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An analysis of push and pull factors shaping livelihood activities among farmers in aspirational districts of Karnataka

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Abstract

Many socioeconomic and environmental factors impact the livelihood security of farmers in aspirational districts, influencing their choice of both farm and non-farm activities. The current study examines the push and pull factors affecting farmers' livelihood activities in Karnataka's aspirational districts of Yadgir and Raichur. Data were gathered from 120 small and marginal farmers chosen at random from six taluks and twelve villages using an ex post facto research design. Farmers were forced to diversify into a variety of livelihood activities due to push factors like land fragmentation, labor shortages, seasonality of agricultural activities, high farming costs, crop production uncertainty, declining returns, and mounting debt. While dairy, sheep and goat rearing, poultry, fisheries, wage employment, and non-farm activities like MGNREGA, petty business, migration, and skilled work were impacted by different combinations of economic and environmental pressures, crop production was primarily limited by land fragmentation and high input costs. Farmers were drawn to both farm and non-farm livelihood options by pull factors such as steady income, job creation, socioeconomic stability, increased profit, social status, and the availability of government programs. The results demonstrate that farmers use livelihood diversification as a sensible coping mechanism to reduce risks and increase income stability. Designing focused policy interventions and extension strategies to support sustainable livelihoods in aspirational districts requires an understanding of these push-pull dynamics.

Keywords: Livelihood diversification, aspirational districts, land fragmentation, environmental pressure

Introduction

India's socioeconomic structure is inextricably linked to agriculture, which employs a sizable portion of the populace and shapes rural livelihoods. Despite structural changes in the economy, a sizable section of India's labor force is still employed in agriculture and related fields, demonstrating the industry's continued significance (Anonymous, 2022)^[2]. Agriculture is more than just a job in rural areas; it is a vital source of food, cultural identity, and financial security. However, small and marginal landholdings, unpredictable weather, erratic market returns, and restricted access to contemporary inputs and services are characteristics of agriculture in many areas, including portions of Karnataka. Due to increased livelihood pressures brought on by these circumstances, rural households are looking into more varied and alternative economic pursuits (Chambers and Conway, 1992; Mukherjee *et al.*, 2020)^[5, 8]. The term "livelihood" refers to a variety of skills, resources, pursuits, and tactics that households use to secure their means of subsistence, going beyond the production of income. This multifaceted viewpoint acknowledges that the

interaction of natural, human, social, physical, and financial capital affects livelihood outcome (Solesbury, 2003)^[11]. The ability of households to maintain and modify their livelihoods becomes a crucial development concern in situations where traditional agricultural activity faces increasing risks (Fraser *et al.*, 2011; Hahn *et al.*, 2009)^[6, 7]. Push and pull factors are crucial in determining livelihood choices within this larger framework. Push factors are unfavorable circumstances or limitations in an established livelihood system that force people or households to look for alternatives. Low agricultural profitability, seasonal unemployment, diminishing soil productivity, climate variability, and insufficient access to necessary services are a few examples (Ali *et al.*, 2017; Asfaw *et al.*, 2017)^[1, 3]. Pull factors, on the other hand, are the draws or incentives connected to alternative activities that entice people to choose specific livelihood options. Examples of these include better income prospects, opportunities for skill acquisition, market connections, or institutional support (Saha and Bahal, 2015)^[9]. Many of these dynamics are evident in Karnataka's northern

region, especially in its aspirational districts like Yadgir and Raichur. Households are increasingly involved in a range of on-farm, off-farm, and non-farm activities to manage livelihood risks, improve income security, and strengthen resilience to shocks like unpredictable rainfall and market volatility, even though agriculture continues to be the primary source of income (Sunilkumar *et al.*, 2013; Sharma and Ward, 2018) ^[12, 10]. Previous research in the state's aspirational districts has demonstrated that farmers frequently experience livelihood vulnerability as a result of a mix of environmental and socioeconomic stressors, which emphasizes the need to look into the factors influencing livelihood choices in these areas (Baffoe and Mattsuda, 2018) ^[4].

Effective policy and extension planning requires an understanding of why farmers continue to engage in particular livelihood activities and what motivates them to pursue alternative options. Evaluating push and pull factors provides information about the enabling opportunities and structural limitations that affect livelihood choices. In aspirational districts, such an analysis can assist in identifying focused interventions that boost resilience, enhance economic returns, and support sustainable and varied livelihood pathways.

In order to understand how rural households respond to socioeconomic and ecological pressures while pursuing sustainable livelihoods, this study will investigate the push and pull factors influencing livelihood activities among farming households in specific aspirational districts of Karnataka.

Methodology

The *Ex-post-facto* research design was used because, the phenomenon has already occurred and the researcher does not have direct control over independent variables. This study was conducted in two aspirational districts of Karnataka, declared by Government of India in the year 2018 *i.e.*, Raichur and Yadgir districts. Among 5 Taluks of Raichur district, Sindhanur, Manvi and Raichur were selected based on the total number of small and marginal farmers present. Similarly, in Yadgir district, out of six taluks, Yadgir, Shahpur and Shorapur were selected.

Table 1: Distribution of small and marginal farmers of Raichur and Yadgir district

Sl. No.	Raichur	Marginal farmers	Small farmers	Total small and marginal farmers
1	Sindhanur	27262	21794	49056
2	Manvi	25484	23135	48619
3	Raichur	19110	20856	39966
4	Lingasugur	12729	25982	38711
5	Devadurga	16837	20092	36929
Sl. No.	Yadgir	Marginal farmers	Small farmers	Total small and marginal farmers
1	Yadgir	20334	15608	35942
2	Shahapur	13784	16103	29887
3	Shorapur	12877	15428	28305
4	Gurmitkal	15668	11484	27152
5	Hunisigi	8568	12182	20750
6	Vadagera	8920	10355	19275

Source: Karnataka State Agriculture Department (KSDA) Report 2021

Further, two villages were selected in each taluk based on the criteria mentioned earlier. Hence, the total number of respondents from two districts, six taluks and 12 villages are 120 farmers. Random sampling method was followed to select farmers from each village. Structured interview schedule was used for data collection.

Results and Discussion

The data in Table 2 illustrates push factors for following farm livelihood activities. With respect to crop production livelihood activity, 97.50% of the farmers expressed land fragmentation as a major push factor, followed by the high cost involved in farming (81.67%), seasonality of agricultural activities is another critical factor, impacting 75.00% of respondents. Non-availability of labour is also a significant challenge for 73.33% of respondents, followed by uncertainty in crop production effects (68.33%), environmental effects (66.67%), a decreased returns in farming reported by 50.00% of farmers and an increased debt (43.33%). These are push factors for following crop production livelihood activity.

Land fragmentation occurs when agricultural land is divided among family members or due to the encroachment of urbanization into rural areas, resulting in smaller and less productive land. Rising input costs for seeds, fertilizers, pesticides, and machinery strain the financial resources of farmers. Crop production is influenced by seasonal variations in weather conditions, such as monsoon patterns. The non-availability of labour is also a significant challenge facing this issue, often due to rural-to-urban migration for better employment opportunities for labourers to work in urban areas. Factors like weather, pests, and diseases can lead to crop failures, including climate change and erratic weather patterns. Uncertainty in crop production is attributed to soil degradation, outdated farming practices, or market fluctuations. Many farmers take out loans to cover expenses or cope with losses, leading to a cycle of debt, which leads to distressed conditions for farmers.

With respect to dairy farming, 33.33% of farmers expressed land fragmentation as a major push factor, followed by non-availability of labour (31.67%) and land fragmentation (25.83%). Dairy farming requires substantial initial investments in livestock and infrastructure, often leading to significant debt burdens. Another major challenge in dairy farming is regular and skilled labour for tasks like milking and animal care. Farmers face non-availability for milking indigenous breeds and the use of machinery is not possible. Land fragmentation is also a concern adequate land is required for pasture and forage production for dairy cattle.

With respect to sheep and goat rearing, 16.67% of farmers expressed increased debt as a major push factor. An increased debt is the most significant concern. Acquiring and maintaining a herd of sheep and goats can be costly, leading to significant debt for farmers.

Similarly, farmers practicing poultry farming as a livelihood activity expressed environmental effects (26.67%) as a major push factor, as environmental effects are often linked to variations in temperatures, which fluctuate seasonally as the high temperature doesn't favour the rearing of poultry birds.

With respect to Fisheries livelihood activity, 04.17% of the farmers expressed land fragmentation as a major push factor, followed by environmental effects (3.33%). Similarly, in wage employment livelihood activity, 21.67% of the farmers expressed that the seasonality of agricultural activities is the most prominent push factor, as wage employment is often seasonal in agriculture and is dependent on the availability of irrigation sources, as during the lean season no employment is available. Farm labourers take loans to meet household expenses or to cope with financial emergencies and end up in a never-ending debt cycle. The high costs involved in farming and low incomes force farmers to choose other employment options.

With respect to custom hiring services such as tractor and harvester rentals, 10.83% of the farmers expressed that the seasonality of agricultural activities was the most prominent push factor, as custom hiring services typically involve expensive machinery, and the seasonality of agricultural activities affects farmers' utilization of these services due to the non-availability of crops. Farmers often require custom hiring services during planting and harvesting seasons when

workloads are high. Sometimes, due to uncertainty, the machinery cannot be hired by farmers as it might be expensive and increase the cost of production. Another challenge is leading to space constraints for these services as the use of machinery on smaller pieces of land becomes difficult and is done by human labour and the usage of big machinery in small farms is not economical for the farmer.

With respect to the marketing of fruits and vegetables, 3.33% of the farmers expressed that the seasonality of agricultural activities, and decreased returns in farming were the most prominent push factors, mainly due to the seasonal nature of fruit and vegetable production, which impacts the availability of produce for marketing. A decreased return in farming is another significant concern. This decrease may result from issues such as soil quality, pest infestations, or market fluctuations. An increased debt is a challenge for some farmers, as they take loans to invest in horticulture crops and are dependent on markets. This highlights the financial and seasonal challenges faced by those involved in the marketing of fruits and vegetables.

Table 2: Distribution of the respondents according to push factors to practice farm livelihood activities

Sl. No.	Livelihood activities	Push factors													
		Land fragmentation (smaller land holdings)		Non-availability of labour		Uncertainty in crop production		Seasonality of agricultural activities		High cost involved in farming		Decreased returns in farming		Increased debt	
		F	%	F	%	F	%	F	%	F	%	F	%	F	%
1.	Crop Production	117	97.5	88	73.33	82	68.33	90	75.00	98	81.67	60	50.00	52	43.33
2.	Dairy Farming	31	25.83	38	31.67	0	0.00	10	8.33	0	0.00	0	0.00	40	33.33
3.	Sheep And Goat	12	10.00	18	15.00	0	0.00	0	0.00	0	0.00	0	0.00	20	16.67
4.	Poultry	20	16.67	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	10	8.33
5.	Fisheries	5	4.17	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
6.	Wage Employment (Farm)	14	11.67	0	0.00	18	15.00	26	21.67	20	16.67	0	0.00	23	19.17
7.	Custom hiring (Tractor, Harvester, etc.)	8	6.67	8	6.67	12	10.00	13	10.83	0	0.00	0	0.00	8	6.67
8.	Marketing of fruits and vegetables	0	0.00	0	0.00	0	0.00	4	3.33	0	0.00	4	3.33	2	1.67

*F = Frequency, % = %age

Multiple responses

The data in Table 3 illustrates push factors to practice non-farm livelihood activities. With respect to MGNREGA work as a livelihood activity, 50.00% of the farmers expressed land fragmentation as a major push factor for following livelihood activity, followed by the seasonality of agricultural activities (45.83%), environmental effects (43.33%), decreased returns in farming (41.67%), and uncertainty in crop production (37.50%), respectively.

Due to traditional inheritance patterns and land fragmentation caused by land-holding subdivisions, farmers are predominantly involved in MGNREGA activities to generate more income. Because agricultural activities are seasonal, they depend on the monsoon and crop cycles are cyclical, which causes periods of unemployment. The effects of the environment, such as the effects of climate change and the susceptibility to natural disasters, drove farmers to look for other sources of income. Obstacles include rising input prices and volatile markets leading to a decline in farming productivity and profits. Pest outbreaks,

disease outbreaks, and unstable markets created uncertainty in agricultural output, which forced farmers to diversify their revenue streams through MGNREGA activities.

With respect to construction works, 1.67% of the farmers expressed seasonality of agricultural activities, decreased returns in farming and increased debt were the most prominent push factors for practicing livelihood activities, followed by the high cost involved in farming, uncertainty in crop production and land fragmentation were other push factors expressed by 0.83% of the farmers, respectively.

Farmers opted for other livelihoods, like construction work, to supplement their income during hard times and ensure a consistent income all year round. Variations in weather and pest infestations can lead to fluctuations in agricultural productivity and returns. To offset the uncertainty and volatility of farming, farmers turned to construction as an additional source of income. Unpredictable earnings combined with growing expenses of agricultural inputs have left farmers in debt. Farmers aimed to increase overall

financial stability, reduce their dependence on loans, and relieve financial constraints by diversifying into construction work. Choosing to work in construction provided an additional source of income that could help relieve the financial burden brought on by the high cost of farming practices.

Similarly, for petty business livelihood activity, 25.83% of the farmers expressed land fragmentation and seasonality of agricultural activities as a major push factor for following livelihood activity, followed by uncertainty in crop production and decreased returns in farming expressed by 16.67% of the respondents, followed by an increased debt (15.00%), environmental effects (10.00%) and a high cost involved in farming (8.33%), respectively.

Farmers engaged in petty businesses often experienced a more consistent and stable income compared to the seasonality of agricultural activities. This stability helped them meet regular household expenses. Seasonal agricultural activities often resulted in periods of low income for farmers. Engaging in petty business allowed them to diversify their income sources and maintain a more consistent cash flow throughout the year, reducing dependency on the agricultural seasons. Starting and maintaining a petty business often required less initial capital compared to modernizing agricultural practices. This lower financial barrier made petty businesses a more accessible option for some farmers. Water scarcity and unreliable irrigation systems adversely affected crop yields, making farming less sustainable.

Similarly, for migration for the short term to work outside the village, 9.19% of the farmers expressed seasonality of agricultural activities and a returns in farming as major push factors for migration in the short term, followed by uncertainty in crop production and the high cost involved in farming expressed by 7.50% of the respondents, followed by land fragmentation, environmental effects and an increased debt expressed by 6.67% of the respondents, respectively.

Agricultural activities were often seasonal, with specific periods designated for planting, cultivation, and harvest. During off-seasons, farmers faced reduced opportunities for income generation from farming activities. The rising costs of inputs, coupled with fluctuations in income, led farmers into debt. The burden of debt became a compelling factor for short-term migration as farmers sought to earn additional income to alleviate financial strain. This situation often led them to seek alternative livelihoods elsewhere. Consequently, many farmers moved to nearby cities for employment as labourers, and into industries and packaging activities in search of opportunities to support their financial needs.

With respect to skilled work livelihood activities, which include pottery, tailoring, basket making, and craft works,

11.67% of the farmers expressed the non-availability of labour as a major push factor for practicing skilled work livelihood activities, followed by the high cost involved (10.00%), the seasonality of agricultural activities and increased debt expressed by 6.67% of the farmers, followed by a decreased returns in farming (5.83%).

Farmers engaged in skilled work activities to diversify their sources of income, reducing dependence on a single livelihood. This diversification strategy helped them manage financial risks better. Farmers often had idle time during certain seasons or periods when agricultural activities were minimal. Engaging in skilled work allowed them to utilize this time productively and generate additional income. Many farmers had traditional skills in crafts, pottery, or tailoring that had been passed down through generations. Engaging in these skilled jobs allowed them to preserve and utilize these skills while earning a livelihood. Diversifying into skilled work activities served as a risk-mitigating strategy. In the face of uncertainties in agriculture, having an alternative income source helped farmers withstand economic challenges.

Similarly, for government employment livelihood activity, 1.67% of the farmers expressed land fragmentation and uncertainty in crop production as major push factors for practicing livelihood activities, followed by the seasonality of agricultural activities and the high cost involved in farming, expressed by 0.83% of the farmers, respectively.

Agriculture, especially on fragmented land, may not provide a stable income throughout the year. Government employment can offer a fixed monthly income, providing financial stability and security. Many farmers expressed that government employment was their choice for their children as well because of Government employment often comes with social security benefits, such as health insurance, retirement plans, and other welfare programs. and social respect they receive and provide consistent income throughout the year

With respect to private employment livelihood activity, 3.33% of the farmers expressed land fragmentation as a major push factor for practicing livelihood activity, followed by uncertainty in crop production, high costs involved in farming, and an increased debt, expressed by 2.5% of the farmers, followed by the seasonality of agricultural activities (1.67%).

Farmers practiced private employment due to the burden of increasing debt. Loans taken for agricultural purposes, coupled with fluctuating income from farming, can lead to financial stress, prompting farmers to seek alternative income streams. Agriculture is often seasonal, with specific activities concentrated during certain times of the year. During the off-season, farmers may find it economically viable to engage in private employment to maintain a steady income throughout the year.

Table 3: Distribution of the respondents according to push factors to practice non-farm livelihood activities

Sl. No.	Livelihood activities	Push factors													
		Land fragmentation (smaller land holdings)		Non-availability of labour		Uncertainty in crop production		Seasonality of agricultural activities		High cost involved in farming		Decreased returns in farming		Increased debt	
		F	%	F	%	F	%	F	%	F	%	F	%	F	%
1.	MGNREGA Work	60	50.00	0	0.00	45	37.50	55	45.83	0	0.00	50	41.67	0	0.00
2.	Construction Works	1	0.83	0	0.00	1	0.83	2	1.67	1	00.83	2	1.67	2	1.67
3.	Petty business	31	25.83	0	0.00	20	16.67	31	25.83	10	08.33	20	16.67	18	15.00
4.	Migration (Work Outside the village for a Short Period)	8	6.67	0	0.00	9	7.50	11	9.17	9	07.50	11	9.17	8	6.67
5.	Skilled work a) Pottery b) Tailoring c) Basket making d) Craft Works	0	0.00	14	11.67	0	0.00	8	6.67	12	10.00	7	5.83	8	6.67
6.	Government employment	2	1.67	0	0.00	2	1.67	1	0.83	1	00.83	0	0.00	0	0.00
7.	Private employment	4	3.33	0	0.00	3	2.50	2	1.67	3	2.50	0	0.00	3	2.50

*F = Frequency, % = %age

Multiple responses

The data in Table 4 illustrates pull factors to practice non-farm livelihood activities. The most important pull factor to follow crop production livelihood activity is employment generation, which was expressed by 83.33% of the farmers, followed by socio-economic stability (50.00%), higher social status (50.00%), continuous income (37.50%), availability of subsidies and government schemes (25.00%), higher profit (16.67%) respectively.

For farmers, crop production offers a reliable revenue stream that supports their livelihoods year-round. Agriculture provides jobs for people in rural areas by involving a variety of chores like planting, harvesting, and maintenance. Farmers who are prosperous and productive in their endeavours are frequently respected and well-known in their communities, which raises their social standing. Because different crops are harvested at different periods of the year, farmers can have a consistent source of revenue all year round. Financial incentives provided by government subsidies motivate farmers to produce crops. Growing a range of crops can provide numerous revenue streams and lessen reliance on the performance of a particular crop, which is why some farmers opt to work in agricultural production rather than seek employment elsewhere. This implies that farming is perceived as a means to maintain a stable livelihood and social standing.

With respect to dairy farming livelihood activity, the most important pull factor to follow dairy farming was continuous income, which was expressed by 25.00% of the farmers, followed by higher profit (16.67%) and socio-economic stability (16.67%). Dairy farming gives farmers a consistent and dependable revenue stream that they can rely on all year long. To manage household demands and cover everyday expenses, consistency is essential. Dairy farming has the potential to yield a higher income than other agricultural pursuits, which attracts many farmers to it. Dairy product demand frequently results in higher market pricing, which boosts profitability. Dairy farming has the potential to stabilize farmers' socioeconomic circumstances on the whole. The consistent revenue and profits from dairy farming are essential for raising living standards and lowering economic uncertainty. Farmers use the additional

benefits of dairy farming, such as applying manure to crops to increase soil fertility or using by products for a variety of uses. Dairy production could be linked to social standing and reputation. Being the owner and operator of a dairy farm has the potential to raise one's standing in the community. Employment opportunities in dairy farming are offered to those who need labour for various components of the dairy value chain, such as animal care, milk processing, and distribution, in addition to the farmers themselves.

Similarly, for sheep and goat farming livelihood activity, the most important pull factor was continuous income, which was expressed by 25.00% of the farmers, followed by higher profit (15.83%) and employment generation (8.33%), as sheep and goat farming provide a continuous and consistent source of income for farmers. They can be bred throughout the year, and their products, such as wool, milk, and meat, contribute to regular cash flow. The potential for higher profits in sheep and goat farming is a significant attraction for farmers. Both the meat and wool markets can offer lucrative returns, making it financially rewarding for those involved in this livelihood activity. Sheep and goat farming not only generates income for the farmers but also creates employment opportunities. Additional labour is often required for various tasks, including feeding, herding, and general care of the animals, contributing to rural employment. Farmers choose sheep and goat farming as a means of diversifying their agricultural activities. Diversification can help spread risks, reduce dependency on a single source of livelihood, and provide a more balanced and sustainable approach to farming.

With respect to poultry farming livelihood activity, the most important pull factor to follow poultry farming was continuous income and higher profit which was expressed by 16.67% of the farmers. followed by employment generation (5.83%). Poultry farming, particularly egg production and broiler farming, is known for providing a continuous and consistent source of income and employment. Chickens have relatively short reproduction cycles, and both eggs and meat contribute to regular cash flow for farmers. Backyard poultry farming is often favoured for its accessibility and suitability for smaller

spaces. It allows farmers to engage in poultry farming on a smaller scale. Indigenous poultry breeds like Aseel and Gira Raja are often valued for their ability to thrive in specific environments and their potential to produce high-quality eggs or meat.

With respect to fisheries livelihood activity, 4.17% of the farmers expressed higher profit, availability of subsidies, higher social status and employment generation as major pull factors for practicing fisheries, as fisheries are known for their potential to generate higher profits, especially if managed effectively. The sale of fish, whether for local consumption or commercial markets, can yield considerable financial returns due to the demand for seafood products. Fisheries provide a continuous source of income throughout the year. Fish farming, in particular, allows for regular harvesting cycles, ensuring a consistent supply of fish for sale. This steady income stream is crucial for meeting daily needs and sustaining the livelihoods of those engaged in fisheries. Fisheries, whether through aquaculture or traditional fishing practices, contribute significantly to employment generation. Beyond the direct employment of fishermen, there are additional opportunities in processing, marketing, and distribution, creating many opportunities for rural youth.

With respect to wage employment livelihood activity, 20.00% of the farmers expressed continuous income as the most important pull factor. Wage employment in agriculture provides a reliable and steady source of income for individuals engaged in various tasks such as planting, harvesting, and other agricultural activities. This regular

income is crucial for meeting daily expenses, ensuring financial security, and sustaining the livelihoods of those involved.

Similarly, for custom hiring service livelihood activity, the most important pull factor was employment generation, which was expressed by 9.17% of the farmers, as the custom hiring services involve providing machinery and equipment to other farmers for their agricultural activities. Farmers recognize this as a significant employment generator, as it creates job opportunities in their families and villages. Those offering custom hiring services often employ individuals to operate and maintain machinery, contributing to local employment. Custom hiring services are financially rewarding for farmers, as they charge fees for renting out their machinery and equipment. The income generated through these services contributes to higher profits, making it an attractive aspect of this livelihood activity.

With respect to the Marketing of fruits and vegetables livelihood activity, 3.33% of the farmers expressed higher profit as the most important pull factor followed by continuous income and employment generation (2.50%) respectively. Direct sales to consumers, either in weekly markets or villages, allow farmers to eliminate intermediaries and receive a larger share of the selling price. Seasonal fruits and vegetables are grown by farmers in their fields and are sold directly to consumers and generate continuous income. Some farmers pick some wild fruits, like Custard apples, from the hills and sell them in the city and weekly markets to generate additional income.

Table 4: Distribution of the respondents according to pull factors to practice farm livelihood activities $n = 120$

Sl. No.	Livelihood activities	Pull factors											
		Higher profit		Socio-economic stability		Continuous income		Higher social status		Employment generation		Availability of subsidies or govt schemes	
		F	%	F	%	F	%	F	%	F	%	F	%
1.	Crop Production	20	16.67	60	50.00	45	37.50	60	50.00	100	83.33	30	25.00
2.	Dairy Farming	20	16.67	20	16.67	30	25.00	13	10.83	10	8.33	6	5.00
3.	Sheep And Goat	19	15.83	7	5.83	30	25.00	4	3.33	10	8.33	9	7.50
4.	Poultry	20	16.67	0	0	20	16.67	0	0.00	7	5.83	0	0.00
5.	Fisheries	5	4.17	4	3.33	2	01.67	5	4.17	5	4.17	5	4.17
6.	Wage Employment (Farm)	0	0.00	20	16.67	24	20.00	0	0.00	22	18.33	0	0.00
7.	Custom hiring (Tractor, Harvester, etc.)	8	6.67	5	4.17	8	6.67	11	9.17	11	9.17	8	6.67
8.	Marketing of fruits and vegetables	4	3.33	0	0.00	3	2.50	0	0.00	3	2.50	0	0.00

*F = Frequency, % = %age

Multiple responses

The data in Table 5 illustrates pull factors to practice non-farm livelihood activities. The most important pull factors to follow MGNREGA work livelihood activity were continuous income, employment generation and availability of subsidies or govt schemes, which was expressed by 58.33% of the farmers, followed by socio-economic stability (50.00%) and higher profit respectively (40.00%).

MGNREGA ensures a guaranteed 100 days of employment for rural households. This steady income provides economic security, helping farmers meet their basic needs and support their families. Agriculture often involves seasonal activities, leaving farmers unemployed during off-seasons. MGNREGA offers employment opportunities during the

off-seasons of the year, reducing vulnerability during agricultural downtime. Participation in MGNREGA allows farmers to diversify their sources of income. This diversification contributes to socio-economic stability by decreasing reliance solely on agriculture, which can be susceptible to various factors such as weather conditions and market fluctuations. The continuous income generated through MGNREGA contributes to poverty alleviation, lifting rural households out of extreme economic hardship.

With respect to the construction work livelihood activity, 1.67% of the farmers expressed higher profit and employment generation as the most important pull factors, followed by continuous income (0.83%) and socio-

economic stability (0.83%), respectively.

During the offseason, when agricultural activities are limited, farmers often find themselves with surplus labour. Engaging in construction work provides them with a viable alternative for employment during these periods, ensuring a steady income stream throughout the year. Many farmers migrate to urban areas or nearby cities during the offseason in search of employment. Construction projects in these areas serve as significant sources of jobs for rural migrants, providing them with the opportunity to earn a livelihood without having to permanently relocate. Construction work, especially in regions experiencing rapid urbanization, tends to offer higher wages compared to traditional agricultural activities. This attracts farmers, who are motivated by the prospect of earning higher profits through construction-related employment. Engaging in construction work provides a continuous source of income for farmers, which contributes to socio-economic stability. The steady flow of funds helps farmers meet their financial needs consistently, reducing the economic uncertainties associated with seasonal agriculture.

Similarly, for petty business livelihood activity, 25.83% of the respondents stated continuous income and higher profit were the most important pull factors for following petty business as a livelihood activity, followed by employment generation (25.00%), socio-economic stability (23.33%), higher social status (18.33%) and availability of subsidies or govt schemes (8.33%) respectively.

Petty business allows for the diversification of income streams, ensuring a more stable and continuous cash flow throughout the year, thus mitigating the financial risks associated with relying solely on agriculture. Petty businesses generate employment opportunities within the family and reduce dependence on external employment. Since managing a petty business does not require much of skills and could be managed by anyone in the family, the income generated supplements the income from other livelihood activities like agriculture during the offseason.

With respect to Migration for short-term livelihood activity, 9.17% of the farmers expressed employment generation, continuous income and higher profit as the most important pull factors, followed by Socio-economic stability (6.67%). Some farmers often migrate for short-term livelihood activities to areas where they can find temporary employment opportunities in nearby cities. Because of the seasonal work in agriculture, migration is seen as a means to ensure a steady and continuous flow of income for farmers. By engaging in short-term activities like working in rice mills and other construction works and mines, they can supplement their earnings and overcome income fluctuations that may occur in their home locations due to seasonal variations. Besides immediate financial gains, they also value the broader stability and improvements in their social and economic conditions that migration might bring. This could include access to better educational

opportunities, healthcare, and overall improved living standards for themselves and their families.

With respect to skilled works, which include pottery, tailoring, basket making, and craftwork, 11.67% of the farmers stated socio-economic stability was the most important pull factor for following skilled work as a livelihood activity, followed by higher profit and employment generation, expressed by 9.17% of the farmers, 6.67% of farmers stated higher social status and continuous professional development, followed by availability of subsidies or govt schemes (5.00%) respectively.

Skilled work typically involves the production of unique and specialized goods, which can command higher prices in the market. This higher profit potential serves as a strong incentive for farmers to invest time and effort. Skilled work not only benefits the practitioner but also creates opportunities for others in the family. The demand for handcrafted products or services leads to the establishment of small businesses and workshops, contributing to socio-economic development. Farmers expressed that skilled work goes beyond financial gains. The satisfaction derived from creating something unique and preserving cultural traditions that are their family legacy provides individuals with a sense of happiness.

With respect to Government employment, 1.67% of the farmers expressed higher profit, socio-economic stability, Employment generation and Continuous income as the most important pull factors, followed by higher social status (0.83%).

People who are into government jobs and also practice agriculture on their own stated that government employment offers a more stable income because of the regular pay cycle that government jobs offer. Farmers who are in government jobs usually receive regular and fixed salaries, along with additional benefits. Government jobs are often associated with prestige and social status. The respect and recognition associated with these positions can be a motivating factor for individuals to prefer government employment.

Similarly, for private employment as a livelihood activity, 3.33% of the respondents stated that socio-economic stability and higher social status were the most important pull factors for following private employment as a livelihood activity, followed by 2.50% of the farmers. Continuous income, higher profit, and employment generation, respectively, are pull factors for the following private employment as a livelihood activity.

Farmers see private employment as a means to achieve a more consistent and predictable source of income. Private employment typically provides a regular and consistent income stream, which contrasts with the seasonal and sometimes unpredictable nature of agricultural income. Farmers stated that private employment offers the potential for higher salaries and financial rewards compared to income derived from agriculture.

Table 5: Distribution of the respondents according to pull factors to practice non-farm livelihood activities $n = 120$

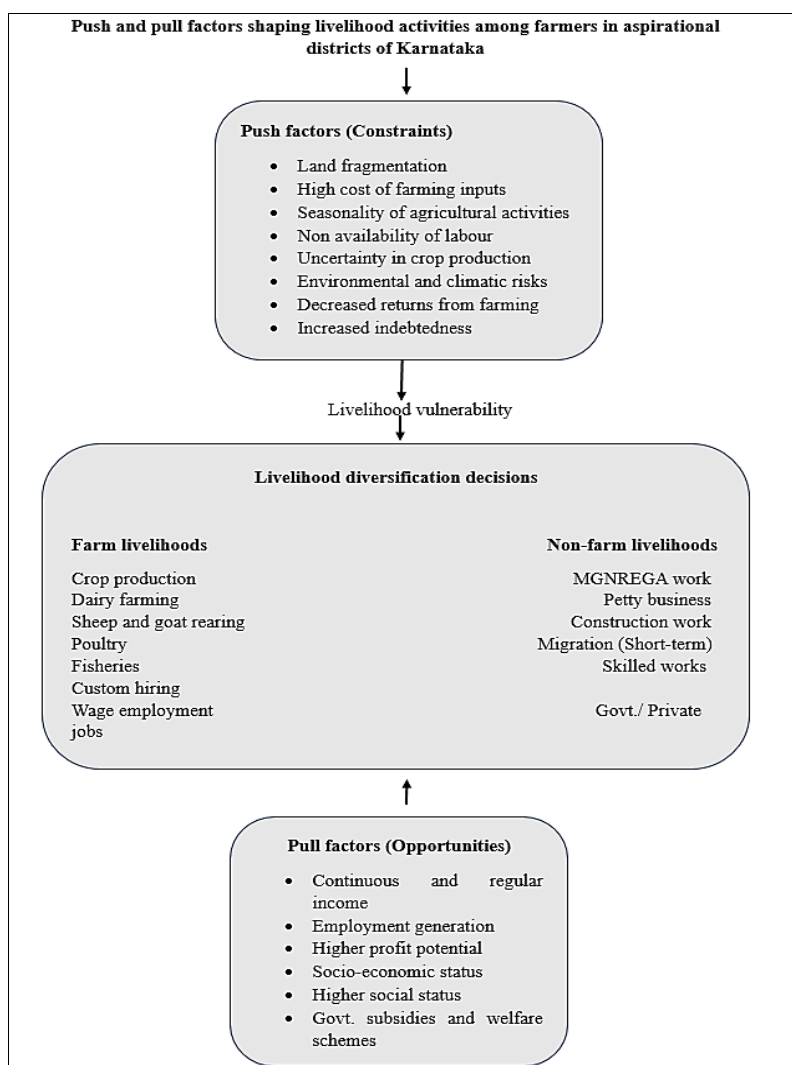
Sl. No.	Livelihood activities	Pull factors											
		Higher profit		Socio-economic stability		Continuous income		Higher social status		Employment generation		Availability of subsidies or govt schemes	
		F	%	F	%	F	%	F	%	F	%	F	%
1.	MGNREGA work	48	40.00	60	50.00	70	58.33	0	0.00	70	58.33	70	58.33
2.	Construction works	2	1.67	1	0.83	1	0.83	0	0.00	2	01.67	0	0.00
3.	Petty business	31	25.83	28	23.33	31	25.83	22	18.33	30	25.00	10	8.33
4.	Migration (work outside the village for a short period)	11	9.17	8	6.67	11	9.17	0	0.00	11	9.17	0	0.00
5.	Skilled work a) Pottery b) Tailoring c) Basket making d) Craft works	11	9.17	14	11.67	8	6.67	8	6.67	11	09.17	6	5.00
6.	Government employment	2	1.67	2	1.67	2	1.67	1	0.83	2	01.67	0	0.00
7.	Private employment	3	2.50	4	3.33	3	2.50	4	3.33	3	02.50	0	0.00

*F = Frequency, % = %age

Multiple responses

The conceptual diagram of push and pull factors influencing livelihood activities is depicted in Fig. 1 which tells that land fragmentation, seasonality of agricultural activities, high cost of farming, non-availability of labour, uncertainty in crop production, environmental effects, decreased returns, and increased debt significantly influenced farmers'

livelihood decisions. Pull factors include continuous income, employment generation, socio-economic stability, higher profit, social recognition and access to government schemes motivated farmers to adopt diversified livelihood strategies.



Conclusion

The study concludes that, the farmers in these aspirational districts *i.e.*, Raichur and Yadgir take up multiple livelihood activities as a risk management and income enhancing strategy. The findings also highlighted the need for policy support, skill development and institutional interventions to strengthen sustainability and diversified livelihood opportunities.

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