agriculture, as thousands of farmers have been trained by CEDMAP (Bhopal) and the Medicinal Herbs Council through The host agency providing institutional support from the Committee. Madhya Pradesh Medicinal Herbs.

**Chandra Prakash Kala, (2010)**“Medicinal Plants of Diversity, Basis of Life and Conservation of Utarakhand”, “Book of Biotech, Delhi. Utarakhand is one of the few states in India which is endowed with rich and diverse natural resources, especially with regard to the medicinal plant resource base. The collection of medicinal herbs secures the livelihoods of most of our rural population, most of whom are tribal and other underdeveloped strata. Over the past decade, Utarakhand has developed into one of the leading states in the country in terms of medicinal and aromatic plant cultivation (MAP), with thousands of farmers trained by Bhesaj Sangh and institutional support from the Medicinal Plants Council through its core Uttarakhand Medicinal Plants Agency.

**Gill, A.S., Bisaria, A.K., & S. K. Shukla (1998)** Potential of Agro forestry as source of Medicinal Plants” in (Ed) Govil, J.N. ‘Glimpses in Plant Research: Current Concept of Multidiscipline Approach to the Medicinal Plants. The study observes opportunities available on development of resources.

**GhayurAlam, (2004)**conducting research to fill gaps in reliable information on the number of medicinal plants collected and cultivated, their commercial potential, and the existence of marketing mechanisms to encourage the commercial cultivation of medicinal plants. The author discusses this issue in four Himalayan states: Utarakhand, Himachal Pradesh, and Arunachal Pradesh and Meghalaya. The results show that there is a shortage of large-scale cultivation of medicinal plants in these states and both the number of farmers and the size of the cultivation are small. In the Chamoli and Pithoragarh districts of Uttarakhand, cultivation has been found confined to a few villages in the Niti and Johar valleys. In these places also planted small plots (nali). The size of these squares only varies between 2-4 on the right. There are several reasons (economic and non-economic) that make farmers reluctant to plant medicinal plants. This study highlights a number of causes for the excessive and illegal collection of medicinal

plants in nature, including the involvement of contractors and subcontractors whose primary interest is to maximize profits. Enforcement by the Ministry of Forestry and other government agencies is too weak, allowing contractors to carry out illegal and excessive collection.

**Raina, R and L. J. Srivastava (1997)** saw that the vast majority of individuals on the planet utilized the conventional medications for their treatment of the infections. Yet, there could be no appropriate development of restorative plants. In this way, there is a deficiency of unrefined components for drug producers. They likewise saw that development of restorative plants is useful for the ranchers yet because of certain reasons like shortfall of legitimate market, support value, the public authority doesn't energize sufficiently the cultivators and so forth, come about the ranchers are not showing revenue on development of the therapeutic plants.

**Ghule, S.T., D.K. Patil et al, (2001)** saw that India stands the 10th among Plant Genetic Resource (PGR) rich nations. The exchange of therapeutic plants in India is assessed about Rs.550 crores per annum. There are incredible freedoms to the ranchers to work on their financial status. Be that as it may, there are numerous imperatives in the development of therapeutic plants for instance, absence of advertising offices, non accessibility of further developed verities and solid establishing material, market adaptability and absence of guaranteed repurchase and so forth The creators recommended for addressing these imperatives by giving the offices like market knowledge, effective exchange of innovation, quality confirmation, catching global market and so forth, for additional improvement.

**Bhuse and Ghule (2002)** concentrated on the significant requirements looked by the Indian ranchers in business development of therapeutic plants. There are issues like, absence of legitimate agro-innovation, absence of mindfulness, ill-advised business sectors for restorative plants, absence of satisfactory data to the brokers on the expense of development to fix the restriction of the money, market interest and supply position and so on The above factors are the key for getting finance for a huge scope especially by the little ranchers. Assuming above issues are settled, the advancement can be accomplished in the field of therapeutic plants development.

**Lakshmanan, K.K. (2003)**, analyzed a portion of the valuable restorative plants for wellbeing and thriving. The public authority, the industrialists, researchers and ranchers are intriguing in the restorative plant development/advancement, in light of the expanding request of therapeutic plants in the business sectors step by step.

**Jason Holley and Kiran Cherla (1999)** featured specialized, financial and strategy related issues looked by this area, which should be tended to by taking an all encompassing perspective on the complex bury group oral ramifications. A solid contention has been advanced demonstrating a pressing need to foster a drawn out procedure for accomplishing economical use and local area based biodiversity preservation of important plant assets. Development of therapeutic plants as a vehicle for country advancement and vocation improvement of the helpless networks has additionally been stressed as the general objective of the area advancement.

#### **Reason for selection of the area for present study:-**

In Bihar, agriculture faces problems of low productivity, low employability and persistent poverty; Dependence on tenants and main source of income. Most farmers accept crop diversification by cultivating medicinal plants with a very good work process logic. However, in the absence of laws, many farmers have been badly exploited by these companies. This is why it is so important to evaluate the performance of these companies in terms of sustainable development. Seeing this reality, this research was published with the following objectives:

#### **Objectives of the present study:**

- ☉ To analyses farmers' decision behavior to the crop Diversification through the Cultivation of Medicinal plants.
- ☉ To find out its Impact on Employments & Poverty on the agriculture sector.
- ☉ To offer suggestions for promoting the crop Diversification through the Cultivation of Medicinal plants in agriculture sector.

#### **Hypothesis:**

- ☉ Farmers' decisions behaviour are not participate in the crop Diversification through the Cultivation of Medicinal plants.
- ☉ Contract farming does not improve Employability & Reduce Poverty of Contract growers.
- ☉ Crop Diversification through the Cultivation of Medicinal plants arrangements has no Effect on Poverty.

#### **Research Method:**

Fieldwork was carried out for this research from March to May 2017. Data collection was carried out through informal interviews and informal meetings with family heads who are farmers who work as farmers with plant diversification through medicinal plant cultivation and farmers who do not receive beneficial plant diversification through medicinal plant cultivation. Interviews or conversations are informal and semi-structured because they are

located in rural areas, with modern input tools, close to small farmers and permanent jobs. In addition, several interviews and informal discussions were held with senior officials at the administrative and operational levels.

The purpose of this study is to analyze institutional changes in agriculture and the effects of these changes on the country's economy. Since the study focuses on the economy of Bihar, the whole country is set up as the study area. Through targeted sampling, an area is selected with various contractors. Snowball sampling is then used in the sampling process using a net. A combination of qualitative and quantitative data was collected. To understand behavior, attitudes, opinions, and perceptions, this design is flexible and allows respondents to freely express their views and opinions.

□ Using a multi-stage random sample, we selected one region and four regions where it should be almost 50% Farmers should accept diversification of cultivation through cultivation of medicinal plants.

□ Then the block includes plant diversification through the cultivation of medicinal plants. We study 3 or 4 villages if research is needed.

➤ In the Villages we categories the farmers in to two groups-

- The Farmers Who adopted the crop Diversification through the Cultivation of Medicinal plants.

- The Farmers Who do not adopted the crop Diversification through the Cultivation of Medicinal plants. (Control Groups).

➤ We selected the crops for the study which are growing by both Districts of the States.

This study will be based on the primary and secondary data sources, primary data will be collected through the personal interview by structure questionnaire from formers. The Farmers will be randomly with purposive sampling selected from chosen villages.

**Reliability Analysis:**

**Table 01 Reliability Statistic  
Reliability Statistics**

Cronbach's Alpha	N of Items
.833	5

This table represents the Reliability of the all variable which is 0.833; total numbers of items are five. This value comes under the Excellence range that is greater than 0.8.

**Table 02 Item-Total Statistics**

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Adopting Crop Diversification	2.1200	2.228	.862	.732
Age of the Farmers	2.0800	2.741	.471	.844
Farmers Educations	2.0800	2.519	.631	.800
Using Latest Technology	2.1200	2.430	.696	.782
Having Enough Income to make consumable Expenditure	2.0800	2.660	.528	.829

The value in the column labeled Alpha If Elements Are Removed is the value of the total alpha if the element is not included in the calculation. As such, they reflect the changes in Cronbach's alpha that become visible when certain items are removed. The total alpha is 0.833, so all values in this column should have roughly the same value. We look for an alpha value that is greater than the overall alpha because removing an element increases Cronbach's alpha, which means removing that element increases reliability. None of the items here would significantly affect reliability if removed.

**Table 03 Combining the Relationship between Adaptation Behaviour for Crop diversification with the respect of age group**

**Adopting Crop Diversification \* Age of the Farmers Crosstabulation**

		Age of the Farmers		Total
		Above to 45 Years	45 years or Below to 45 Years	
Adopting Diversification	Crop No	36	14	50
	Count	72.0%	28.0%	100.0%
	% within Adopting Crop Diversification			
	Yes Count	10	40	50
Total	Count	46	54	100
	% within Adopting Crop Diversification	46.0%	54.0%	100.0%

Table 03 shows the results obtained from the 50 farmers who adopting the crop diversification and 50 farmers who not adopting the crop diversification in the survey with respect to their age to adaptation behaviour of the farmers to taking correct decision. The farmers who were below to 45 years or 45 years, their decision to participate in crop diversification arrangement is 40 (80 %) When we were asked to decision about the acceptance of crop diversification arrangements to above to 45 years age of the farmers, an overwhelming 10 (20 %) responded in the affirmative. The deference between decisions about both types of the farmers is 60 %.

Whereas the decision about not accepting crop diversification arrangements the answer to the below to 45 years age of the farmers 14 (28 %) & answer from above age of the 45 years of the growers are 36 (72 %).

The results suggest that most of the below to 45 years age of the farmers tend to respond positively and have a strong desire to engage in crop diversification arrangements if they were offered the opportunity. From the results it can be inferred that below to 45 years age of the farmers in Bihar State generally have a positive or favourable attitude towards crop diversification arrangements.

**Table 04 Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	27.214 <sup>a</sup>	1	.000		
Continuity Correction <sup>b</sup>	25.161	1	.000		
Likelihood Ratio	28.653	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	26.942	1	.000		
N of Valid Cases <sup>b</sup>	100				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 23.00.

b. Computed only for a 2x2 table

Finally, the table above contains a summary of the statistics. The observed chi-square statistic was 27,214, which was associated with a 0.00% risk of favorably rejecting the null hypothesis. This poses no risk of accepting under-45 or 45-year crop diversification agreements for farmers, so we can accept zero. Therefore, we found support for the study hypothesis and were able to conclude the agreement of crop diversification agreements in the study from the age of farmers who received crop diversification and farmers who did not choose crop diversification.

**Combining the Relationship between farmers Adaptation Behaviour for Crop diversification with the respect of Literacy;**

**Table 05 Adopting Crop Diversification \* Farmers Educations Crosstabulation**

		Farmers Educations		Total
		Below to graduation	Graduate or more than graduation	
Adopting Crop Diversification	Crop No	40	10	50
	Count % within Adopting Crop Diversification	80.0%	20.0%	100.0%
Not Adopting Crop Diversification	Yes Count	6	44	50
	Count % within Adopting Crop Diversification	12.0%	88.0%	100.0%
Total	Count	46	54	100
	Count % within Adopting Crop Diversification	46.0%	54.0%	100.0%

Table 05 shows the results obtained from the 50 farmers who adopting the crop diversification and 50 farmers who not adopting the crop diversification in the survey with respect to their literacy to adaptation behaviour of the farmers to taking correct decision. The farmers who were having the education graduate or more than graduate, their decision to participate in crop diversification arrangement is 44 (88 %) When we were asked to decision about the acceptance of crop diversification arrangements to above to graduation education level of the farmers, an overwhelming 06 (12 %) responded in the affirmative. The deference between decisions about both types of the farmers is 76 %.

Whereas the decision about not accepting crop diversification arrangements the answer to the above the graduate farmers 10 (20 %) & answer from below to graduation level education of the farmers are 40 (80 %).

The results suggest that most of the farmers who are having the education graduate or more than graduate tend to respond positively and have a strong desire to engage in crop diversification arrangements if they were offered the opportunity. From the results it can be inferred that above to graduate or graduate education of the farmers in Bihar State generally have a positive or favourable attitude towards crop diversification arrangements.

**Table 06 Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	46.538 <sup>a</sup>	1	.000		
Continuity Correction <sup>b</sup>	43.841	1	.000		
Likelihood Ratio	51.256	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	46.072	1	.000		
N of Valid Cases <sup>b</sup>	100				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 23.00.

b. Computed only for a 2x2 table

Finally, the table above contains a summary of the statistics. The observed chi-square statistic was 46,538, which was associated with a 0.00% risk of favorably rejecting the null hypothesis. This poses no risk of adopting a crop diversification agreement because we have completed or more than a farmer's higher education so we can accept zero. Therefore, we find support for the research hypothesis and can conclude that training farmers who accept crop diversification and farmers who do not accept crop diversification decisions accept crop diversification agreements in the study.

**Combining the Relationship between farmers Adaptation Behaviour for Crop diversification with the respect of upgrade technology;**

**Table 07 Adopting Crop Diversification \* Using Latest Technology Crosstabulation**

		Using Latest Technology		Total
		No	Yes	
Adopting Crop Diversification No	Count	44	6	50
	% within Adopting Crop Diversification	88.0%	12.0%	100.0%
Yes	Count	6	44	50
	% within Adopting Crop Diversification	12.0%	88.0%	100.0%
Total	Count	50	50	100
	% within Adopting Crop Diversification	50.0%	50.0%	100.0%

**Table 07** shows the results obtained from the 50 farmers who adopting the crop diversification and 50 farmers who not adopting the crop diversification in the survey with respect to using latest technology to adaptation behaviour of the farmers to taking correct decision. The farmers who were having the crop diversification arrangement, their decision to use latest technology that improved their crop productivity rapidly and using technology is 44 (88 %) When we were asked to decision about using latest technology to the farmers to farmers who do not adopting the crop diversification to an overwhelming 06 (12 %) responded in the affirmative. The deference between decisions about both types of the farmers is 76 %.

Whereas the decision about not using the latest technology to the answered by farmers who not adopting the crop diversification 6 (12 %) & answer from decision about using the latest technology of the farmers are 44 (88 %).

The results suggest that most of the farmers who are adopting the crop diversification arrangement using the latest technology tend to respond positively and have a strong desire to engage in using the latest technology if they were offered the opportunity. From the results it can be inferred that above to adopting the crop diversification in Bihar State generally have a positive or favourable attitude towards using the latest technology.

**Table 08 Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	57.760 <sup>a</sup>	1	.000		
Continuity Correction <sup>b</sup>	54.760	1	.000		
Likelihood Ratio	65.244	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	57.182	1	.000		
N of Valid Cases <sup>b</sup>	100				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 25.00.

b. Computed only for a 2x2 table

Finally, the table above provides the summary statistic info. The observed chi-square statistic is 46.538, which is associated with a 0.00 % risk of being good in rejecting the null hypothesis. This is no any risk to acceptance of using the new technology by the farmers who adopted the crop diversification arrangements, so we are able to accept the null. We therefore find support for the research hypothesis, and can conclude the using the latest technology by the farmers who adopting the crop diversification and farmers who not adopting the crop diversification' decision to acceptance latest technology in study.

**Table 09 Adopting Crop Diversification \* Having Enough Income to make consumable Expenditure Crosstabulation**

					Having Enough Income to make consumable Expenditure		Total
					No	Yes	
Adopting Diversification	Crop No	Count			38	12	50
	% within Diversification	% within Adopting Crop			76.0%	24.0%	100.0%
	Yes	Count			8	42	50
	% within Diversification	% within Adopting Crop			16.0%	84.0%	100.0%
Total		Count			46	54	100
		% within Diversification	% within Adopting Crop		46.0%	54.0%	100.0%

Table 09 shows the results obtained from the 50 farmers who adopting the crop diversification and 50 farmers who not adopting the crop diversification in the survey with respect to having enough income to make consumption properly. The farmers who were having the crop diversification arrangement, their decision to use latest technology that improved their crop productivity rapidly and using technology is 44 (88 %) When we were asked to decision about using latest technology to the farmers to farmers who do not adopting the crop diversification to an overwhelming 06 (12 %) responded in the affirmative. The deference between decisions about both types of the farmers is 76 %.

Whereas the decision about not using the latest technology to the answered by farmers who not adopting the crop diversification 6 (12 %) & answer from decision about using the latest technology of the farmers are 44 (88 %). The results suggest that most of the farmers who are adopting the crop diversification arrangement using the latest technology tend to respond positively and have a strong desire to engage in using the latest technology if they were offered the opportunity. From the results it can be inferred that above to adopting the crop diversification in Bihar State generally have a positive or favourable attitude towards using the latest technology.

**Table 10 Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	36.232 <sup>a</sup>	1	.000		
Continuity Correction <sup>b</sup>	33.857	1	.000		
Likelihood Ratio	38.914	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	35.870	1	.000		
N of Valid Cases <sup>b</sup>	100				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 23.00.

b. Computed only for a 2x2 table

Finally, the table above provides the summary statistic info. The observed chi-square statistic is 36.232, which is associated with a 0.00 % risk of being good in rejecting the null hypothesis. This is no any risk to acceptance of Having Enough Income to make consumable Expenditure who adopted the crop diversification arrangements, so we are able to accept the null. We therefore find support for the research hypothesis and can conclude Having Enough Income to make consumable Expenditure who adopting the crop diversification and farmers who not adopting the crop diversification' decision to acceptance having Enough Income to make consumable Expenditure in study.

**Conclusion:**

The positive effects of accuracy therapeutic plants cultivating innovation, which are very much imparted to ranchers, might be knowledgeable about farming practice. One of the perceptions of our examination, in particular that "client (Cropping of therapeutic Plants)" and "non-client (Working with Tradition Crops)" ranchers have confidence in the positive effects of the innovation on their field Productivity and their harvests pay, likewise affirmed what is written in the writing. Despite the fact that an incredible piece of the ranchers knows about the benefits and detriments of accuracy cultivating of meditational plant cultivating innovation and there were critical contrasts between the "client" and "non-client" ranchers, the vast majority of them imagine that the venture expenses of the innovation are a lot for them or the responsibility of the board to the innovation is absent. In any case, the responsibility of the executives to accuracy therapeutic yield cultivating innovation isn't sufficient assuming that the staff don't give sufficient consideration to the settings of the gear or to its upkeep in economy of Bihar State.

Both the size of the developed place where there is the homesteads and the age of the ranchers relate essentially with the reception of accuracy restorative arrangement cultivating innovation. These variations don't associate with the choice of components of therapeutic arrangement cultivating innovation. The pay of homesteads connects with the reception of accuracy cultivating innovation. number of ways that expanded cultivating frameworks can assist ranchers with amplifying their utility, incorporating through their parts in alleviating various sorts of dangers, giving integral data sources and upgrading creation notwithstanding unique biophysical or information and result market limitations, and through turning out revenue.

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