

Developing a standardized motivational index to measure the incentive and disincentive factor in organic farming

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ABSTRACT

An index may be defined as a technique of totalling or reducing a single composite series datum on a number of distinct but related variables expressed in different units of measurement. In other words the term index is defined as the numerical scale used to compare variables with one another. A study was designed to develop an index to measure the incentive and disincentive factors of organic vegetable farmers in Coimbatore and Erode districts of Tamil Nadu. The study was conducted on 180 organic farmers with farming background. Relevancy weightage score was used to develop the index. The finalized index comprised of nine indicators. The motivational index thus developed was standardized for administration

Keywords: Motivational index; organic farming; farmers

INTRODUCTION

An index may be defined as a technique of totalling or reducing a single composite series datum on a number of distinct but related variables expressed in different units of measurement (Hooda 2001). The motivational index (MI) brings together a group of indicators related to the incentive and disincentive factors in organic farming.

METHODOLOGY

The study was done on the organic farmers in Coimbatore and Erode districts

of Tamil Nadu and this paper describes the development of motivational index (MI) in these districts. Relevancy weightage score was used to develop the index which comprised fifteen indicators identified based on judges' opinion considering the relevancy score obtained by each of the indicator; nine indicators having the score of more than 0.76 were selected.

RESULTS and DISCUSSION

Motivational index(MI)

In this study motivational index has been operationalised as the extent to which

the existence of selected indicators was perceived by the respondents at a given point of time. An attempt has been made to measure the incentive and disincentive factors in organic farming from the farmers by taking into consideration of all the indicators. The indicators were identified by reviewing the literature and as quoted by various authors. The detailed procedure adopted has been presented hereunder:

Identification and scrutiny of indicators

Identification of indicators in developing a standardized motivational index to measure the incentive and disincentive factors in organic farming was carried out through detailed analysis of literature. Further scrutiny was done by discussion with extension experts from the Department of Agricultural Extension and Rural Sociology of TNAU and Department of Extension Education of Gandhigram Rural University. Based on the preliminary discussion fifteen motivational indicators were selected.

Relevancy rating of the indicators

The final inventory of indicators was

subjected to expert opinions. The experts or judges were from the cadres of teaching faculty in extension discipline of TNAU and Gandhigram Rural University. The experts were requested to specify whether each of the identified indicators were relevant and suitable for inclusion in motivational index. Their responses were obtained on a three point continuum viz 'Most relevant', 'Relevant' and 'Less relevant' frequencies with scoring pattern as 3, 2 and 1 respectively.

Considering relevancy weightage, the indicators were screened for their relevancy. Accordingly indicators having relevancy weightage of more than 0.76 were considered for inclusion in motivational index. Using this procedure, fifteen components were selected under motivational index.

The responses received from the judges were analysed and the relevancy weightage (RW) of i^{th} indicator (RW_i) was worked out by using the following formula:

$$\text{Relevancy weightage (RW)} = \frac{(\text{Most relevant} * 3) + (\text{Relevant} * 2) + (\text{Less relevant} * 1)}{\text{Maximum possible score}}$$

The selected indicators with their relevancy weightage are presented in Table 1.

Considering the average of relevancy weightage scores (0.76) the components were

screened for their relevancy. Accordingly components having relevancy weightage of more than 0.76 were considered. Using this process nine indicators viz financial rewards, ease and security, autonomy, recognition, affiliation, achievement,

Table 1. Selected motivational indicators with their relevancy weightage

S/N	Indicator	Relative weightage score
1.	Financial rewards	0.88
2.	Personal growth	0.63
3.	Ease and security	0.92
4.	Authority and power	0.63
5.	Challenges	0.68
6.	Recognition	0.87
7.	Commercial outlook	0.73
8.	Affiliation	0.79
9.	Personal principles	0.66
10.	Level of activity	0.63
11.	Achievement	0.76
12.	Creativity	0.81
13.	Autonomy	0.84
14.	Intrinsic motivation	0.86
15.	Extrinsic motivation	0.78
	Average	0.76

creativity, intrinsic motivation and extrinsic motivation having more than 0.76 relevancy weightage scores were selected for the study. Followed by identification of major indicators of motivational index, statements were identified for each of the selected major indicator.

Selection of statements

Under each major indicator the statements were framed based on the perusal of literature and discussion with experts. The statements were edited based on fourteen criteria as suggested by Edwards (1969). These statements were then subjected to scrutiny by an expert panel of judges to determine the relevancy. For this purpose the statements were given to a panel of 50 judges who were requested to indicate the appropriateness (relevancy)

of each statement for inclusion in the scale. The responses were obtained on three point continuum viz 'Most relevant', 'Relevant' and 'Less relevant' with scores of 3, 2 and 1 respectively. Based on judges responses the relevancy weightage was worked out for each of the statements by using the formula stated above. The statements having relevancy weightage of 0.76 and above were selected.

Procedure for development of motivational index (MI)

The finalised schedule with nine major indicators and their respective statements were administered to the respondents. The respondents were asked to put forth their choice. The scores were given based on measurement and the scoring procedure developed by Anamica

(2013). The respondents were asked to give their responses based on a three point continuum viz 'Agree' (A), 'Undecided' (UD) and 'Disagree' (D) with scores of 3, 2 and 1 respectively.

Quantification of indicators

Each indicator was measured by means of scoring procedure developed for the study. To evolve a composite motivational index (CMI) and to derive meaningful conclusions, separate index was developed for each indicator. The procedure followed by Anamica (2013) was adopted with necessary modification as suited for the study.

The detailed procedure of quantification of each indicator is furnished below:

Financial reward index (FRI): Financial reward index has been operationalised as organic farmers' expectation on the financial motivation which occurs from direct or indirect monetary benefits. The financial reward index was worked out by using the following formula:

$$FRI = SSFR_{xi} / TSFR_{yi}$$

where FRI= Financial reward index, SSFR_{xi}= Score secured by an organic vegetable farmer on financial reward, TSFR_{yi}= Total score for an organic vegetable farmer on financial reward

Thus calculated FRI score was used for further analysis.

Ease and security index (ESI): Ease and security has been operationalised as organic farmers' expectation of having a risk free livelihood while practicing agriculture as his/her profession. The ESI was worked out by using the following formula:

$$ESI = SSES_{xi} / TSES_{yi}$$

where ESI= Ease and security index, SSES_{xi}= Score secured by an organic vegetable farmer on ease and security, TSES_{yi}= Total score for an organic vegetable farmer on ease and security

Thus calculated ESI score was used for further analysis.

Recognition index (RI): Recognition index has been operationalised as one of the most important non-monetary motivators for organic farmers and it is very helpful in order to materialize other important motivators such as self-confidence, self-reliance etc. The RI was worked out by adopting the following formula:

$$RI = SSR_{xi} / TSR_{yi}$$

where RI = Recognition index, SSR_{xi}= Score secured by an organic vegetable farmer on recognition, TSR_{yi}= Total score for an organic vegetable farmer on recognition

Thus calculated RI score was used for further analysis.

Affiliation index (AFI): Affiliation index has been operationalised as the strong desire of organic farmers' for the approval of new practices or the social acceptance among the farming community. The AFI was worked out by using the following formula:

$$AFI = \text{SSAF } x_i / \text{TSAF } y_i$$

where AFI= Affiliation index, SSAF x_i = Score secured by an organic vegetable farmer on affiliation, TSAF y_i = Total score for an organic vegetable farmer on affiliation

Thus calculated AFI score was used for further analysis.

Achievement index (ACI): Achievement index has been operationalised as organic farmers' achievement of the winning attitude and focus on the implementation of organic farming practices for learning, education and training in order to stimulate motivation. The ACI was worked out by using the following formula:

$$ACI = \text{SSAC } x_i / \text{TSAC } y_i$$

where ACI= Achievement index, SSAC x_i = Score secured by an organic vegetable farmer on achievement, TSAC y_i = Total score for an organic vegetable farmer on achievement

Thus calculated ACI score was used for further analysis.

Creativity index (CI): Creativity has been operationalised as organic farmers' ability

to appraise and sense problems along with openness to divergent and innovative thinking. The CI was worked out by using the following formula:

$$CI = \text{SSC } x_i / \text{TSC } y_i$$

where CI= Creativity index, SSC x_i = Score secured by an organic vegetable farmer on creativity, TSC y_i = Total score for an organic vegetable farmer on creativity

Thus calculated CI score was used for further analysis.

Autonomy index (AI): Autonomy index has been operationalised as organic farmers' expectation of attaining self-sufficiency rather than working under somebody. The AI was worked out by using the following formula:

$$AI = \text{SSA } x_i / \text{TSA } y_i$$

where AI= Autonomy index, SSA x_i = Score secured by an organic vegetable farmer on autonomy, TSA y_i = Total score for an organic vegetable farmer on autonomy

Thus calculated AI score was used for further analysis.

Intrinsic motivation index (IMI): Intrinsic motivation has been operationalised as organic farmers' expectation that they will be taking some action for the sake of enjoyment or the satisfaction of what they receive. The motivation for acting can be found in the action itself and not in some external force

(ie a reward or outcome). The IMI was worked out by using the following formula:

$$\text{IMI} = \text{SSIM } x_i / \text{TSIM } y_i$$

where IMI= Intrinsic motivation index, SSIM x_i = Score secured by an organic vegetable farmer on Intrinsic motivation, TSIM y_i = Total score for an organic vegetable farmer on intrinsic motivation

Thus calculated IMI score was used for further analysis.

Extrinsic motivation index (EMI):

Extrinsic motivation has been operationalised as organic farmers' expectation to take some action in order to obtain a reward or outcome. Instead of doing something farmers who are extrinsically motivated they act based on what they receive as a result. They are not concerned with the action itself; they are only concerned with the resulting rewards.

The EMI was worked out by using the following formula:

$$\text{EMI} = \text{SSEM } x_i / \text{TSEM } y_i$$

where EMI = Extrinsic motivation index, SSEM x_i = Score secured by an organic vegetable farmer on extrinsic motivation, TSEM y_i = Total score for an organic vegetable farmer on extrinsic motivation

Thus calculated EMI score was used for further analysis.

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Received: 2.3.2016

Accepted: 5.5.2016