



STRATEGIC MARKETING OF BIO FERTILISERS

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Abstract

The green revolution in India brought tremendous improvement in agriculture productivity. This improvement is brought by the extensive use of chemical fertilizer in the agriculture sector. But obviously the chemical fertilizers are not environment friendly. They are responsible for water, air and soil pollution and it affects human health. Scientists have developed biofertilizers to prevent pollution and to make this world healthy for everybody in a natural way. Bio fertilizers are one of the finest modern tools for agriculture. It is a gift of our modern agricultural science. Today, Bio fertilizers have emerged as a highly potent alternative to chemical fertilizers due to their eco-friendly, easy to apply, non-toxic and cost effective nature. In addition, bio-fertilizers are commercially promising in the long run once information becomes available adequately to producers and farmers through experience and communication. Considering the social and environmental benefits the government has ample scope to intervene to set up an effective market for the bio fertilisers while encouraging private players. The private and government machinery should plan an effective strategy for the promotion of bio fertilisers.

Key Words: Bio Fertilizer, Strategic Marketing.

1. Introduction

India is an agriculture based economy. Agriculture is the back-bone of the Indian economy and hence the existence of majority of population depend on its agriculture sector. In India, agriculture sector provides food, raw materials and most importantly employment to a majority of population. Because of all these reasons, an improved and efficient agriculture is an important necessity of our economy.

The agriculture productivity was not an issue before Indian independence period. But after independence, the rise in population put pressure on agriculture sector to increase productivity, leads to traditional methods to scientific with improved seeds, chemical fertilisers, pesticides etc. The modern agriculture compelled for the heavy usage of chemicals for enhancing farm productivity. Which leads to an imbalance in the nature and environment. Now the situation is more alarming not only for the soil productivity but also with human and animal health. The major concerns in today's world are the pollution and contamination of soil by excessive and thoughtless use of chemical fertilisers, as well as their harmful effects on humans.

The concerns on health and environment have compelled governments to look for environment friendly options. Bio-fertiliser is such an option. In India the availability of chemical fertilizers at the farm level have been ensured mainly through imports and subsidies. The use of Bio fertilizers helps to enhance agricultural productivity without harming the environment and maintain soil health in the long run. Today, Bio fertilizers have emerged as a highly potent alternative to chemical fertilizers due to their eco-friendly, easy to apply, non-toxic and cost effective nature. Also, they make nutrients that are naturally abundant in soil or atmosphere, usable for plants and act as supplements to agrochemicals. In addition, bio-fertilizers are commercially promising in the long run once information becomes available adequately to producers and farmers through experience and communication. There is an emerging bio fertilizer market in India.

2. Objectives of the study

- To study the strategic marketing of bio-fertilizers in the Indian agriculture sector.
- To study the government initiatives in the promotion of bio fertilizers.

3. Research methodology

The methodology used for this study is exploratory in nature and is based on secondary information.

4. Review of literature

4.1 Bio fertilizer

A bio fertilizer is a substance which contains living micro-organisms which, when applied to seeds, plant surfaces, soil or the interior of the plant and promotes growth by increasing the supply or availability of primary nutrients to the host plant. Bio-fertilisers are the low cost source of plant nutrients, eco-friendly and have supplementary role with chemical fertilizers. In India the first study on legume rhizobium symbiosis was conducted by N.V Joshi and the first commercial production started as early



as 1956. However the Ministry of Agriculture under the Ninth Plan initiated the real effort to popularize and promote the input with the setting up of the National Project on Development and Use of Bio fertilizers (NPDB). Commonly explored Bio fertilizers in India are mentioned below along with some salient features.

4.1.1 Rhizobium (RHZ): These inoculants are known for their ability to fix atmospheric nitrogen in symbiotic association with plants forming nodules in roots. RHZ are however limited by their specificity and only certain plants are benefited from this symbiosis.

4.1.2 Azotobacter (AZT): This has been found beneficial to a wide array of crops covering cereals, vegetables, cotton and sugarcane. It is free living and non-symbiotic nitrogen fixing organism that also produces certain substances good for the growth of plants and antibodies that suppress many root pathogens.

4.1.3 Azospirillum (AZS): This is also a nitrogen-fixing micro-organism beneficial for non-leguminous plants. Like AZT, the benefits transcend nitrogen enrichment through production of growth promoting substances.

4.1.4 Blue green Algae (BGA) and Azolla: BGA are photosynthetic nitrogen fixers and are free living. They are found in abundance in India. They too add growth-promoting substances including vitamin B-12 improve the soil's aeration and water holding capacity and add to bio mass when decomposed after life cycle. Azolla is an aquatic fern found in small and shallow water bodies and in rice fields. It has symbiotic relation with BGA and can help rice or other crops through dual cropping or green manuring of soil.

4.1.5 Phosphate solubilising (PSB) / mobilizing bio fertilizer: Phosphorus, both native in soil and applied in inorganic fertilizers becomes mostly unavailable to crops because of its low levels of mobility and solubility and its tendency to become fixed in soil. The PSB are life forms that can help in improving phosphate uptake of plants in different ways.

4.2 Strategic Marketing

“Strategic marketing as seen as a process consisting of analysing environmental, market competitive and business factors affecting the corporation and its business units, identifying market opportunities and threats and forecasting future trends in business areas of interest for the enterprise, and participating in setting objectives and formulating corporate and business unit strategies. Selecting market target strategies for the product markets in each business unit, establishing marketing objectives as well as developing, implementing and managing the marketing program positioning strategies in order to meet market target needs”. (Drucker, 1973). “Strategic marketing means looking at the whole of a company's portfolio of products and markets, and managing the portfolio to achieve the company's overall goals”. (Jain, 2000)

5. Government intervention in bio fertilizer market

To attain production targets, Government of India implemented a central sector scheme called National Project on Development and use of Bio fertilizers (NPDB) during the ninth plan for the production, distribution and promotion of bio fertilizers. Main objectives of this project are as following:

- Production and distribution of Bio fertilizers (BFs)
- Developing Standards for different BFs and Quality control
- Releasing of grants for setting up BF units
- Training and publicity

A national bio fertilizer development centre was established at Ghaziabad as a subordinate office of the department of agriculture and cooperation with six regional centers. The purpose of the scheme covered organization of training courses for extension workers and field demonstrations and providing quality control services. Different state governments also provide subsidies sometimes up to fifty percent of the sales realization but the manner of subsidization is rather unsystematic. In many cases the discrimination and manipulation in subsidizing lead to a lot of intra industry variation in prices. The government also plays a dominant part in marketing Bio fertilizers in three possible channels:

- State government via district level officers and village level workers to farmers.
- State marketing federation via cooperative bodies to farmers.
- State agro-industries corporations via agro service center to farmers.

The producers are however free to sell through their own sales network or through market, (i.e., wholesalers and private dealers). Some of the other efforts of government is promoting Bio fertilizers through various schemes of National Mission of



Sustainable Development (NMSA)/ParamparagatKrishiVikasYojana, RashtriyaKrishiVikasYojana (RKVY) and National Mission on Oilseeds and Oil Palm (NMOOP) and Indian Council of Agricultural Sciences (ICAR).

6. Marketing challenges in bio fertilizer business

The Bio fertilizers have not been accepted by the farmers completely till now. Some of the reasons for the low acceptance of bio fertilizer are given below. This is also a challenge to the marketing of bio-fertilisers.

Marketing challenges

- Bio fertilizers are live micro-organisms which die in case of high temperature.
- The shelf life of bio fertilizer is limited to 6-12 months in powder form.
- The Bio fertilizers are used before sowing and delay in dispatches leads to inventory carry over and expiry of product.
- Some of the Bio fertilizers are crop specific as well as location specific and therefore its efficacy does not remain same at different locations due to difference in agro-climatic conditions.
- The change in cropping pattern by farmers also adversely affects the sales.
- Supply of sub-standard or spurious materials by some of the manufacturers also adversely affects the credibility of the bio fertilizers, being a new product.
- Some firms are selling organic manures as bio fertilizers. Some organizations mention shelf life as two years/one year despite a norm of maximum 3- 6 months.
- Lack of awareness of the farmers regarding benefits of bio fertilizer.
- There is no magic effect of bio fertilizer& its impact is not visible in standing crop and therefore farmer is not convinced with the benefits of bio fertilizer use.

7. Strategic marketing

Strategic Marketing is the identification of one or more sustainable advantages a firm has in the markets it serves, and allocation of resources to exploit them. Strategic marketing is a process that can allow an organization to concentrate its limited resources on the greatest opportunities to increase sales and achieve a sustainable competitive advantage. Some of the marketing strategies as suggested below may work strongly in the marketing of bio-fertilisers.

7.1 Market segmentation

The process of defining and subdividing a large homogenous market into clearly identifiable segments having similar needs, wants, or demand characteristics. Its objective is to design a marketing mix that precisely matches the expectations of customers in the targeted segment.

The bio fertilizer market can be segmented by

- Specific crop grower (Fruits/ Vegetable/ Pulses/Sugarcane/Cereals).
- Institutional buyers (Tea/ Coffee/ cotton/ oilseeds/pulses federations & research-farms, Agro-industries etc.).
- The customer size (major/minor).
- Geographical location- divides the market into rural, suburban, and urban market segments.

Once the market is segmented, it is important to 'target' the market & concentrate on the most profitable one.

7.2 Product positioning

Product positioning is a marketing strategy that aims to make a brand occupy a distinct position, relating to competing brands in the mind of the customer. Companies apply this strategy either by emphasizing the distinguishing features of their brand or they may try to create a suitable image through advertising. Positioning is not what one does to a product; rather it is what one does to the mind of a prospective customer. Thus, it is important to position the Bio fertilizer products in the mind of the prospective customers, i.e. how he perceives the product. The appropriate 'USP' (Unique Selling Proposition) needs to be identified & propagated widely, For example: (a) Bio fertilizer can contribute to long-term improvement in soil health and quality. (b) Bio fertilizer helps to "Save cost through reduced dosage of chemical fertilizers" (c) Bio fertilizer "Improves resistance power against disease" etc. These advantages of bio-fertilisers should be appropriately used by the marketer to position the product.

7.3 Pricing

Rural markets are price sensitive in nature. Bio fertilizers are relatively a new product to farmers, and it needs more 'PUSH' in view of lack of 'PULL'. The companies generally determine price of a product on the basis of marketing objectives. Here, it is important to understand how bio fertilizer is perceived in terms of value offered for money spent by customers. The Bio fertilizers have 'derived demand' and so far, it has not really popular among farmers. Unless, farmers are convinced about substantial savings in cost of production through reduced usage of chemical fertilizers & getting similar yield, probably bio fertilizer manufacturers will not be able to apply "Pricing strategies".



7.4 Sales and Usage Promotion

There is a great need to promote the product, both from the point of view of sales as well as usage. The channel members i.e. dealer/ distributors need to be motivated by offering them tangible benefits/ incentives linking sales targets, such as “ Free family tour, Gifts etc.” Similarly, consumer also needs to be attracted by offering them coupons, premiums, contests, buying allowances etc. based on customer characteristics/ buying behaviour. The progressive farmers/ village leaders besides dealers may also be identified for the purpose of conducting demonstrations and should be appropriately compensated.

7.5 Field Demonstration

The farmers do what they see because ‘Seeing is believing’ and therefore agriculture field demonstration are very effective in promoting bio fertilizer usage. The producers may collaborate their efforts on this because Bio fertilizers are new and it is very crucial to show the impact of bio fertilizer usage to farmers and educate them the effectiveness of bio-fertilisers. Therefore it is crucial to develop a demonstration farm jointly, at different locations, which could be shown to farmers at different crop stages.

7.6 Product modification and introduction of innovative products.

The new product development like liquid bio fertilizer has overcome some of the limitations of bio-fertilisers. Modification from “Powder form” to “Liquid form”, which have tremendous superior benefits. The basic need of the modern strategic marketing is to regularly keep a track of the consumers behaviour and adapt immediately to the requirements or the benefits sought by the consumers. The modification of Bio fertilizers from powder form to liquid form is such an adaptation. The Bio fertilizers in powder form had several constraints, as discussed above, which could be overcome to a great extent by developing liquid bio fertilizers.

However, the product modification as “Liquid form” has overcome few limitations and has provided opportunities for marketers. Benefits of switching over to liquid Bio fertilizers are given below.

- Longer Shelf life to the extent of 12 to 24 months
- No Contamination
- No effect of high temperature as tolerant up to 45 degree celcius without any property losses
- Easy identification by typical fermented smell
- Cost saving on carrier material, pulverization, neutralization, sterilization, packing and transport.
- Quality control protocols are easy and quick.
- Better survival on seeds and soil.
- Very easy to use by the farmer
- Dosage is 10 times less than powder based bio fertilizers
- High Commercial revenues
- High Export potential

7.7 Marketing linkages

The marketing linkages with technology providers like “Drip Irrigation” producers may be initiated as liquid Bio fertilizers have got tremendous potential as its application through this technology. Similarly, the tie-up with export oriented fruits; vegetables, tea and flower growers could be undertaken as the organic products are being preferred by this segment due to compulsion of importing countries condition of permissible limits of chemical residues in the produce. There are some states like Sikkim and Utrakhand, which have been declared as “Organic States” and therefore agreement may be signed with their department of agriculture, state agriculture university for promoting Bio fertilizers usage. These type of marketing linkages help in the popularisation of Bio fertilizers among customers.

8. Conclusion

In India green revolution facilitates the use of chemical fertilizers in large quantities. It boosted the agriculture output per hector in most cases. But the success of industrial agriculture and the green revolution in recent decades is masked by lot of problems. It affects the natural resources and human health as well as agricultural productivity in the long term. The concerns on health and environment have compelled governments to look for environment-friendly options. Bio fertilizer is such an option. The use of Bio fertilizers help to enhance agricultural productivity without harming the environment and maintain soil health in the long run. Today, Bio fertilizers have emerged as a highly potent alternative to chemical fertilizers due to their eco-friendly, easy to apply, non-toxic and cost effective nature. Also, they make nutrients that are naturally abundant in soil or atmosphere, usable for plants and act as supplements to agrochemicals. Bio-fertilizer market is at a nascent stage now. This is because of lack of awareness of the long term benefits of bio-fertiliser usage. This can be changed by an effective strategic marketing initiative



from the bio-fertiliser companies. Once information becomes available adequately to producers and farmers through experience and communication, farmers will use bio-fertiliser extensively.

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