

# Cost-Benefit Analysis of Chilli Seed Production

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Volume: 8

Issue: 1

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Month: December

Year: 2019

P-ISSN: 2319-961X

E-ISSN: 2582-0192

Received: 26.09.2019

Accepted: 02.11.2019

Published: 01.12.2019

Citation:

Tigari, Harish, and H.K.Swathi. "Cost-Benefit Analysis of Chilli Seed Production." *Shanlax International Journal of Economics*, vol. 8, no. 1, 2019, pp. 47–52.

DOI:

<https://doi.org/10.34293/economics.v8i1.1145>



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## Abstract

*In agriculture, the cost-benefit is often used to assess different adaptation approaches while cropping by the farmers. The present study intends to investigate the cost-benefit associated with chilli seed production by farmers in monetary terms and identify the economics of seed production based on general information and responses of farmers. The study area is Arasikere, which is located in Harapanahalli taluk. The study addresses the profitability of farmer-based chilly seed production. The study used data collected from farmers who are producing the chilly seed. The quality seed characterized by high germination and vigor, genetically and physically pure, free from borne diseases, and insect post with relatively low moisture contain. Primary data has been collected by the farmers through a structured questionnaire, and a random sampling technique was used while selecting the respondents. For analyzing the costs and benefits of seed production, average costs, average revenue, and average return are calculated.*

**Keywords:** Seed production, Agriculture, Chilly, Cost-benefit analysis, Income.

## Introduction

Agriculture is the oldest occupation in the world, and also it is the backbone of our Indian economy. The term agriculture is an art or science of cultivating the ground, harvesting of crops, and management of livestock. Agriculture, with its allied sectors, is undoubtedly the largest economic activity that provides livelihood in India, especially in rural areas. It also contributes a lot to the Gross Domestic Product (GDP). Sustainable agriculture, with food security, rural employment, and eco-friendly environmental sustainability with technologies in the agricultural sector, are essentials for rural economic development. The green revolution, a white revolution, a yellow revolution, and a blue revolution are milestones for Indian agriculture and allied activities growth. Agriculture is the major economic activity as well as a source of livelihood in many countries in the world. It plays a vital role in India's economy. 54.6% of the population is engaged in agriculture and allied activities, and it contributes 17% to the country's Gross Value Added (DACFW 2016-17). But it faces different risks, uncertainties, and problems associated with growth and development. It is particularly exposed to adverse natural events, such as droughts or floods, and the economic costs of major disasters may even increase further in the future because of climate change. Nowadays, dynamic agricultural activity with higher revenue, genesis with seed production as inputs in crop production. The present study attempts to address the cost-benefit analysis of chilly seed production with different fixed and variable cost components.

The main objective of the study is to investigate the cost-benefit associated with adaptation approaches by farmers with various seed production systems expressing in monetary terms and identify the most effective tools and economics of seed production based on general information and responses of farmers (**Sh.Baranchulunn.D. Bayanjargal (IFEAMA SPSCP)**). Production of certified seed has resulted in a win-win situation for the farmers with higher yields and increased returns. The decision of the farmer on the adoption of seed production technology was positively influenced by his education, age, land holding, irrigated land, number of crops grown, and extension contacts while the family was influencing negatively. Higher yield and profitability associated with seed production can be effectively popularized among farmers, resulting in increased certified seed production. **Govind pal, Radhika channanamachery, (28 Nov 2015/16)**. Alternatively, community-based informal seed production has recently gained popularity as an alternative to the formal seed sector of disseminating new crop varieties, and farmer produced seed is readily available and is more affordable by most farmers than certified seed. **E. Katungi, (CIAT- AFRICA)**.

### Review of Literature

**(E. Katungi, 2011)** Community based informal seed production has recently gained popularity as an alternative to the formal seed sector of disseminating new crop varieties, including the common bean. This is because farmer produced seed is readily available and is more affordable by most farmers than certified seed.

**(O.O. Olayiwola, 2014)** The improvements in the functioning of commodity markets as well as the improved performance of the marketing system are now generally recognized as important strategic elements in agricultural and economic development.

**(Muhammad Tariq Iqbal Khan 2017)** The vegetable is a basic component of food security and necessary to meet the increasing food demand of the increasing population. The present study was designed to explore the cost, revenue, and modeling of revenue with different inputs in open field capsicum/bell pepper production in Punjab, Pakistan.

**(Jorwar RM, 2018)** The study revealed that the Per hectare cost of cultivation of chili at cost 'C' was highest in the large group, i.e., Rs. 184739.08 followed by medium group Rs. 181705.77 and small group Rs. 168507.96. The average yield and gross returns per hectare increased with the increase in the size of farms.

### Objectives of the Study

- To analyze the costs and benefits of chilly seed production.
- To understand the factors influencing farmers in seed production.

### Need for the Study

Agriculture is the backbone of our country, which contributes 17% to the country's Gross Value Added, and 54.6% of the population is engaged in agriculture and allied activities. Sustainable agriculture depends on quality Seed, and it is the basic and most critical input for farming. The response of all other inputs depends on the quality of seeds to a large extent. Today seed industry today is set to work with a 'farmer-centric' approach and is market-driven. In the Harapanahalli region, farming activity significantly characterized by chilly production by the farmers. Hence it is required to analyze the economic condition of farmers who produce the chilly seed in this region.

### Statement of the Problem

The oldest economic activity and occupation in the world is agriculture. The farmers faced different problems majorly finance, labor, and marketing and pricing, etc. Hence it is required to approach new crops that gain more yield, which means farmers are advised to focus on commercial crops. In this context, the present study tries to understand the role of seed production in farmers' growth and development.

### Data Sources

This present study is based on primary data as well as secondary data. The primary data means the data which does not exist - the primary data collected through the questionnaire; the questionnaire consists of nineteen questions and thirty respondents. The secondary data, in a sense, the data which is already

existed. For this purpose, the researcher refers to different journals, books, magazines, articles, papers, and also internet sources.

**Scope and Limitations of the Study**

The present study mainly focuses on seed growth in the agricultural sector. The study restricted to the Harapanahalli taluk Arasikere region only. The study provides information on the cost structure, returns, factor productivity, and allocative efficiency in the seed production of chilly. This information is very useful to the farmers, researchers, and policy makers to take suitable steps to improve the profitability of chilly seed production. The study has the following limitations.

- Due to academic work, the researcher has less time to complete the work.

- The sample size is restricted to sixty respondents only.
- The geographical area is restricted to the Harapanahalli taluk Arasikere region only.
- As the study was confined to a limited area, the results would apply to that area.

**Data Analysis and Interpretation  
Education**

The above table and graph showing that 60% of respondents have the education qualification of SSLC and below because the uneducated people search for good quality production and they need service and relationship with the company. The second-highest percentage of respondents in the boundary of PUC qualification they know less than the SSLC.

**Table 1 Demographic Profile of Seed Producers'**

Education	Fq	%	Income	Fq	%
SSLC	36	60	50000-100000	28	47
PUC	12	20	100000-200000	28	47
DEGREE	12	20	200000-300000	04	07
<b>Total</b>	<b>60</b>	<b>100</b>	<b>Total</b>	<b>60</b>	<b>100</b>
Gender	Fq	%	Age	Fq	%
Male	56	93	20-30 years	14	23
Female	04	07	30-50 years	36	60
<b>Total</b>	<b>60</b>	<b>100</b>	50-70years	10	17
<b>Source:</b> Field survey			<b>Total</b>	<b>60</b>	<b>100</b>

**Gender**

The above table and graph show that 93% of male respondents and 3% of female candidates are respondents. The male respondents are more than the female respondents because male respondents visit the land rather than the female respondents.

**Age**

The above table and graph represent that 60% of respondents fall in the age group of 30-50 years. 23%

of people in the 20-30 years 17% of people in the 50-70 years. Because young people are very passion and crazy about seed production and earning more profit. Income: The above table say that 50000-100000 and 100000-200000 of annual income people are visiting more for the land. Because they get a needed, variety of seeds are to be produced at reasonable prices. That price matches the customer budget

**Table 2 Fact sheet of Seed Producers'**

Particulars	Fq	%	Economic status	Fq	%
3000	08	13	Below poverty line	12	20
4000	42	70	Upper middle class	06	10
6000	08	13	Lower middle class	40	67
10000	02	03	High income group	02	03
<b>Total</b>	<b>60</b>	<b>100</b>	<b>Total</b>	<b>60</b>	<b>100</b>

Loan	Fq	%	Production	Fq	%
Govt Banks	06	10	Less than 30	14	23
Private Banks	54	90	More than 30	18	30
Others	00	00	50-1 quintal	28	47
<b>Total</b>	<b>60</b>	<b>100</b>	<b>Total</b>	<b>60</b>	<b>100</b>

### Production

The above table and graph show that 47% of respondents producing 50-1 quintal. Comparing with rather than 30% and 23% of respondents. Because the 47% of respondents are incurring more cost and they can return more quantity of production.

### Loan

The above table and graph showing that 90% of respondents getting financial support from private / co-operative Banks rather than Government Banks. Because they are providing subsidiaries or special offers and less rate of interest at loan given to the people. For agricultural activities.

### Economic Status

The above table and graph show that 67% of respondents lower middle class, and 20% of below poverty line 10% upper middle-class peoples are living their village.

### Selling Cost

The above table and graph shows that 13% of respondents prefer seeds Rs 3000 per kg because lower crossing examination 70% of respondents prefer Rs 4000 per kg because it coated assurance. Example.Chili.13% of respondents Rs 6000 per kg of seeds having high cost and high selling price. Example.Tomato. 3% of respondents prefer Rs 10000 per kg because of having a high cost, but it gives more profit compared to other seeds.

**Table 3 Estimated Variable Costs, Revenue and Profit of Chilly Seed Production**

Particulars	Cumulative total	Average cost
Land preparation	3,01,900	10,063 (17%)
Labor	6,08,500	20,283 (35%)
Manching	1,59,500	5,317 (09%)
Irrigation	92,250	3,075 (05%)
Fertilizer	1,68,400	5,613 (09%)
Materials	97,500	3,250 (06%)
Seed	74,500	2,483 (05%)
Plant Chemicals	1,38,500	4,617 (08%)
Seed Chemicals	1,04,000	3,467 (06%)
Total Revenue	<b>53,10,000</b>	<b>1,77,000 (100%)</b>
Total Variable Cost	<b>17,45,050</b>	<b>58,168 (32%)</b>
Total Profit	<b>35,64,950</b>	<b>1,18,832 (68%)</b>

Source: Field survey % of the total cost

### The Profitability of Farmer-Based Chilly Seed Production

Total and average cost computed as total and average revenue minus total variable costs are presented in Table 3. An average of Rs.1, 18,832, constituting 68 % of the total revenue was earned as net revenue or profit per 0.25 acre. This result

indicates that farmer-based chilly seed production is a profitable economic activity.

### Revenue from Farmer-Based Chilly Seed Production

Revenue from chilly seed production was computed as the total value of seed production

function based on the response by farmers. A mean value of **Rs. 1, 77,000 per 0.25** acre was realized from chilly seed production by farmers.

### Costs of Farmer-Based Chilly Seed Production

Table 3 shows the expenditure on materials and operations incurred by farmers in the production of chilly seed. The average variable cost of producing chilly seed was **58,168 0.25** acre.

### Findings

- Some farmers are not aware of seed production.
- Chances of occurrence getting loss.
- To develop the varieties of seeds compete in the international market.
- Different seeds have different costs.
- Organic fertilizers are best suitable for quality crops.
- 67% of respondents or farmers are middle class in economical status.
- Majorly male farmers are producing the seeds.
- Total income of the farmer from the seed production Rs.100000-200000.
- Majority of farmers getting financial support from Private and Co-Operative banks in its paying less interest.

### Suggestions

- There is a requirement to create awareness about seed production.
- Farmers have required training facilities for seed production.
- It is suggested to protect the farmers from losses in seed production by facilitating insurance.
- It is suggested that the Government need to support the farmers by providing facilities like infrastructure, irrigation, electricity, and credit, etc.
- It is suggested that the Government need to established the Seed Bank based on area coverage to encourage or to appreciate the farmers to produce more and more seed.

### Conclusion

The Indian seed improvement program is backed up by a strong crop improvement program in both the public and private sectors. Several developing and neighboring countries have benefited from quality

seed imports from India. The seed of popular or released, varieties produced by the scientific method is referred to as a quality seed. Quality seed should have the; high germination and vigor, genetically and physically pure, free from seed born disease and insect post with relatively low moisture contain. Quality seed plays an important role in maximizing the production and productivity of field crops. Seeds are one of the most important sources of innovation, particularly in resource constrained small farm environments. The primary aim of seed testing is to obtain accurate and reproducible results regarding the quality status of the seed samples submitted to the seed testing laboratories. Seed testing is determining the standards of a seed lot. Physical purity, moisture, germination thereby enabling the farming community to get quality seeds.

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