

## Marketing of Farm Produce, Relevance, Consumption and Statutory Tagging “Geographical Indication” (GI)- An Empirical Review

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### Abstract

An important survey report published by Indian Council for Research on International Economic Relations (ICRIER) recorded that the consumption of fruits and vegetables in the younger generation (18-25 years of age) in terms of nutritional value is lesser than that of older people primarily due to life-style choices and extended working hours. This paper aims to seek and explore relevant research reports and published literature that encompass worldwide information in the area of marketing of vegetables and Geographical Indication (GI's) Agriculture Products. The motivation behind the study is the outcome of a Focused Group Discussion of small farmers engaged in the cultivation of 'Malabar Pepper' a Geographical Indication (GI) Product grown in 'Koppa village' (Six villages, 600 Households, Koppa Dist Census Report, 2011), situated on the South West Coast line of India in the state of Karnataka. The categorization of literature has been used to draw key research questions focused towards marketing of vegetables in general and Geographically Developed Agriculture Products in particular. This manuscript derives a scope for the amelioration of marketing strategies that comprise ways to reduce health care costs by the promulgation of a steady nutritional input by vegetable(s) consumption. Empirical evidence corroborated that consumption of vegetables and fruits are a necessary element of a healthy diet and this is lower than the World Health Organization recommendation(s) on daily servings. Marketing strategies targeted towards consumer segments on the basis of nutritional value and health benefits derived out of vegetable consumption is the gap in the literature that has been profound and the manuscript raised important research questions that can serve the purpose of scholarly debate and possibly improve the nutritional value of the younger generation and reinforce their human immune system against possible illnesses.

**Keywords:** Geographical indication; Geographically developed agriculture products; Territorial speciality goods; Consumer preferences towards vegetables.

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### Introduction

This study is motivated to assist the small group of exclusive farmers in 'Kodagu village' with GPS coordinates of 13° 20' 27.1716" N and 74° 44' 31.7112" E., who grow 'Malabar Pepper', a unique variety of "Piper Nigrum", popular for its taste in the local region.

'Malabar Pepper', as exclusively as it comes, is grown in Karnataka's Kodagu area recorded for over 500 years now, attracts many a counterparty to the place for purchase. Grown in a limited territory of only approx. 60 acres between a sea-interface and a small stream at Kodagu village, a place named after the Spice. After securing the GI tag

for this crop in 2011, farmers are now engaged in ameliorating the productivity and methods of cultivation.

The Indian Government drafted a specific legislation encompassing the Geographical Indications (GI) of Products (the Registration and Protection) Act in 1999, which came into force in 2003. A separate registrar of firm(s) section has been created for the sake of operationalization of the same. The Appellate for Intellectual Property Issues would extend jurisprudence over the appeals to the Registrar for Geographical Indications. The exclusivity is extended to all goods thus originating from earmarked territories.

As an initial step towards this exciting task of social outreach, a comprehensive literature review is completed for the variables chosen as the complete representation of the dynamics in the segment of perishable goods marketing segment referencing exclusive crops and GI tagged products.

**Literature review**

**Pepper consumption and human health: A global overview**

Consumption of pepper along with vegetables and fruits in India is abysmally low in the middle and high-income groups in India.

In India, the intake of spices, fruits and vegetables among the younger generation is lower than the recommendation of five servings a day by the World Health Organization. This study asserts that, lower nutritional intake and incorrect food choice have been the problem associated with Spices, fruits and vegetable consumption in India. A study conducted by McKinsey & Company reveals that, if the Indian Economy grows by 7.3 percent between 2005 and 2025, the share of the middle-income group will increase from 5 percent to 41 percent during the same period and this group will drive the consumption pattern, moving forward [1]. The task of increasing consumption of fruits and vegetables, keeping in mind the requirement of nutritional intake leading to health benefits can be achieved through a well-designed marketing strategy focused on awareness and promotion. Strategy formulation for vegetable consumption is [2] programmed at a time when the Fiscal Policy of the Government of India 2015-20 is focusing on a well-thought marketing plan for Geographical Indication (GI) products. From the production side, small and marginal farmers in India hardly produce for the market.

The net result is that agriculture depends on big farmers and the agricultural goods are inadequate in relation to demand. Thus, small and marginal farmers do not get remunerative price for their produce. Spices and Vegetables play a significant role in adding nutritional value, especially vitamins. Delays between harvest and consumption and increased processing time between harvest and consumption can result in loss of flavor and nutrition [3]. Positive effect on health with regular consumption of vegetable-rich diet is an undeniable fact. The presence of Phytonutriceuticals in vegetables protects the human body from several chronic diseases. The nutritional value present in vegetables as understood by the consumers along with a moderate price of vegetables may encourage enhanced consumption thereby conferring a marketing incentive to plant breeding [4].

A total of 4357 chosen with prior approval [5] and homogeneous sample aged between 18 and 64 were selected using Delphi Method. The individualistic gain in mass and Body Weight

Index in men was about 1.79 kilos and 0.72 kilos/m<sup>2</sup> as segregated into a fifth of the quartile for nutrition intake as related to the group in the first quartile who measured a decent 3.68 kilos for mass gain 1.47 kilos/m<sup>2</sup> for BWI improvement). An improvement in FV intake by 104 ingested grams was related to a 209 grams' loss in mass (B ¼ = 2.12) at a 95 per cent confidence interval [CI], (3.33, 0.87, P < 0.001) and [6] a reduction in BWI by 0.92 kilos per m<sup>2</sup> (B ¼ = 0.93) at a 95 per cent CI, 1.34, 0.46, P < 0.001) in males; and a 139 grams' weight loss (B ¼ = 0.14) at a 95 per cent CI, 0.96, 0.68, P ¼ = 0.73) and a reduction in BWI by 0.39 kilos per m<sup>2</sup> BWI (B ¼ = 0.31; 95 per cent CI, 0.62, 0.05, P ¼ = 0.12) in females.

**Table 1:** Linear Regression (Multiple Variables) determining the relation of ingested FV and gained mass as a factor of Body Mass Index (N=4357).

Mass Attained				Body Mass Index		
β=95 percent CI				β=95 percent CI		
<b>Male</b>						
M <sub>1</sub>	-2	(-3,-1)	δ<0.002	-0.87	(-1.33,-0.41)	δ<0.001
M <sub>2</sub>	-2	(-3,-1)	δ<0.001	-0.92	(-1.30,-0.30)	δ<0.001
M <sub>3</sub>	-2	(-3,-1)	δ<0.001	0.93	(-1.35,-0.45)	δ<0.001
<b>Female</b>						
M <sub>1</sub>	-0.05	(-1,-1)	δ<0.909	-0.23	(-0.57,0.12)	0.118
M <sub>2</sub>	-0.1	(-1,-1)	δ<0.772	-0.27	(-0.63,0.08)	0.117
M <sub>3</sub>	-0.1	(-1,-1)	δ<0.741	-0.31	(-.064,0.05)	0.105

Knowledge about the nutritional and health benefits of the consumption of fruits and vegetables has a significant association with the level of education [7]. Knowledge of nutritional information and health benefits of fruits and vegetable consumption has no association with study location and gender. Knowledge of nutritional information and health benefits increased as the level of education increased. Higher educational attainment resulted in more dietary knowledge among consumers.

Since education appears to have a positive influence on the knowledge and rate of vegetable consumption, it is [8] desired to have nutritional education programs. There is a need to educate consumers to increase the rate of vegetable consumption by mass media like radio and television and more actions by health workers to reinforce the patterns of vegetable consumption [9]. In hypercholesterolemia patients, spices mixed with eggplant extracts significantly reduced weight, plasma cholesterol levels, and aortic cholesterol [10]. Infusion of the extracts of eggplant results in lowering serum lipid levels. 38 no.'s hypercholesterolemic human volunteers were induced with eggplant juice extracts for 5 weeks. The results indicated that eggplant [Solanum Melongena] infusion had a modest and transitory effect to significantly reduce the level of blood cholesterol [11].

**Methods and discussion**

**Consumers needs and motives towards a purchase decision**

Consumer prefers different purchase points for vegetables because of their personal differences in demographic, socio-economic and socio-cultural characteristics [12]. Consumers express significantly different views on various product attributes [1,8]. The purchase patterns of each cluster will be dif-

ferent from the other cluster and therefore different marketing strategies should be applied to market vegetables for each cluster [13]. Behavior significantly differs with the level of education, appearance of vegetables at the point of sale and hygienic conditions at the store. With the knowledge of factors that influence [6] consumer purchase behavior, the trader is able to segment the consumers based on buying characteristics of different income groups [14]. Although many consumers are aware of the positive health effects of fruit and vegetable consumption, the intake is well below the WHO recommendations of 400 grams of fruits and vegetables or 5 servings per day [15].

**Marketing strategies towards vegetable consumption**

The marketers can design an integrated marketing strategy based on price and brand type for locally grown agricultural produce [16]. The important factors that determine the consumption of locally grown agricultural products are pricing, brand type, origin mark and caliber type. The integrated marketing strategy is designed using the brand of the grower and the organic nature of the product to stimulate rural demand potential. The degree of competition prevailing in the market or concentration of market power was determined and analyzed using the Lorenge coefficient of inequality [17]. Competition in the market benefits the consumer as vegetables are sold at fair prices due to the absence of market power in the hands of a big few. Consumer segments can be distinctly identified based on causal factors rather than descriptive factors. He observed that the benefits that the consumers seek from their purchase are the basic reason for the existence of markets [18]. The study revealed that the sellers selling their produce through organized retailers benefit by way of higher prices than that offered by the local market.

**Supply chain models in food marketing**

Ambiance inside the store, good quality food products quality of service offered and promotional offers are the attributes that shoppers seek when they enter the supermarket [19]. Participation of organized retail in the supply chain is the way forward to bring remunerative prices for farmer. “Temporal variability of a protection index was presented by [20] and has adopted the method of

$$PII_{a,t} = \frac{\sum_{rural} (e_{l,y} * V_{l,y})}{V_{a,t}} \quad [1]$$

where the  $e_{l,y}$  represents the territory where the GI is produced,  $V_{l,y}$  represents the village where the GI is produced (organically) and  $V_{a,t}$  is the total villages where the GI’s are produced (heterogeneous).

The causal association amongst the GI policy personnel, the farmer(s) in a heuristic local rural area like “Udupi” was modelled in the lines of a “directed acyclic graph” [DAG]. DAG’s are illustrations primarily drafted for epidemiological area to ascertain the degree of relations that a researcher can operate from.

$$O_{e,i} = \beta_e + \delta V_{e,i} + \rho V_{e,i} + \gamma i + \sum \alpha \mu_{e,i} + r_{e,i} \quad [2]$$

where  $e_{l,y}$  is the outcome,  $V_{l,y}$  is an individual specific intercept,  $V_{a,t}$  is the intervention variable,  $i$  is a time dummy,  $\mu_{e,i}$  represents other independent variables, and  $r_{e,i}$  is an error term.

The iteration represents a causal analysis with  $i$  as the time span of study, heterogeneous of the selected parameter. The derived model is equivalent to factors derived by incorporating a dummy character into each village selected by the equation. In the older model with a selection and iteration of the dummy character for value of “unity”, for the temporal analysis and “Null” for monitoring the  $\delta$  characteristic, linked with the interaction and iteration of  $V_{e,i}$  and the time dummy characteristic  $i$ , tabulates the expected impact. In this case the factor can take various connotations as we work with binary factors. It can be derived that in the method for the  $\mu_{e,i}$  each village the  $\delta$  factor can be derived by

$$\delta = \frac{L\left(O_{e1} - O_{e0} / V_e = V_{e1}\right) - L\left(O_{e1} - O_{e0} / V_e = V_{e0}\right)}{V_{e1} - V_{e0}} \quad [3]$$

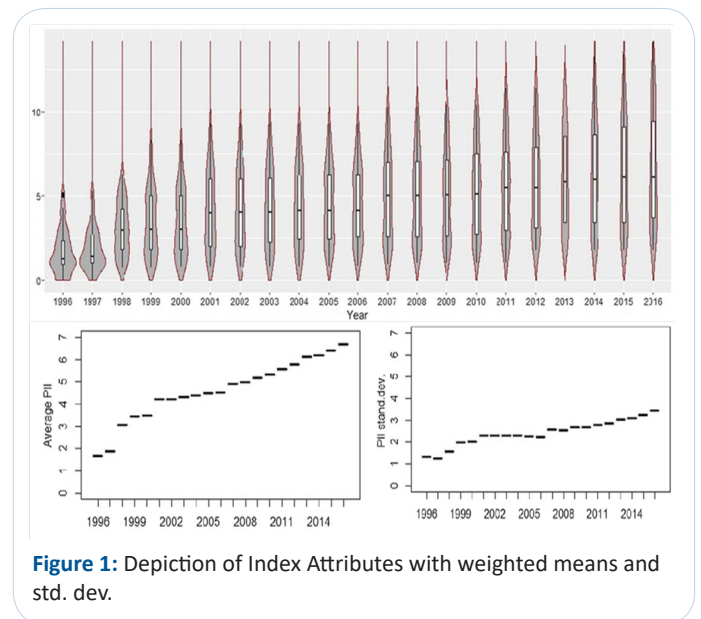


Figure 1: Depiction of Index Attributes with weighted means and std. dev.

Through a strong Farmers education program, the farmers need to be educated on how to use cold storage facility [21]. They also need to be educated on the post-harvest operations before the use of cold storage [22]. Cold storage issues, fragmentation, poor infrastructure, farmer’s knowledge and awareness [23], transportation, market information are some of the issues affecting the supply chain of fruits and [24] vegetables in India [25]. Long distance transportation of fruits and vegetables results in wastages. A large percentage of the vegetables and fruits are sold in theunorganized market [18].

**Marketing strategies - Geographical indication [GI] products**

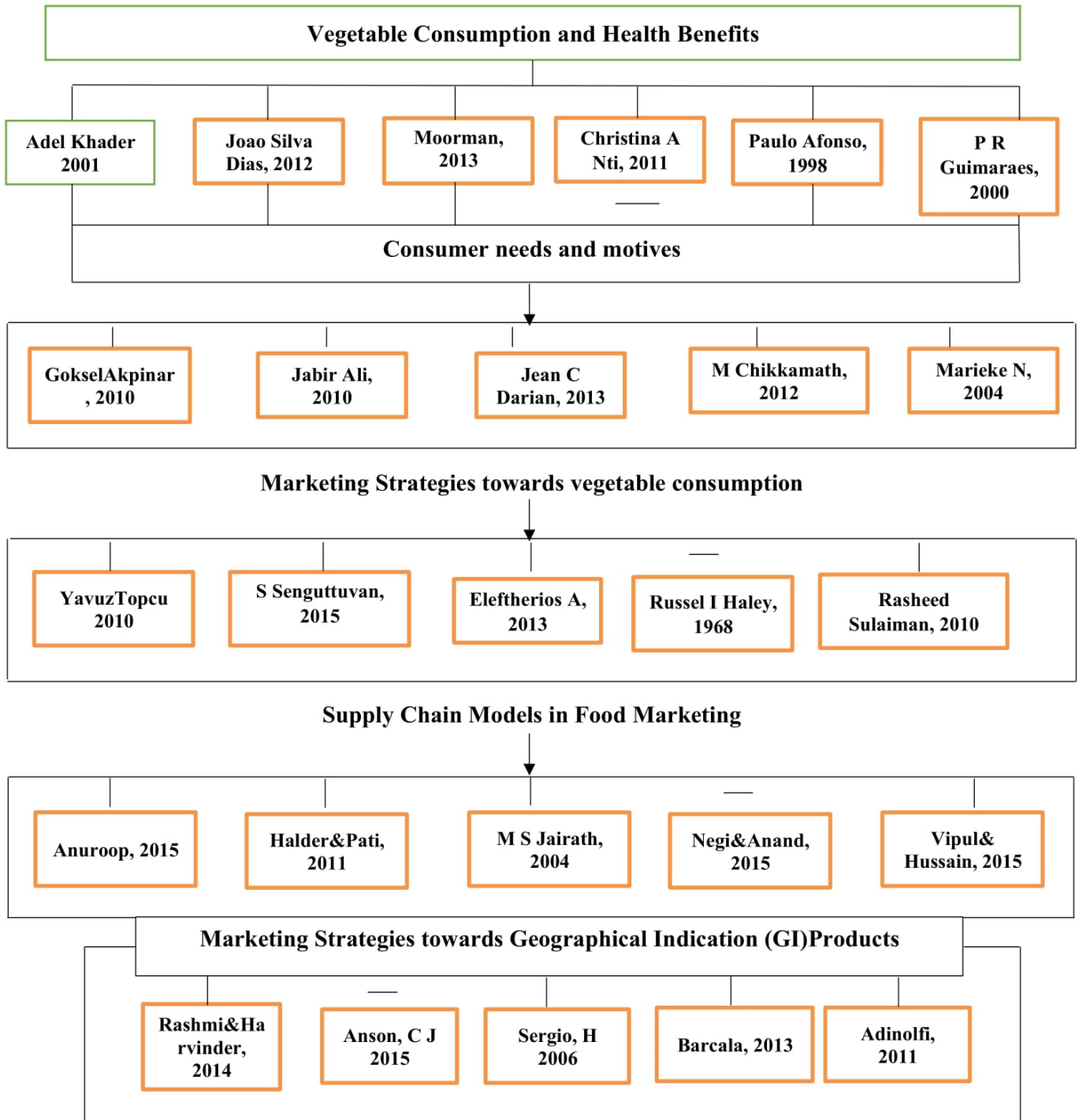
A separate marketing strategy is required for GI products [26]. The areas of product differentiation, consumer behavior, and integrated marketing strategy needs further study. Pre-sale model is extensively used. There is scope for product differentiation [27]. Individual firms who have protection with Intellectual Property Rights [IPR’s] have the incentive to innovate market products and encash the benefits [28] associated with success.

Stronger the level of property protection rights, [29] greater the incentives for producers to create Geographically Differentiated Agricultural Products [GDAP’s] [30]. Stronger property right protection enhancing efforts may be welfare enhancing for GI producer organizations. Any extension of the property rights

protection rules given to producer organizations may lead to control over supply and increase in the number of GDAP organizations [31]. The mechanism of GI should be run by a governing body. Using GI name as the brand name solves the problem of free-riding and quality enhancement. The task of quality compliance and enhancement should be undertaken by the governing body [GI enabler]. The governing body should be assigned the task of setting product [32] specifications, performing quality control and deciding on membership of producer organizations [33].

The task of governing body should be to improve the value chain coordination, thus mitigating internal and external free riding and enhancing quality conformance [34]. Many small producers take their products to international markets by highlighting the merits of Designation of Origin hoping that marketing with the support of the mark will do the trick [35]. But the proliferation of [36] and designation of Origin may only create doubts in the International consumers, eventually working against the producer organizations. To leverage the benefits of the Designation of Origin mark, the producers should formulate tailor-made marketing strategies according to the needs and motivation of specific consumer segments [37].

Table 2: Schematic map showing categorization of literature contributions.



Branding efforts in India to market GI products internationally has been weak.

Although products like Darjeeling tea was registered as a GI product with a distinct visual identity logo of protection in markets abroad under the MADRID agreement, the [38] move did not yield good outcomes as the registered owners did not pursue the attempts further.

A GI product will be able to command a premium price only if the consumers are aware of its unique attributes [39].

This information asymmetry may create a situation where the manufacturers are aware of the unique characteristics of the GI product whereas the consumer is not. Manufacturers who maintain good quality products may be vulnerable to the unfair competition who may have not so good quality products and sell at the same price. Producers must implement strategies to increase their reputation of GI products [40].

### Summary and conclusions

Locally grown fruits and vegetables are known to provide benefits to local community like the unique taste, historical importance, nutritional value and so on. Studies can concentrate on how marketers can position unique benefits of locally grown vegetables or Geographical Indications on the local community. There is scope for the development of marketing strategies that address ways to reduce health care costs based on the nutritional benefits of vegetable consumption. Empirical evidence suggests that consumption of vegetables and fruits which is a necessary element of a healthy diet is lower than the World Health Organization recommendation on daily servings. Marketing strategies targeted towards consumer segments on the basis of nutritional value and health benefits derived out of vegetable consumption is the gap in the literature.

This study asserts that dedicated research should focus on segmentation of markets through stratification based on consumer income. Marketing strategies can be developed and targeted based on income strata. Keeping income as the bases for stratification, the factors influencing consumer purchase behavior can be analyzed. Research should focus on market segmentation that indicates the possibility of the emergence of newer markets in the benefit segmentation approach.

Strong empirical evidence on Branding, Protection, Promotion and Product Innovation Strategy concerning vegetables and Agriculture based GI's can be studied in more detail. Enough literature is not available on the role of the marketing mix (Price, Place, Product, and Promotion) in increasing consumption of vegetables.

### Future research paradigm

- What could be the scope for applying a marketing strategy for vegetables? What could be the buying motives of the consumers towards vegetables? Do demographic, social and economic factors relate to consumer buying decision? What could be the value proposition or utility that vegetables offer to the consumers? Does awareness of health benefits of vegetable consumption influence consumer purchase decision?
- Is there scope to offer vegetables to the consumers with value addition? Is there a possibility to enter new markets? What are the myriad ways open to strengthen the existing distribution system?

- Should GI's be distinguished from other look-alikes? How can this differentiation be achieved? What are the different ways available to engage with consumers and build brand perceptions and build desired brand associations?
- Do vegetable GI's require branding and positioning? Which are the consumer segments that need to be targeted?

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