

Marketing Channel Preference by Tribal Farmers: A Study of Sundargarh

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ABSTRACT

This study is an attempt to understand the marketing channel selection by farmers belonging to the tribal community from Sundargarh district of Odisha. The study is multi-faceted where using the factors identified from Exploratory Factor Analysis and Product category the channels are ranked using Analytical Hierarchy Process and Correspondence Analysis. Data collected from all the blocks of Sundargarh district using stratified random sampling are analyzed using Statistical Package for Social Sciences. The findings of the study reveal farmers' prioritization of a marketing channel which provides ease of operation, proper return on time.

Keywords: Tribal Farmers, Agri-Marketing, Channel Selection, Channel prioritization

1.0 Introduction

Farmers are the heart of any civilization. Tribal farmers are non-commercial small scale farmers who produce for themselves and their livelihood. Deforestation and encroachment have lead these farmers to alter their way of life and join the main stream, leaving behind their traditional systems. With the current changes in need and lifestyle these farmers are forced to convert themselves into commercial farmers for their sustenance. With little landholdings and rocky forest lands the production is limited. Sundargarh is a tribal region and their lands have been invaded for industrialization and civilization. The tribes have changed their lifestyle to become main stream farmers and support their families. Tribal farmers contribute to the vegetable market of Sundargarh. In the evolving landscape of agriculture, the significance of farmers, particularly tribal ones, cannot be overstated. These farmers, often characterized by their non-commercial, small-scale agricultural practices, play a pivotal role in not only sustaining themselves but also in contributing to the broader agricultural tapestry. However, the dynamics of their livelihoods have been substantially influenced by the forces of change, including deforestation and encroachment,

compelling them to adapt and integrate into the mainstream agricultural paradigm. Traditionally rooted in self-sufficiency, these tribal farmers have been impelled to transition into commercial farmers to meet their evolving needs and lifestyles. Yet, their journey is marked by unique challenges, such as limited landholdings and the cultivation of rugged forest lands, which constrain the scale of their agricultural production. The vegetable growers in Sundargarh belong to the scheduled tribe, scheduled caste, or OBC category. As per the reports of Census 2011, Sundargarh is a tribal state as the population incorporates 50.74% scheduled tribes making it a tribal district in Odisha (Census, 2011). That enunciates the fact that most of the farmers belong to the same category, at least theoretically. This conjecture sets the stage for the study to begin. As we have half of the population of the farmers (both vegetable & cereals) to be tribal, we can propose a study to measure their economic health in farming and suggest necessary changes for their betterment.

In this intricate web of decision-making, factors such as accessibility to markets, economic viability, and the preservation of traditional values intersect. Furthermore, the unique characteristics of the vegetables they cultivate, including factors like perishability and seasonal variations, add layers of complexity to their choices. It is within this dynamic context that this research endeavors to decipher the nuanced preferences of tribal vegetable growers and unravel the intricate threads that weave together their decisions regarding marketing channels. By doing so, the aspiration is to contribute to a deeper understanding of the evolving landscape of tribal agriculture in Sundargarh, offering valuable insights that can inform policies, practices, and the sustainable development of this vital segment of our agricultural heritage.

2.0 Review of Literature

Marketing channels, also known as distribution channels, play a pivotal role in the agricultural sector by facilitating the movement of products from producers to consumers. The selection of appropriate marketing channels significantly impacts the revenue and success of agricultural producers, especially tribal vegetable growers. Research has shown that the choice of marketing channels is influenced by various factors, including product characteristics, market accessibility, infrastructure, and producer demographics ((Lund & Marinova, 2014, Watson et al., 2015). These channels can encompass direct avenues such as farmer's markets and community-supported agriculture (CSA) models, or indirect routes like wholesalers and retailers. The preferences exhibited by tribal vegetable growers in selecting marketing channels are shaped by their access to transportation networks, the level of information and education they possess regarding market dynamics, and the infrastructure available in their region (McCoy, 2019).

The decision-making process involves intricate trade-offs between factors such as pricing, convenience, and the preservation of produce quality throughout the distribution chain.

Marketing channel selection is a complex decision-making process that involves identifying the most effective and efficient pathways through which agricultural products, particularly vegetables produced by tribal growers, are distributed from the farm gate to the end consumers. The literature underscores the significance of aligning marketing channel choices with the unique characteristics of the produce and the target market. Researchers have observed that factors such as product perishability, quality consistency, and consumer preferences directly impact the selection of channels (Nahar et al., 2020, Leroux et al., 2010). Additionally, the socio-economic context of tribal vegetable growers, including their access to technology and market information, influences their decisions (Rout et al., 2023). Collaborative efforts among growers, cooperatives, and government agencies also shape these decisions as they work to enhance market access and reduce transaction costs (Markelova et al. 2009, Bingen et al., 2003, Chagwiza et al., 2016). By carefully evaluating these factors, tribal vegetable growers can strategically choose marketing channels that maximize their profits while ensuring the timely and reliable delivery of their produce.

Preferences in selecting a marketing channel constitute a critical aspect of the decision-making process for tribal vegetable growers aiming to efficiently distribute their produce. Research underscores that these preferences are shaped by a multitude of factors, including producer characteristics, market conditions, and product attributes (Kumar et al., 2019). Factors such as distance to market, transportation infrastructure, and access to information; play pivotal roles in these decisions (Behera et al., 2013, Mohanty et al., 2013, Boruah et al., 2016). Additionally, the cultural context of tribal communities and their historical engagement with traditional markets can influence their inclinations towards specific marketing channels (Cane et al., 2020). Collaborative initiatives and partnerships between tribal growers and intermediaries, such as cooperatives or local traders, can also influence preferences by offering avenues for improved market linkages and reduced transaction costs (Hannan & Mondal, 2021, Kamble, et al., 2015). By understanding and analyzing these multifaceted influences, tribal vegetable growers can make informed choices that optimize their marketing strategies and subsequently bolster their economic outcomes. The preferences guiding the selection of marketing channels by vegetable growers, particularly those from tribal communities, reflect a blend of practical considerations and strategic decision-making.

Growers' familiarity with modern marketing methods and technology, as well as their understanding of consumer demands, can shape their channel choices (Zhu et al., 2022). Geographic proximity to markets and transportation infrastructure also come into play, impacting the feasibility of choosing direct or indirect channels (Nahar et al., 2020). Moreover, socio-economic dynamics within tribal communities can lead to preferences for channels that provide stability and consistent returns, often achieved through collaborations with local cooperatives or

aggregators (Rout et al., 2023). By evaluating these multifaceted factors, vegetable growers can tailor their channel selections to optimize their market reach, enhance their bargaining power, and ultimately bolster their economic outcomes.

The preferences of selecting marketing channels by tribal vegetable growers reflect a nuanced interplay of socio-economic, geographical, and market-related considerations. Research underscores that these preferences are intricately tied to factors such as growers' access to information, infrastructure, and community dynamics (Singh et al., 2020; Chiv et al., 2020). Limited access to formal markets and transportation facilities often leads to a predilection for traditional channels, such as local markets or intermediaries, due to familiarity and convenience (Okello et al., 2020). Cultural aspects within tribal communities, including the significance of social networks, also contribute to shaping these preferences (Cane et al., 2020). Additionally, government interventions promoting farmer collectives and producer cooperatives can influence preferences by providing access to better market information and bargaining power (Deshingkar et al., 2003). By comprehensively examining these multifaceted factors, tribal vegetable growers can make informed decisions regarding marketing channels that align with their resources, objectives, and the specific dynamics of their local context. The preferences guiding the selection of marketing channels by tribal vegetable growers, concerning their vegetable produce, encapsulate a complex interplay of factors encompassing product attributes, socio-economic circumstances, and market dynamics. Growers tend to opt for channels that align with their produce type; for instance, channels suited for highly perishable vegetables may differ from those suitable for longer-lasting varieties (Huong et al., 2013, Mukarumbwa et al., 2018). Moreover, the prevalence of local markets and traditional networks within tribal settings can influence preferences towards specific channels. Collaborative marketing initiatives, facilitated through cooperatives or collectives, can play a pivotal role in influencing growers' preferences by offering enhanced market access and reduced transaction costs (Hao et al., 2018).

By holistically considering these diverse aspects, tribal vegetable growers can make strategic channel selections that optimize the market reach of their vegetable produce, thus contributing to improved economic outcomes.

3.0 Methodology

This objective focuses on evaluating the influence of vegetable produce attributes, such as perishability, shelf life, and quality consistency, on the marketing channel preferences of tribal growers. By examining how specific product characteristics align with different channel options, the study aims to highlight the intricate relationship between the nature of the produce and the most suitable distribution pathways. This encompasses the channel selection preference based on the factors sought important by these vegetable growers.

This study uses stratified random sampling for collecting the data. 304 samples collected from the sampling frame i.e., Sundargarh district of Odisha for analysis. Analytical Hierarchy Process was used to find the selection preference of the marketing channels. It starts with stating of the decision, establishing the available options and comparing the options pair-wise. The next step involves computing the data to find the weighted average and subsequently the Consistency Ratio. The Consistency Ratio (CR) signifies the level of consistency in channel selection. CR was derived from the ratio of Consistency Index (CI) and Random Consistency Index (RI) which is $\{CR=CI/RI\}$ CR less than 10% justifies the consistency of preference. The factors derived from the exploratory factor analysis serves as the criteria for comparative selection of channels. Correspondence analysis offers valuable insights into the preferences of tribal vegetable growers when selecting marketing channels, considering their specific vegetable produce. This analytical approach allows for a visual representation of relationships between categorical variables, shedding light on patterns that might not be readily apparent through traditional statistical methods. Through correspondence analysis, it becomes evident that growers' preferences are influenced by a combination of factors such as product characteristics, market access, and socio-economic conditions. The proximity of certain vegetable types to specific marketing channels on the correspondence analysis plot suggests inherent associations. Highly perishable vegetables, for instance, might align more closely with shorter distribution channels, emphasizing the importance of proximity to local markets or direct consumer interactions.

On the other hand, vegetables with longer shelf lives could be more aligned with extended distribution channels, implicating factors such as transportation and storage infrastructure. The analysis also reveals the impact of cultural dimensions within tribal communities, reflecting in preferences for traditional markets or community-based channels. By employing correspondence analysis, tribal vegetable growers and policymakers can gain a deeper understanding of the intricate relationships influencing channel preferences and tailor interventions that address these nuanced dynamics.

The factors used for the analysis are Product Characteristics (Time, Perishability, Quantity of Production, Knowledge of other markets), Market Conditions (Demand for Vegetables, Concentration of Consumers), Market Reach (Convenience, Availability of the Markets), Middlemen Characteristics (Financial Strength of the Middlemen) and these factors are derived from Exploratory Factor Analysis. A 6x6 comparison was undertaken with 15 numbers of comparisons for each factor. Principal Eigen value was calculated to verify the consistency of selection by the vegetable growers. The channels undertaken for the study are as follows:

Channel1: Direct Selling From Farm

Channel2: Direct Selling to Consumer (Farmer-Consumer)

Channel3: Farmer-Retailer-Consumer

Channel4: Farmer-Commission Agent-Retailer-Consumer

Channel5: Farmer-Commission Agent-wholesaler-Retailer-Consumer

Channel6: Farmer-Commission Agent-Gaddiwala(Distributor)-wholesaler-Retailer-Consumer

4.0 Analysis & Findings

The output table displays the priority or weight assigned to each of the six channels based on pair-wise comparisons made by the respondents. Here each column constitutes Category (Lists the marketing channels being compared), Priority (Represents the weight or priority assigned to each channel. It signifies the relative importance of each channel within the factor), Rank (Ranks the channels based on their priority, with 1 being the highest priority), Positive Sign (Indicates the positive consistency value for each comparison) and Negative Sign (Shows the negative consistency value for each comparison).

4.1 Preference based on Factors

4.1.1 Factor1: Product Characteristics

Priorities

Table: 4.1.1- Ranking of the Channels for Product Characteristics

Category		Priority	Rank	(+)	(-)
1	Direct Selling From Farm	2.6%	6	1.3%	1.3%
2	Direct Selling to Consumer	3.6%	5	1.2%	1.2%
3	Farmer-Retailer-Consumer	47.1%	1	19.2%	19.2%
4	Farmer-Commission Agent-Retailer-Consumer	7.9%	4	4.0%	4.0%
5	Farmer-Commission Agent-wholesaler-Retailer-Consumer	13.5%	3	2.1%	2.1%
6	Farmer-Commission Agent-Gaddiwala(Distributor)-wholesaler-Retailer-Consumer	25.3%	2	13.4%	13.4%

Number of comparisons = 15

Consistency Ratio CR = 7.3%

The results for Factor 1: Product Characteristics, which includes sub-factors like Time, Perishability, Quantity of Production, and Knowledge of other markets, reveal the weighted priorities of different marketing channels. Among these sub-factors, the "Farmer-Retailer-Consumer" channel emerges as having the highest priority (47.1%). This outcome suggests that within the context of Product Characteristics, the farmers prioritize a channel that allows them to efficiently manage factors like time constraints, perishability concerns, and production quantity. This choice is further affirmed by the decision matrix, which reflects the relative importance of each channel based on respondents' pair-wise comparisons. The high value in the cell corresponding to "Farmer-Retailer-Consumer" indicates its strong influence within this sub-factor. It is likely that this channel aligns well with the need for timely sales, handling perishable produce, and managing varying production quantities effectively. Conversely, "Direct Selling From Farm" and "Direct Selling to Consumer," though still relevant, are assigned lower priorities. This underscores the significance of considering various aspects of Product Characteristics when selecting marketing channels, with the most weight placed on those that best accommodate the specific needs of the farmers in this context. The overall consistency of the results, indicated by the consistency ratio (CR) of 7.3%, suggests that these findings are robust and reliable for guiding marketing channel decisions within the realm of Product Characteristics.

4.1.2 Factor2: Market Conditions

Priorities

Table:4.1.2- Ranking of the Channels for Market Conditions

Category		Priority	Rank	(+)	(-)
1	Direct Selling From Farm	2.6%	6	1.2%	1.2%
2	Direct Selling to Consumer	3.2%	5	1.3%	1.3%
3	Farmer-Retailer-Consumer	46.4%	1	19.6%	19.6%
4	Farmer-Commission Agent-Retailer-Consumer	7.7%	4	4.6%	4.6%
5	Farmer-Commission Agent-wholesaler-Retailer-Consumer	14.8%	3	4.0%	4.0%
6	Farmer-Commission Agent-Gaddiwala(Distributor)-wholesaler-Retailer-Consumer	25.2%	2	12.8%	12.8%

Number of comparisons = 15

Consistency Ratio CR = 8.7%

The priorities for marketing channel selection within the "Market Conditions" factor were determined through pairwise comparisons, considering sub-factors like demand for vegetables and the concentration of consumers. It is essential to recognize that market conditions play a pivotal role in shaping the preferences of vegetable growers in Sundargarh District. The ability of a marketing channel to effectively cater to the local demand for vegetables and efficiently reach a concentrated consumer base greatly influences its desirability. The resulting priorities reveal that Farmer-Retailer-Consumer (Channel 3) holds the highest priority at 46.4%, indicating that it aligns well with the market conditions in terms of meeting the demand for vegetables and catering to the concentration of consumers. This distribution is supported by a CR of 8.7%, reinforcing the consistency and reliability of these channel selections. In essence, within the "Market Conditions" factor, Farmer-Retailer-Consumer (Channel 3) emerges as the most preferred channel due to its robust alignment with local market demands and consumer concentration. This factor's outcomes underscore the intricate interplay between market dynamics and channel selection for tribal vegetable growers in Sundargarh District.

4.1.3 Factor3: Market Reach

Priorities

These are the resulting weights for the criteria based on your pairwise comparisons:

Table: 4.1.3- Ranking of the Channels for Market Reach

Category	Priority	Rank	(+)	(-)
1 Direct Selling From Farm	2.5%	6	1.4%	1.4%
2 Direct Selling to Consumer	3.3%	5	1.3%	1.3%
3 Farmer-Retailer-Consumer	50.5%	1	27.8%	27.8%
4 Farmer-Commission Agent-Retailer-Consumer	22.5%	2	2.5%	2.5%
5 Farmer-Commission Agent-wholesaler-Retailer-Consumer	12.7%	3	4.5%	4.5%
6 Farmer-Commission Agent-Gaddiwala(Distributor)-wholesaler-Retailer-Consumer	8.5%	4	3.9%	3.9%

Number of comparisons = 15

Consistency Ratio CR = 7.4%

In the assessment of marketing channel preferences concerning Market Reach, several criteria and sub-factors contribute to the overall prioritization of marketing channels. These criteria encompass factors like Direct Selling From Farm, Direct Selling to Consumer, Farmer-Retailer-Consumer, Farmer-Commission Agent-Retailer-Consumer, Farmer-Commission Agent-wholesaler-Retailer-Consumer, and Farmer-Commission Agent-Gaddiwala(Distributor)-wholesaler-Retailer-Consumer. When we look at the resulting weights for the criteria based on pair-wise comparisons, it becomes evident that the Farmer-Retailer-Consumer channel ranks the highest with a priority of 50.5%. This indicates that tribal vegetable growers place significant importance on this channel concerning Market Reach. In contrast, Direct Selling From Farm and Direct Selling to Consumer hold lower priorities of 2.5% and 3.3%, respectively, suggesting they are less favoured by these farmers in terms of Market Reach. Tribal vegetable growers in Sundargarh District, Odisha, prioritize the Farmer-Retailer-Consumer channel the highest when considering Market Reach for their produce. This suggests that they perceive this channel as offering the best reach to consumers and markets. Direct Selling From Farm and Direct Selling to Consumer are of lesser priority in terms of Market Reach for these farmers. These findings shed light on the preferences of tribal vegetable growers concerning Market Reach and can guide strategic decisions in channel selection within this agricultural context.

4.1.4 Factor4: Middlemen Characteristics

Priorities

Table:4.1.4- Ranking of the Channels for Middlemen Characteristics

Category		Priority	Rank	(+)	(-)
1	Direct Selling From Farm	3.1%	6	1.3%	1.3%
2	Direct Selling to Consumer	3.4%	5	1.6%	1.6%
3	Farmer-Retailer-Consumer	12.5%	3	4.1%	4.1%
4	Farmer-Commission Agent-Retailer-Consumer	10.2%	4	5.6%	5.6%

5	Farmer-Commission Agent-wholesaler-Retailer-Consumer	23.1%	2	3.7%	3.7%
6	Farmer-Commission Agent-Gaddiwala(Distributor) -wholesaler-Retailer-Consumer	47.7%	1	21.8%	21.8%

Number of comparisons = 15
 Consistency Ratio CR = 7.1%

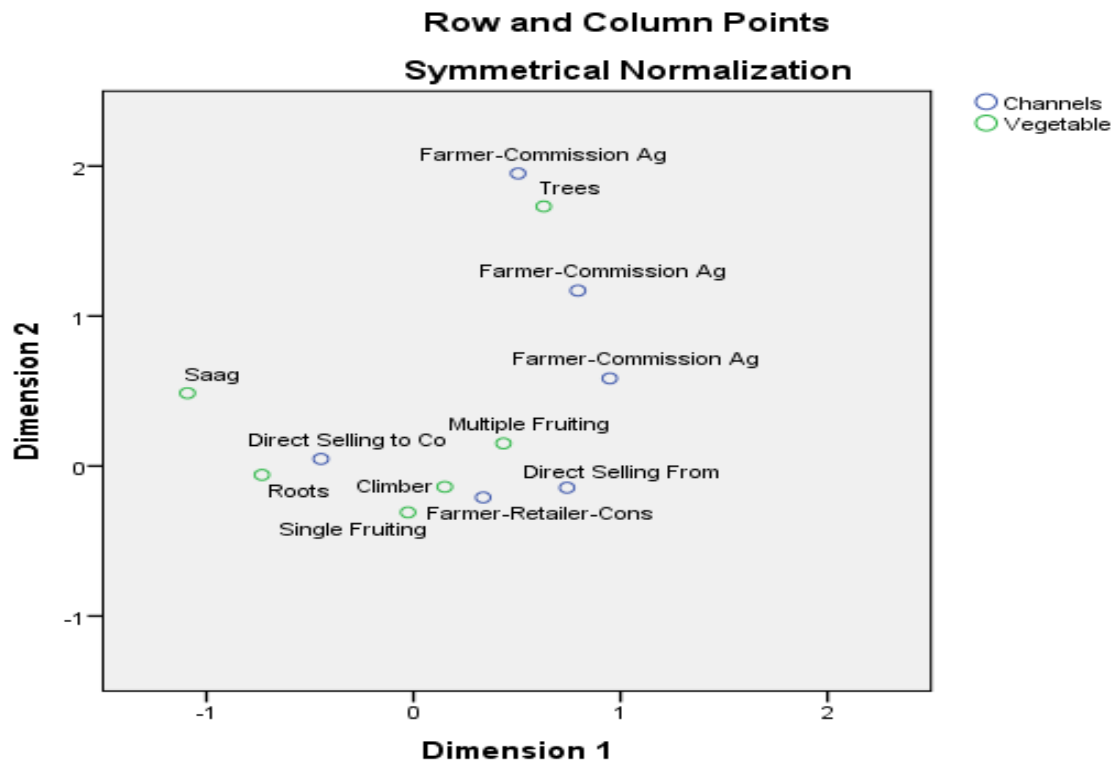
In the context of Factor 4, which is "Middlemen Characteristics," the priorities for the various marketing channels were determined through pairwise comparisons. These priorities reflect the significance of each channel with respect to the influence of middlemen characteristics. The resulting priorities indicate that "Farmer-Commission Agent-Gaddiwala (Distributor) - wholesaler-Retailer-Consumer" holds the highest priority, with a weight of 47.7%.

This suggests that middlemen characteristics have a substantial impact on this particular channel. Following closely is "Farmer-Commission Agent-wholesaler-Retailer-Consumer" with a weight of 23.1%. These two channels are ranked first and second, indicating that they are highly influenced by middlemen characteristics. Conversely, "Direct Selling From Farm" and "Direct Selling to Consumer" hold lower priorities, with weights of 3.1% and 3.4%, respectively. These channels are less affected by middlemen characteristics compared to the others. "Farmer-Commission Agent-Retailer-Consumer" and "Farmer-Retailer-Consumer" fall in between, with priorities of 10.2% and 12.5%, respectively. The consistency ratio (CR) for Factor 4 is 7.1%, which suggests a reasonable level of consistency in the pairwise comparisons. The decision matrix, which is based on the principal eigenvector of the decision matrix, provides the pairwise comparisons of each channel's influence in relation to middlemen characteristics. The highest-priority channels are significantly affected by these characteristics, while the lower-priority channels are less influenced by middlemen characteristics in the decision-making process regarding marketing channel selection.

4.2 Preference Based on Vegetable Produce

The correspondence analysis gives out the orientation of each vegetable produce towards the marketing channels identified earlier. This output below, named as Row and Column Points Symmetrical Normalizations shows the preferences of using one marketing channels for a single or multiple vegetable produce.

Figure: 4.2 Row & Column Points



When cultivating a Single Fruiting vegetable such as Fulkobi(cauliflower), Bandhakobi (cabbage), the farmers tend to choose Channel3 (Farmer-Retailer-Consumer) the most. That is because of the ease the channel provides to the farmers. This channel involves the retailers who usually sell in the weekly haats (market) in the village areas nearby and thus it provides very less cost & effort to get this produce sold in the market. Another reason for selecting this marketing channel is because of the quantity of production. Most of the farmers do not possess good land holdings and the vegetable producing is additional preceded by the cultivation of rice. The second nearest channel in the plot above for single fruiting vegetable, is Channel2 (Direct Selling to Consumer) which can also be called as Farmer-Consumer channel, where the farmer himself goes to the consumers to sell the produce. This is more profitable to the farmers as it removes the intermediaries from the channel and at the same time is more complicated as it reduces the quantity to be carried out in a day to be sold and calls for storage facility and more space. The third nearest channel is Channel1 (Direct Selling From Farm) where the consumer visits the farmer to purchase the single fruiting vegetables. This channel enables the farmers to sell the produce easily at their convenience, however, this channel is curbs the quantity of sell.

When the farmers cultivate Baigan(Aubergine), Bhendi(Okra), Tamatar(Tomato), Putal(Pointed Gourd), Barbatti(String Bean), Guar(Cluster Bean), called Multiple Fruiting, they prefer to choose Channel3, Farmer-Retailer-Consumer channel, which is similar to the case of Single Fruiting vegetables. This channel makes it very easy for the farmers to be dispose large quantities of the vegetable produce in a little time and with lesser transportation costs. The second and third nearest channel in the plot for multiple fruiting vegetables are Channel1 (Direct Selling From Farm) & Channel2 (Direct Selling to Consumer(Farmer-Consumer) which aids the former channel by making it convenient for the farmers to dispose the goods produced. The other most used channel for multiple fruiting is Channel5 which is Farmer-Commission Agent-wholesaler-Retailer-Consumer. This channel is used when the quantity of production is high and it cannot be disposed in the regular haats (market) and calls for broader marketing channels where the produce can be easily sold and realized earlier than any channels.

For vegetables like Mula(Radish), Gajar(Carrot), Pyaj(Onion), Alu(Potato), Beets etc., called ROOTS vegetables, farmers tend to select selling directly to consumers, i.e., by visiting the markets himself/herself or visiting the consumers and sell their produce. This enables the farmers to sell the small quantities of the roots vegetable like radish & carrot to the consumers directly which is consumed fresh and in a regular basis. Simbi(Flat Green Beas), Lauki(Bottle Gourd), Makhan(Pumpkin) and other climbing vegetables (CLIMBER) which grows everyday and needs to be plucked and collected regularly and are always in demand and thus the channel preferred is Channel3(Farmer-Retailer-Consumer), which allows the farmer to regularly sell off the vegetables in the markets. The other preferred channels are Direct Selling from Farm (Channel1) and Direct Selling to Consumers (Channel2) respectively. These two channels are convenient for the farmers to dispose their vegetables in small quantities and in regular basis supporting the farmers to sell their vegetable produce through multiple channels and reduce the time and cost. LEAFY VEG/SAG like Bhaji,Methi are generally sold through the Channel2, Direct Selling from Farm as the shelf life of these vegetables are very low and generally these vegetables are bought from the farm itself by the villagers. For Vegetable Trees like Munga(Drumstick), Papita(Papaya) , Channel4 (Farmer-Commission Agent-Retailer-Consumer) and Channel6 (Farmer-Commission Agent-Gaddiwala (Distributor)-wholesaler-Retailer-Consumer) are preferred most because it is highly in demand and mostly used by farmers having ample quantity of the produce to sell. However small quantities of these vegetables are consumed by the farmers and nearby people without any profit and most of the time these vegetables are available to most of the villagers and are open to all and need not require any cost to access it.

5.0 Discussion and Conclusion

As per the factors derived from exploratory factor analysis farmers have different priority while choosing a marketing channel. The below table shows the prioritization of marketing channels

based on Product Characteristics, Market Conditions, Market Reach & Middlemen Characteristics. For three out of four factors, “Farmer-Retailer-Consumer” Channel emerged with highest priority and “Direct Selling From Farm” having the least, which exhibits their dependence on viability, ease of sale and immediate return. However, next to the “Farmer-Retailer-Consumer” channel for all the four factors, farmers have opted for a channel which involves commission agent and Gaddiwala (Distributor) which implies that farmers tend to choose a channel which has a bit lesser return but provides ease of operation. This exemplifies farmer’s tendency towards ease, immediate return and non-credit operations.

Rank	Factors			
	Product Characteristics	Market Conditions	Market Reach	Middlemen Characteristics
1	Farmer-Retailer-Consumer	Farmer-Retailer-Consumer	Farmer-Retailer-Consumer	Farmer-Commission Agent-Gaddiwala(Distributor) -wholesaler-Retailer-Consumer
2	Farmer-Commission Agent-Gaddiwala(Distributor)-wholesaler-Retailer-Consumer	Farmer-Commission Agent-Gaddiwala(Distributor)-wholesaler-Retailer-Consumer	Farmer-Commission Agent-Retailer-Consumer	Farmer-Commission Agent-wholesaler-Retailer-Consumer
3	Farmer-Commission Agent-wholesaler-Retailer-Consumer	Farmer-Commission Agent-wholesaler-Retailer-Consumer	Farmer-Commission Agent-wholesaler-Retailer-Consumer	Farmer-Retailer-Consumer
4	Farmer-Commission Agent-Retailer-Consumer	Farmer-Commission Agent-Retailer-Consumer	Farmer-Commission Agent-Gaddiwala(Distributor) -wholesaler-Retailer-Consumer	Farmer-Commission Agent-Retailer-Consumer
5	Farmer-Commission Agent-wholesaler-Retailer-Consumer	Direct Selling to Consumer	Direct Selling to Consumer	Direct Selling to Consumer
6	Direct Selling From Farm	Direct Selling From Farm	Direct Selling From Farm	Direct Selling From Farm

In case of choosing a marketing channel based on the type of vegetable produce, farmers' preference is similar to the previous case where they tend to select the "Farmer-Retailer-Consumer" Channel for almost all varieties of product apart from Leafy and Tree produce. Leafy produce are generally sold directly from farm as the quantity is less and mostly cultivated for self indicating towards small land dedication towards Leafy vegetables like Saag and content level of tribal people. However, the "Farmer-Retailer-Consumer" is the most preferred channel as it provides farmers with an advantage to sell directly, without any commission and for almost an instant return on their investment. This indicates lack of commercialization by tribal farmers by virtue of little land holdings and few others things.

Vegetable Types	Channels Preferred
Single Fruiting Fulkobi(cauliflower), Bandhakobi (cabbage)	Farmer-Retailer-Consumer
	Direct Selling to Consumer
	Direct Selling From Farm
Multiple Fruiting Baigan(Aubergine), Bhendi(Okra), Tamatar(Tomato), Putal(Pointed Gourd), Barbatti(String Bean), Guar(Cluster Bean)	Farmer-Retailer-Consumer
	Direct Selling From Farm
	Direct Selling to Consumer
	Farmer-Commission Agent-wholesaler-Retailer-Consumer
Roots Mula(Radish), Gajar(Carrot), Pyaj(Onion), Alu(Potato), Beets	Direct Selling to Consumer
	Farmer-Retailer-Consumer
Climber Simbi(Flat Green Beas), Lauki(Bottle Gourd), Makhan(Pumpkin)	Farmer-Retailer-Consumer
	Direct Selling from Farm
	Direct Selling to Consumers
Leafy Saag	Direct Selling from Farm

Others/Trees Munga(Drumstick), Papita(Papaya)	Farmer-Commission Agent- Retailer-Consumer
	Farmer-Commission Agent- Gaddiwala(Distributor)- wholesaler-Retailer-Consumer

The marketing channel selection by tribal farmers is mostly derived by the ease with which it enables them to sell their produce propelled by time it takes for realisation of return and quantity of production. As most tribal farmers produce vegetables for themselves and sell the excess of it selection of marketing channels will be similar unless they opt for commercialization. Future requirements may push them towards commercialization, adoption of technology and adoption of far more efficient channels.

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