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ZERO BUDGET NATURAL FARMING IN HARYANA

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Abstract

This will allow the rancher to make decisions that are in the best interest of society. According to the results of centre meetings (as well as Khadse 2020), the farmers' mental well-being improves when they are liberated from duties and given the flexibility to shape their production systems in any manner, they see appropriate. This was found to be the case when they were given the ability to do so. As a result, ZBFN is an innovation that places an emphasis on food power and gives the people authority over horticulture, removing it from the hands of giant organizations and banks that have the potential to lock farmers into a cycle of obligation. Concepts about the effects of climate change on the natural environment the projected environmental change transformation and alleviation benefits of ZBFN are one of the primary reasons why the state government of Haryana supports this forest type. The Indian state of Haryana is subdivided into a total of thirteen regions, each of which has its own unique agro-climatic zone and varies in the amount of precipitation it receives, the quality of its soil, and its risk of being struck by cyclones. The environmental vulnerability of Haryana's agricultural sector is often associated with decreases in precipitation and increases in temperature, with the environmental vulnerability of each locality being susceptible to the anticipated consequences of environmental change, as well as the environment responsiveness and adaptable capacity of the region.

Keywords: Zero, Budget, Natural, Farming

Introduction

ZBFN is a cultivating work on upholding the regular development of yields without adding composts and pesticides or some other unfamiliar components. The Zero Budget Natural Farming (ZBFN) Program was carried out in 2015-16 by the Government of Haryana (GoAP) in response to this one-of-a-kind circumstance. The goal of the program was to improve farmers' access to government assistance and monitor the climate. Plans with zero finances assume that there will be no additional costs associated with the construction of the object being planned.

There are a number of problems associated with conventional farming approaches, including knowledge gaps, seed bank accessibility, value backing, and marketing challenges. These are just some of the problems that experts and farmers believe will continue to exist even with widespread adoption of ZBFN. On this point, all of the concerned parties are in agreement. For this purpose, it is required to conduct a comprehensive and fundamental analysis of ZBFN. In the present investigation, the primary emphasis is on determining whether or not ZBFN is capable of providing conclusive findings in a timely manner so that they may be delivered to immediate farmers and politicians. It is possible that contemporary agriculture that is dependent on synthetic materials might result in either increased production costs or decreased harvest yields. There are a variety of explanations regarding this possibility. By cultivating staple crops that provide the same harvest year after year, soil ripeness, dirt fruitlessness, soil imperativeness, groundwater, and the majority of soil beneficial microbial populations are depleted. This is because staple crops supply the same crop year after year. In the context of agricultural strategies, "zero expenditure plans" refer to strategies that either do not utilise any credit at all or very little credit, and they also do not spend any money on agricultural information sources that are accessible for commercial use. The approach of natural farming is an alternative term for farming approaches that do not include the use of chemicals and that take inspiration from traditional Indian agricultural practices. The fact that continual cultivation reveals how essential it is for plant and animal components to collaborate in order to generate soil fertility and microorganisms, which in turn helps crops stand on a stable foundation, is another way of looking at the situation. This is as a result of the fact that consistent cultivation indicates the relevance of the synergistic influence that animal and plant components have on crop foundation. In order to cultivate delicious food, owning and operating a farm takes a significant amount of self-control as well as the capacity to operate in harmony with the natural environment.

There is another term for this kind of farming, and that is "donothing farming." In this method, the farmer takes a back seat and allows nature to run its course without interference. In this kind of agriculture, cultivation, the use of material manure, and the use of chemical pesticides are not included. M. Fukuoka was the one who originally ignited interest in natural farming when it was first introduced to Japan. The results of his study shown that natural farming techniques and synthetic farming methods provide yields that are equivalent to one another. One of the most important differences is that natural agriculture operations do not result in the deterioration of soil material. In his 2016 article, Devarinti claims that continuous agriculture has the ability to preserve the fertility of soil for an extended period of time.

Objectives of the Study

1. Third, we intend to examine the relative efficiency of inorganic, organic, and integrated nutrient management systems, as well as zero-cost natural farming methods.
2. Zero Budget Natural Farming

What makes ZBFN Beneficial for India?

This is the first of a two-part article on Zero Budget Natural Farming, and in it, I claim that ZBFN provides simple practices that are further improving rancher livelihoods and that these practices may be easily implemented. There is a growing agreement among a broad range of interested parties that the agricultural industry has to place a greater focus on agroecology as the best strategy for moving ahead. The management of environmental change, the treatment of unhealthy conditions, the maintenance of parity in all aspects, the expansion of the benefits of homesteading, and the provision of nourishing food to all residents are all examples of the multiple problems that can be addressed simultaneously by agro ecology. Traditional substance or agricultural ideal models that are based on transgenic do not offer any solutions for the aforementioned concerns, despite the fact that they are entirely essential for, or responsible for, the problem. This is because traditional substances or agricultural ideal models are based on transgenics. Agroecology is a method of farming that conforms to a set of basic principles and procedures, all of which are based on the extraordinary and sophisticated processes that occur in nature. Agroecology is a method of farming that adheres to a set of fundamental principles and procedures.

In any case, the topic of ZBFN has been at the center of a contentious discussion ever since the government of Haryana made the announcement that it intends to use this strategy in order to address the challenge posed by the expansion of agroecological agriculture in the state. This news served as the impetus for what would become the beginning of the discourse. As a result of the Indian government's declaration of its support for ZBFN during the Finance Minister's Union Budget address and, more recently, at the UNCCD Conference, when the Prime Minister personally brought ZBFN to the attention of conference participants, this topic gained traction and gained momentum.

Zero Budget Natural Farming

The government of Haryana plans for the ZBFN program to further boost compensation for landless laborers and women by working with land rental and building the groundwork for open doors for off-ranch income, such as the sale of inputs. This would be accomplished by working with land rental. This might be achieved by participation in the ZBFN program. Health-related concerns over the variety of foods eaten and chemical residues detected in produce finally persuaded the Government of Haryana to increase the amount of land that is committed to natural farming (RySS 2019).

He believed that the ever-increasing expenses of outside inputs such as manures and pesticides were pushing farmers to the point of desperation and would finally lead to suicide if the situation was not remedied. The rancher will be able to break free from the chains of cash moneylenders if ZBFN is successful in its mission to assist him in achieving financial independence and being self-sufficient. RythuSadhikaraSamastha (RySS), an organization that is completely recognized by the government as not being revenue oriented, began laying the basis in 2014 for what is now known as Climate Resilient Zero Budget Natural Farming (CRZBFN). This acronym stands for Environment Resilent Zero Budget Natural Farming. It is anticipated that by the year 2024, ZBFN would cover all of the state's 8.0 million hectares of agricultural land as well as all of the state's 6 million farmers. The program's goals are to increase the prevalence of natural, chemical-free, climate-resilient agriculture and to offer small and marginal farmers with access to profitable job opportunities associated to agriculture. In addition to that, the program's objective is to raise the total number of agriculturalists.

The Reasons and Concepts That Drive the ZBFN Movement During the process of designing the ZBFN program, the Government of Haryana had a number of concepts in mind, which

are presented in this part. These concepts take into account not just the difficulties that are connected to conventional farming practices but also the financial factors to consider and the shifts that are occurring in the natural environment. Abandoning traditional methods of farming in favor of more sustainable methods. Agriculture in India has been characterized as consisting of high-yielding varieties that are packed into highly synthetic information structures ever since the start of the Green Revolution (Agoramoorthy 2008). In spite of the fact that the Green Revolution was effective in terms of boosting production, it also resulted in a number of undesirable unintended effects (Bhattacharyya et al. 2015).

Figure 1: A Haryana engineer successfully plans a zero-budget natural agricultural project.

Evidence from center meetings has demonstrated an overall dissatisfaction with farming, and a large scope review found that almost forty percent of farmers in India strive to escape farming, leading to outmigration. This is particularly the case among younger people who do not perceive farming to be a practical calling. The movement of people away from rural regions and into urban centers is having a negative impact on agricultural professions in the province, which is driving the government to take action to improve the living circumstances of farmers.

Increases in the number of men farmers migrating away from their farms and into urban regions have led to a rise in the number of female farmers caring for their families' children and other members. According to Sharma and Nayak 2019, the percentage of women in the state of Haryana who were working as unpaid family workers was much higher than the

national average of around 28%. More than half of the women in this age range in the state of Haryana. In addition, landless agricultural laborers are pressured to move since incomes are low and there is little interest in obtaining employment. This makes it difficult for them to stay in one place.

The ZBFN program's goal is not only to raise ranch remuneration; rather, it tries to solve social issues by giving the rancher with a larger degree of autonomy. This will allow the rancher to make decisions that are in the best interest of society. According to the results of centre meetings (as well as Khadse 2020), the farmers' mental well-being improves when they are liberated from duties and given the flexibility to shape their production systems in any manner, they see appropriate. This was found to be the case when they were given the ability to do so. As a result, ZBFN is an innovation that places an emphasis on food power and gives the people authority over horticulture, removing it from the hands of giant organizations and banks that have the potential to lock farmers into a cycle of obligation. concepts about the effects of climate change on the natural environment the projected environmental change transformation and alleviation benefits of ZBFN are one of the primary reasons why the state government of Haryana supports this forest type. The Indian state of Haryana is subdivided into a total of thirteen regions, each of which has its own unique agro-climatic zone and varies in the amount of precipitation it receives, the quality of its soil, and its risk of being struck by cyclones. The environmental vulnerability of Haryana's agricultural sector is often associated with decreases in precipitation and increases in temperature, with the environmental vulnerability of each locality being susceptible to the anticipated consequences of environmental change, as well as the environment responsiveness and adaptable capacity of the region.

ZBFN's Four Wheels Will Be Used in Almost

Palekar, who was presented with the Padma Shri honour, said that the "four wheels" of ZBFN are "Jiwamrita," "Bijamrita," "Mulching," and "Waaphasa." The term "jiwamrita" refers to a concoction that is made out of jaggery, beats flour, water, ranch bund mud, and cow pee and excrement (from types of cows that are indigenous to India). It is a blend that came from the past. This is not dung; rather, it is a source of around 500 billion microorganisms that are capable of transforming all of the vital nutrients that are "non-accessible" into a structure that is "accessible."

In addition, before to sowing, the seedlings are treated with bijamrita, which is a mixture of desi cow dung and urine, water, bund soil, and lime. Another component of Bijamrita is comprised of soil that has limits. There is a method known as bijamrita that may be used to cultivate seeds.

Mulching is the process of covering plants with a layer of dried straw or leaves that have fallen to the ground. The goal is to maintain a temperature around the plant roots that is between 25 and 32 degrees Celsius while also ensuring that the soil remains wet. The bacteria are able to carry out their duties as a result of this particular condition. Mulching is the process of covering plants with dry leaves that have fallen from trees. Mulching is also known as covering plants with such leaves.

Waaphasa, which literally translates to "providing water in order to maintain the appropriate humidity and air balance," is yet another approach that accomplishes the same goal as the previous way as well.

Additionally, Palekar encourages the use of the remarkable "Agniastra," "Bramhastra," and "Neemastra" advances, all of which are, once again, based on the urine and dung of desi cows. He also suggests consuming a mash that is formed from pomegranate leaves, papaya leaves, guava leaves, neem leaves, and white datura leaves in order to protect oneself from the onslaught of insects and diseases.

Additional Vital ZBFN Principles and Points to Remember

1. Intercropping is the primary method through which ZBFN earns its "Zero Budget" moniker. It does not indicate in any way that the rancher will have no expenditures; rather, it suggests that any costs will be made up for by pay from intercrops, so transforming farming into a movement with almost no financial outlay required. Palekar provides a comprehensive explanation of the yield and tree associations that work very well in the south Asian environment.

2. Bunds and contours - Palekar provides a comprehensive explanation of how to construct bunds and contours in order to save rainfall. This helps to ensure that a variety of crops are able to get the maximum amount of water feasible.

3. Various kinds of local earthworms. The use of vermicompost is something that Palekar advocates avoiding. According to him, it is typically recommended that increased natural matter led to the recovery of earthworms in neighboring deep soil.

4. Manure from dairy cows According to Palekar, the manure produced by the Bosindicus (bumped cow), which is indigenous to India, is very beneficial and has the highest concentrations of microorganisms of any European cow breed, including the Holstein. The whole ZBFN method is predicated on the India cow, which has traditionally been crucial to the way of life in India's rural areas.

ZBFN's Four Wheels Will Be Used in Almost

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Hanamantraya Babalad (2021) In the years 2019–20, this research project was begun with the purpose of comparing and evaluating the economic feasibility of traditional farming systems in the Northern Dry Zone of Karnataka with those of ZBFN system-cultivated key crops. Descriptive statistics were used to evaluate the raw data that was received from eighty farmers who were located in eight different districts in the northern desert zone of Karnataka. This study was conducted with the intention of bringing to light the major differences that exist between natural and conventional agriculture techniques. The purpose of the research was to analyse and compare the relative costs and benefits of the two systems, and the primary objective was to emphasise the essential components of each of the two systems. It was discovered that ZBFN had a lower total cost of output when compared to conventional farming practises. The ZBFN method resulted in an average yield that was, with the exception of foxtail millet, somewhat lower than that of a traditional farming system. This provides compelling proof that the ZBFN approach was successful in the development of rainfed millets. Nearly 92% of farmers who used ZBFN were able to lower the costs that were connected with farming. Statistically significant differences in yield, cultivation costs, and revenue were identified between ZBFN and traditional approaches in a variety of environments, according to the findings of the study. The 'farmer's opinion' stated that it was impossible to control pests and diseases, and the majority of farmers in ZBFN agreed with this statement. Some Particulars the production of millets is reacting well to the ZBFN system and the zero-budget natural farming method has reported significantly lower expenses of cultivation compared to conventional farming.

AnjuKanwar Khangarot (2022) In order to provide sustenance for a population that is rising at a rapid rate; there has been a propensity towards expanding agriculture on the little land that is still available on our planet. High seed rates, higher water applications for irrigation, increased usage of farm machinery by a factor of two, six times the amount of nitrogen fertiliser, four times the amount of phosphorus, and five times the amount of potassium are all components of this method. These practises will directly contribute to the

degradation of both the land and the water sources, which will have a negative impact on the crop yields of the future. As a direct consequence of this, a number of methods have surfaced that show promise as long-term alternatives to the very dependent nature of conventional farming on inputs. In light of this, the Zero-Budget Natural Farming (ZBFN) strategy, which seeks to address agricultural problems from the perspectives of both the economy and the environment, is given more credibility.

Research Methodology

Beginning in Kharif 2018 and continuing until Rabi 2019–20, the CSK HPKV, Rohtak research farm was operating. The specifics of the methods and materials that were utilised over the course of the research are detailed in this chapter.

Experiment Site

The experimental farm was situated near Rohtak in the Indian state of Haryana, with coordinates of latitude 28.895515 and longitude 76.606613. For more information, let me clarify that Rohtak, Haryana, India is located in the geographical area of India and is classified as a city. The Global Positioning System coordinates for it are 76 degrees 36 minutes 23.8068 inches east and 28 degrees 53 minutes 43.8540 inches north.

Climate

A maximum wind speed of roughly 7 metres per second is observed in Rohtak, with an average wind speed of 2.4 metres per second. From 5.3 degrees Celsius to 43.1 degrees Celsius, the temperature outside is averaging 24.6 degrees Celsius. It is estimated that the relative humidity is approximately 66%, with a range that extends from 12.8% to 99.9%. The pressure at the station runs from 983 hPa to 964 hPa, with an average of 999 hPa during the course of it. The majority of wind comes from the northwest, according to Rohtak'swindrose, which indicates that this direction accounts for 17.77% of all variations in wind direction.

Following a thorough analysis of the weekly meteorological data, it was discovered that the total amount of rainfall that occurred during the Kharif 2018 season was 2046 millimetres, but the total amount that occurred during the Kharif 2019 season was 1227 millimetres. The maximum weekly rainfall occurred during the 28th and 33rd standard weeks of Kharif 2018 and Kharif 2019, with 297.2 mm and 273.6 mm, respectively, being recorded during those weeks.

There was a steady trend in rainfall for the whole Kharif 2018 season, starting on the 23rd of the season and lasting until the 35th standard week of the agricultural season. However, compared to the previous weeks, the first few of the agricultural season—which starts on the 23rd and lasts until the 25th standard week—showed less precipitation. This is so because the season officially begins on the 23rd every year. The period from the 27th to the 36th standard week of the Kharif 2019 calendar year corresponded with the highest percentage of rainfall that was officially recorded. The first two standard weeks of this season, the 24th and 26th standard weeks, saw less precipitation than the other weeks of the agricultural season. This is due to the fact that this season's initial standard weeks fall between the 24th and 26th standard weeks.

Data Analysis

Table 1: The chemical and physical features of soil

Features of the soil	Contents	Technique used to analysis
Physical		International pipette methods
Sand (%)	34.92	
Silt (%)	36.15	
Clay (%)	27.48	
Textural class	Silty clay	
Chemical B.		
pH (1:2.5; soil: suspension of water)	5.47	The glass electrode pH metre that Jackson built in 1967 was built
Organic carbon (%)	0.70	In 1934, the quick titration method was created by Walkley and Black
C. Available nutrients (kg/ha)		
Nitrogen	230	In 1956, Subbiah and Asija's alkaline permanganate technique was published.
Phosphorus	17.64	Olsen et al. 1954 described the ammonium

		molybdate blue colour process
Potassium	168	Standard procedure for neutral ammonium acetate extraction (AOAC 1970)

Current History

An overview of the cropping history for the two years prior is presented in Table 3.2, which may be found below.

Table 2: Details of cropping history

Season	Details of cropping
Kharif 2016	Pearl millet and sorghum fertilised with phosphorus, potassium, and 120:60:40 kg nitrogen
Rabi 2016-17	Nitrogen applied at a ratio of 120:60:40 kg to ryegrass
Kharif 2017	Pearl millet and sorghum fertilised with phosphorus, potassium, and 120:60:40 kg nitrogen
Rabi 2017-18	Nitrogen applied at a ratio of 120:60:40 kg to ryegrass

Conclusions

The microbial activity and the amount of organic carbon in the soil were both favorably benefited by the organic and integrated nutrient management process. While the amount of potassium that was available rose as a result of integrated nutrient management, the amount of nitrogen and phosphorus that was accessible in the soil grew above what was initially present as a result of the application of prescribed NPK and combined nutrient management.During the course of the experiment, which lasted for two years, the suggested NPK exhibited economically better treatment in terms of net returns and net returns per rupee invested.

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