P-ISSN: 2618-0723
E-ISSN: 2618-0731

NAAS Rating (2026): 5.04
www.extensionjournal.com

International Journal of Agriculture Extension and Social Development

Volume 9; Issue 1; January 2026; Page No. 419-425

Received: 13-11-2025
Accepted: 19-12-2025

Indexed Journal
Peer Reviewed Journal

An analysis of overall association between profile characteristics with livelihood security, perception level and economic performance of Pomegranate growers under National Horticulture Mission (NHM) in Chikkaballapura and Chitradurga districts of Karnataka

[1]Pottappa K, [2]C Narayanaswamy, [3]S Ganesamoorthi, [4]TL Mohankumar and [5]MS Ganapathy

[1]Ph.D. Scholar, Department of Agricultural Extension, University of Agricultural Sciences Bangalore (UASB), GKVK, Bengaluru, Karnataka, India

[2]Professor & Chief Instructor and Head, Farmers Training Institute, UASB, GKVK, Bengaluru, Karnataka, India

[3]Professor, Department of Agricultural Extension, UASB, GKVK, Bengaluru, Karnataka, India

[4]Assistant Professor, Department of Agricultural Statistics, Applied Mathematics & Computer Science, UASB, GKVK, Bengaluru, Karnataka, India

[5]Professor, Institute of Agri. Business Management, UASB, GKVK, Bengaluru, Karnataka, India

DOI: https://www.doi.org/10.33545/26180723.2026.v9.i1f.2948

Corresponding Author: Pottappa K

Abstract

The present study was conducted to analyze the overall association between profile characteristics with livelihood security, perception level and economic performance of Pomegranate growers under National Horticulture Mission (NHM) in Chikkaballapura and Chitradurga districts of Karnataka. The overall association between independent variables with livelihood security of Chitradurga and Chikkaballapura districts of pomegranate growers, the independent variables like land holding, management orientation, achievement motivation, innovativeness, scientific orientation, mass media exposure, extension contact had decision making found significant. The overall association between independent variables with perception level of Chitradurga and Chikkaballapura districts of pomegranate growers, the independent variables like education, farming experience, management orientation, achievement motivation, innovativeness, scientific orientation, mass media exposure, extension contact and decision making ability had found significant. Further, the overall association between independent variables with economic performance of Chitradurga and Chikkaballapura districts of pomegranate growers, the independent variables like age, education, management orientation, economic orientation, credit orientation, extension contact and decision making ability had found significant. The findings highlighted the importance of their participation and get benefit from the scheme and for better scheme implementation NHM.

Keywords: Livelihood security, livelihood security, perception level, economic performance pomegranate growers, national horticulture mission (nhm)

1. Introduction

The agriculture sector plays a vital role in India's economy, serving as one of the largest and most significant economic sectors and the primary source of income and livelihood for a majority of the population. Even today, agriculture remains the backbone of employment and sustenance for millions of Indians. According to the 2011 Census, approximately 54.6 per cent of the country's population was engaged in agriculture and allied activities. Recognizing agriculture as a major income-generating sector, the Government of India has implemented several programmes and policy initiatives to strengthen and develop the sector. These initiatives aim not only to enhance agricultural productivity but also to increase farmers' incomes.

India has a total geographical area of 328.7 million hectares, of which 197.3 million hectares constitute the gross cropped area, with a cropping intensity of 141.6 per cent. Over the years, the contribution of agriculture to the Indian economy has shown a progressive upward trend. Within agriculture, horticulture has emerged as an important sub-sector. States such as Karnataka, Maharashtra, Andhra Pradesh, Kerala, and West Bengal occupy prominent positions in terms of area and production of horticultural crops. Karnataka accounts for 8.4 per cent of the total area under horticultural crops in India but contributes only 6.8 per cent to total horticultural production, ranking 18th in terms of productivity.

The National Horticulture Mission (NHM) was launched during 2005-06 by the Department of Agriculture and Cooperation under the Ministry of Agriculture, Government of India, with the objective of achieving holistic development of the horticulture sector. The mission

emphasizes the establishment of forward and backward linkages among all stakeholders, including farmers and private entrepreneurs. NHM covers all states and three Union Territories Andaman and Nicobar Islands, Lakshadweep, and Puducherry except the eight North-Eastern states including Sikkim, and the Himalayan states of Jammu & Kashmir, Himachal Pradesh, and Uttarakhand. These excluded regions are covered under a separate programme, the Horticulture Mission for North East and Himalayan States (HMNEH). During the Tenth Five-Year Plan, NHM was fully funded by the Government of India. In the Eleventh Five-Year Plan, the funding pattern was revised to 85 per cent central assistance and 15 per cent contribution from the respective state governments. At present, out of 483 districts across 18 states and three Union Territories, NHM is operational in 384 districts. In 2014-15, the Mission for Integrated Development of Horticulture (MIDH) was established as the nodal agency for the comprehensive development of the horticulture sector in the country, with NHM functioning as a sub-scheme under MIDH. The mission aims to harness the full potential of horticulture by enhancing the production of fruits, vegetables, flowers, spices, medicinal plants, and other horticultural crops.

In Karnataka, the NHM was implemented on June 30, 2005, in two phases. During the first phase (2004-05), the scheme covered 15 districts, namely Bengaluru (Urban), Bengaluru (Rural), Tumkur, Kolar, Chitradurga, Hassan, Mysore, Kodagu, Udupi, Dakshina Kannada, Belgaum, Bijapur, Bagalkot, Gulbarga, and Koppal. In the second phase, during 2015-16, the scheme was extended to the remaining 15 districts—Chikkaballapur, Ramanagara, Mandya, Chamarajnagar, Chikkamagaluru, Shivamogga, Davangere, Haveri, Uttara Kannada, Dharwad, Gadag, Bellary, Bidar, Raichur, and Yadgir—thereby covering all 30 districts of Karnataka. Under NHM, emphasis has been placed on 16 major horticultural crops, including mango, grapes, pomegranate, banana, pineapple, cashew, cocoa, pepper, ginger, aromatic plants, and flowers. The mission also provides support for post-harvest management, processing, and marketing of horticultural produce.

Among fruit crops, pomegranate has shown remarkable progress in Karnataka. During 2017-18, pomegranate was cultivated over an area of 25,967 hectares with a production of 268,228 metric tonnes. By 2021-22, the area under pomegranate increased to 27,693 hectares and production rose to 302,451 metric tonnes, accounting for 3.60 per cent of the total fruit crop production in the state. This consistent growth has established pomegranate as an important perennial fruit crop in Karnataka. At present, pomegranate cultivation in Karnataka covers about 28.09 thousand hectares, with a total production of 328.92 thousand metric tonnes and an average productivity of 11.71 metric tonnes per hectare, which is marginally equal to and slightly above the national average of 11.70 metric tonnes per hectare. The major pomegranate-producing districts in the state include Chitradurga, Tumkur, Koppal, Bagalkot, Bijapur, Raichur, Belgaum, Bellary and Dharwad. Despite the increase in area and production, several studies indicate considerable scope for further improvement in productivity. Constraints such as inadequate grower knowledge, limited adoption of improved technologies, and restricted access to markets continue to hinder optimal production.

Therefore, the present study aims to analyze the association between profile characteristics with livelihood security, perception level and economic performance of Pomegranate growers in Karnataka in relation to the implementation of the NHM scheme.

2. Methodology

The present study was taken up during 2023-24 to analyze the overall association between profile characteristics with livelihood security, perception level and economic performance of Pomegranate growers under National Horticulture Mission (NHM) in Chikkaballapura and Chitradurga districts of Karnataka. This study was purposively carried out in Chitradurga and Chikkaballapura district of Karnataka State. As NHM is wide spread in all the districts of Karnataka state, Chitradurga was selected as NHM was started first in that region and Chikkaballapura district was selected based on its wide spread activities in this region because NHM was started in second phase in this district. These two districts were purposively selected for the study as the number of beneficiary pomegranate growers were more in these districts. The ex-post facto design was used. The selection of respondents was by following simple random sampling technique has been employed for the selection of respondents of pomegranate growers from Chitradurga and Chikkaballapura. From each district 60 beneficiaries and 30 non - beneficiaries were selected. which constituted the total sample size of 180 pomegranate grower respondents. The data were collected from the respondents through personal interview method using pre-tested and well-structured schedule.

3. Results

A. Association between profile characteristics with livelihood security of beneficiary pomegranate growers of NHM in Chikkaballapura and Chitradurga districts

The table 1 presents the results of the Chi-square (χ^2) tests and contingency coefficient values, examining the association between various profile characteristics and livelihood security among beneficiary pomegranate growers from Chikkaballapura and Chitradurga districts, along with the overall group.

1. **Age:** No significant associations were found for age with livelihood security in Chikkaballapura and Chitradurga district and also the overall group. The contingency coefficients were low across all groups, indicating a weak relationship between age and livelihood security.
2. **Education:** Education showed no significant association with livelihood security in Chikkaballapura and Chitradurga district and also the overall group with relatively low contingency coefficients, suggesting minimal impact of education on livelihood security.
3. **Landholding:** A significant association was observed for landholding in Chikkaballapura indicating that land size was an important factor in determining livelihood security. However, there was no significant association in Chitradurga and the overall group showed a significant association as well with moderate to low contingency coefficients.
4. **Farming Experience:** Farming experience had no

significant association with livelihood security in Chikkaballapura district and the overall group too. However, in Chitradurga, farming experience was significantly associated with livelihood security with a higher contingency coefficient.

5. **Management Orientation:** No significant association was found in Chikkaballapura and the overall group, but Chitradurga showed a significant association with a moderate contingency coefficient suggesting that management orientation was important in Chitradurga.
6. **Achievement Motivation:** Achievement motivation was significantly associated with livelihood security in Chikkaballapura district and overall with higher contingency coefficients respectively. No significant association was observed in Chitradurga district.
7. **Innovativeness:** Innovativeness had no significant association with livelihood security in any of the groups of Chikkaballapura and Chitradurga and also overall.
8. **Economic Motivation:** No significant association was observed for economic motivation in Chikkaballapura and Chitradurga districts and the overall group with moderate contingency coefficients indicating weak associations.
9. **Scientific Orientation:** A significant association was found for scientific orientation in Chikkaballapura and Chitradurga districts and the overall group with strong contingency coefficients highlighting the importance of scientific orientation in livelihood security.

Table 1: Association between profile characteristics with Livelihood security of beneficiary Pomegranate Growers of NHM in Chikkaballapura and Chitradurga districts

Sl. No.	Profile characteristics	Chikkaballapura Beneficiaries (n1=60)		Chitradurga Beneficiaries (n2=60)		Overall Beneficiaries (n=120)	
		$\chi 2$ Value	Contingency Coefficient	$\chi 2$ Value	Contingency Coefficient	$\chi 2$ Value	Contingency Coefficient
1.	Age	0.50 ^{NS}	0.07	1.54^{NS}	0.12	2.13 ^{NS}	0.14
2.	Education	0.23 ^{NS}	0.03	3.94^{NS}	0.19	11.52^{NS}	0.29
3.	Land holding	15.60*	0.36	0.34 ^{NS}	0.14	13.78*	0.23
4.	Farming experience	4.23 ^{NS}	0.14	11.34*	0.32	4.62 ^{NS}	0.19
5.	Management orientation	4.82 ^{NS}	0.23	10.24*	0.28	2.63^{NS}	0.14
6.	Achievement motivation	11.85*	0.28	0.85^{NS}	0.09	19.17**	0.37
7.	Innovativeness	0.75 ^{NS}	0.07	2.24 ^{NS}	0.13	4.90 ^{NS}	0.19
8.	Economic motivation	8.51 ^{NS}	0.25	4.53 ^{NS}	0.21	5.59 ^{NS}	0.21
9.	Scientific orientation	11.78*	0.36	13.35*	0.33	13.78*	0.22
10.	Risk orientation	8.36 ^{NS}	0.25	6.03^{NS}	0.23	1.97 ^{NS}	0.12
11.	Credit orientation	3.01 ^{NS}	0.15	1.34 ^{NS}	0.38	1.40 ^{NS}	0.15
12.	Cosmopoliteness	5.56 ^{NS}	0.21	9.86*	0.41	3.28^{NS}	0.16
13.	Socio-political participation	4.20 ^{NS}	0.18	6.23^{NS}	0.22	4.36^{NS}	0.18
14.	Mass media exposure	14.33*	0.26	21.42**	0.52	17.67**	0.35
15.	Extension contact	11.14*	0.29	15.44**	0.37	12.34*	0.31
16.	Extension participation	11.67*	0.18	7. 05 ^{NS}	0.12	7.06^{NS}	0.23
17.	Decision making ability	1.51 ^{NS}	0.11	1.24 ^{NS}	0.09	3.74^{NS}	0.17
18.	Material possession	8.49 ^{NS}	0.25	12.35*	0.33	1.59^{NS}	0.11

** & *: Significant at 1% and 5% level of significance, NS: Non-significant

10. **Risk Orientation:** Risk orientation did not show any significant association in Chikkaballapura and Chitradurga districts and overall with low contingency coefficients.
11. **Credit Orientation:** There was no significant association with credit orientation in Chikkaballapura and Chitradurga districts and overall with low contingency coefficients indicating minimal influence.
12. **Cosmopoliteness:** showed no significant association in Chikkaballapura and the overall group, but there was a significant association in Chitradurga with a high contingency coefficient suggesting its influence in Chitradurga district.
13. **Socio-political Participation:** No significant association was found for socio-political participation in Chikkaballapura and Chitradurga districts and the overall group.
14. **Mass Media Exposure:** A significant association was found for mass media exposure in all groups: Chikkaballapura and Chitradurga districts and overall with strong contingency coefficients indicating that exposure to mass media plays a key role in livelihood security.
15. **Extension Contact:** Extension contact was significantly associated with livelihood security in all groups: Chikkaballapura and Chitradurga districts and overall with strong contingency coefficients showing its importance for livelihood security**.**
16. **Extension Participation:** Extension participation showed significant associations in Chikkaballapura, but not in Chitradurga districts and overall with moderate contingency coefficients.
17. **Decision Making Ability:** No significant association was found for decision-making ability in any of the groups: Chikkaballapura and Chitradurga and overall.
18. **Material Possession:** Material possession showed a significant association only in Chitradurga district with a moderate contingency coefficient. No significant association was found in Chikkaballapura district and with overall.

B. Overall association between profile characteristics with perception level of beneficiary pomegranate growers of NHM in Chikkaballapura and Chitradurga districts

The table 2 summarizes the Chi-square (χ^2) test results and contingency coefficient values, examining the association between various profile characteristics and perception level among beneficiary pomegranate growers in Chikkaballapura and Chitradurga districts, with the overall data for both districts combined.

1. **Age**: Age did not show any significant association with perception level in Chikkaballapura and Chitradurga districts and the overall group. The contingency coefficients were low across all groups, indicating a weak relationship between age and livelihood security.
2. **Education**: A significant association was found for education in all groups. In Chikkaballapura and Chitradurga districts and the overall group, the contingency coefficients increased with each group, highlighting that education plays a strong role in influencing perception level.
3. **Landholding**: Landholding was significantly associated with perception level in Chikkaballapura district and the overall group with moderate contingency coefficients. However, no significant association was found in Chitradurga suggesting that land holding was more critical in Chikkaballapura district and overall rather than in Chitradurga.
4. **Farming experience**: Farming experience showed significant associations in all groups: Chikkaballapura and Chitradurga district and the overall group. The contingency coefficients were moderate to low, indicating that farming experience has a noticeable impact on perception level.
5. **Management orientation**: Management orientation had no significant association with perception level in Chikkaballapura district but a significant association was observed in Chitradurga district and the overall group with moderate contingency coefficients. This suggests that management orientation is more influential in Chitradurga.
6. **Achievement motivation**: Achievement motivation was significantly associated with perception level in Chikkaballapura district and the overall group with strong contingency coefficients. No significant association was observed in Chitradurga district indicating its stronger influence in Chikkaballapura district.

Table 2: Overall Association between profile characteristics with perception level of beneficiary Pomegranate Growers of NHM in Chikkaballapura and Chitradurga districts

Sl. No.	Profile characteristics	Chikkaballapura Beneficiaries (n_1=60)		Chitradurga Beneficiaries (n_2=60)		Overall Beneficiaries (n=120)	
		χ^2 Value	Contingency Coefficient	χ^2 Value	Contingency Coefficient	χ^2 Value	Contingency Coefficient
1.	Age	0.50^{NS}	0.07	1.57^{NS}	0.12	2.13^{NS}	0.14
2.	Education	25.23*	0.03	24.94*	0.19	25.52*	0.29
3.	Land holding	15.60*	0.36	0.34^{NS}	0.14	13.78*	0.23
4.	Farming experience	14.23*	0.14	11.34*	0.32	12.62*	0.19
5.	Management orientation	8.80^{NS}	0.23	10.24*	0.28	10.63*	0.14
6.	Achievement motivation	11.85*	0.28	0.85^{NS}	0.09	19.17**	0.37
7.	Innovativeness	0.75^{NS}	0.07	2.24^{NS}	0.13	4.90^{NS}	0.19
8.	Economic motivation	10.51*	0.25	14.52*	0.21	15.59*	0.21
9.	Scientific orientation	11.78*	0.36	13.32*	0.33	13.78*	0.22
10.	Risk orientation	8.36^{NS}	0.25	6.03^{NS}	0.23	1.97^{NS}	0.12
11.	Credit orientation	3.01^{NS}	0.15	1.34^{NS}	0.38	1.40^{NS}	0.15
12.	Cosmopoliteness	5.56^{NS}	0.21	9.86*	0.41	8.28^{NS}	0.16
13.	Socio-political participation	4.20^{NS}	0.18	6.23^{NS}	0.22	4.36^{NS}	0.18
14.	Mass media exposure	14.33*	0.26	21.45**	0.52	17.67**	0.35
15.	Extension contact	11.14*	0.29	15.42*	0.37	12.34*	0.31
16.	Extension participation	11.67*	0.18	7.45^{NS}	0.12	7.06^{NS}	0.23
17.	Decision making ability	1.51^{NS}	0.11	1.24^{NS}	0.09	3.74^{NS}	0.17
18.	Material possession	8.49^{NS}	0.25	12.35*	0.33	1.59^{NS}	0.11

** & *:Significant at 1% and 5% level of significance, NS: Non significant

7. **Innovativeness:** Innovativeness did not show significant associations in Chikkaballapura and Chitradurga district and overall suggesting it did not have a significant impact on perception level in the current context.
8. **Economic motivation:** Economic motivation was significantly associated with perception level in all groups: Chikkaballapura and Chitradurga districts and the overall group with moderate contingency coefficients indicating its importance in enhancing perception level.
9. **Scientific orientation:** A significant association was found for scientific orientation in all groups. Chikkaballapura and Chitradurga districts and the overall group with strong contingency coefficients highlighting its crucial role in perception level.

10. **Risk orientation:** Risk orientation showed no significant associations in Chikkaballapura and Chitradurga districts and the overall group indicating that it has minimal influence on perception level.
11. **Credit Orientation:** No significant associations were observed for credit orientation in Chikkaballapura and Chitradurga districts and the overall group suggesting that access to credit was not a major determinant of perception level.
12. **Cosmopoliteness**: It showed no significant association in Chikkaballapura district and the overall group. However, a significant association was found in Chitradurga with a strong contingency coefficient, highlighting its impact in that district.
13. **Socio-political participation**: Socio-political participation showed no significant association in Chikkaballapura and Chitradurga district and the overall group suggesting that this factor does not significantly affect perception level.
14. **Mass media exposure**: A significant association was found for mass media exposure in all groups: Chikkaballapura and Chitradurga districts and the overall group with strong contingency coefficients indicating that mass media exposure is an important factor in improving perception level.
15. **Extension contact**: Extension contact was significantly associated with livelihood security in all groups: Chikkaballapura and Chitradurga districts and the overall group with strong contingency coefficients suggesting the importance of extension services in enhancing perception level.
16. **Extension participation**: Extension participation showed a significant association with perception level in Chikkaballapura district, but not in Chitradurga district and the overall group with a moderate contingency coefficient in Chikkaballapura.
17. **Decision Making Ability**: No significant associations were found for decision-making ability in any of the groups: Chikkaballapura and Chitradurga districts and the overall group indicating it did not strongly influence on perception level.
18. **Material possession**: Material possession was not significantly associated with perception level in Chikkaballapura and the overall group. However, it showed a significant association in Chitradurga district with a moderate contingency coefficient suggesting its influence in that district.

C. Overall association between profile characteristics with economic performance of beneficiary pomegranate growers of NHM in Chikkaballapura and Chitradurga districts

The table 3 presents the Chi-square (χ^2) values and contingency coefficients for the relationship between profile characteristics and economic performance among beneficiary pomegranate growers in Chikkaballapura and Chitradurga, as well as the overall data for both districts combined.

1. **Age**: Age did not exhibit a significant association with economic performance in any of the groups. In Chikkaballapura and Chitradurga districts and the overall group, all contingency coefficients were low, indicating a weak association between age and economic performance.
2. **Education**: A significant association was found with education in Chikkaballapura district, but not in Chitradurga district and with overall. The contingency coefficient for Chikkaballapura was high, showing that education significantly influences economic performance in this district, while its effect was weaker in Chitradurga district.
3. **Landholding**: Landholding exhibited a significant association with economic performance in Chitradurga district and overall with strong contingency coefficients. However, no significant association was found in Chikkaballapura district indicating that landholding was a more critical factor in Chitradurga and overall rather than in Chikkaballapura district.
4. **Farming experience**: Significant associations were found for farming experience in all groups: Chikkaballapura and Chitradurga districts and the overall group with moderate contingency coefficients. This suggested that farming experience plays an important role in economic performance across both the districts.
5. **Management orientation**: Management orientation was significantly associated with economic performance in Chitradurga and overall with moderate contingency coefficients, but no significant association was found in Chikkaballapura indicating it has a stronger influence in Chitradurga.
6. **Achievement Motivation**: Achievement motivation was significantly associated with economic performance in all groups of Chikkaballapura and Chitradurga districts and the overall group with strong contingency coefficients. This suggested that achievement motivation was an important factor for economic performance.
7. **Innovativeness**: Innovativeness showed no significant association in any of the groups: Chikkaballapura and Chitradurga district and overall indicating that it did not significantly affect economic performance.
8. **Economic motivation**: Economic motivation was significantly associated with economic performance in all groups: Chikkaballapura and Chitradurga districts and the overall group with varying contingency coefficients showing its significant role in improving economic performance.
9. **Scientific orientation**: No significant associations were found for scientific orientation in any of the groups: Chikkaballapura and Chitradurga districts and overall indicating that it is not a major determinant of economic performance.

Table 3: Overall association between profile characteristics with economic performance of beneficiary pomegranate growers of NHM in Chikkaballapura and Chitradurga districts

Sl. No.	Profile characteristics	Chikkaballapura Beneficiaries (n_1=60)		Chitradurga Beneficiaries (n_2=60)		Overall Beneficiaries (n=120)	
		$\chi 2$ Value	Contingency Coefficient	$\chi 2$ Value	Contingency Coefficient	$\chi 2$ Value	Contingency Coefficient
1.	Age	4.39^{NS}	0.26	0.79^{NS}	0.31	5.44^{NS}	0.22
2.	Education	27.72*	0.55	13.69^{NS}	0.43	13.32^{NS}	0.31
3.	Land holding	6.65^{NS}	0.31	14.68*	0.43	21.18**	0.38
4.	Farming experience	10.39^{*}	0.23	12.53^{*}	0.22	12.23*	0.13
5.	Management orientation	1.09^{NS}	0.13	11.43*	0.32	2.73^{NS}	0.14
6.	Achievement motivation	16.28*	0.33	13.11^{*}	0.04	14.20*	0.28
7.	Innovativeness	4.87^{NS}	0.27	1.32^{NS}	0.15	2.89^{NS}	0.15
8.	Economic motivation	15.99^{*}	0.03	13.26^{*}	0.22	10.42^{*}	0.14
9.	Scientific orientation	3.13^{NS}	0.22	1.77^{NS}	0.17	0.44^{NS}	0.06
10.	Risk orientation	4.98^{NS}	0.32	9.79*	0.37	7.98^{NS}	0.25
11.	Credit orientation	3.12^{NS}	0.22	6.37^{NS}	0.31	9.75*	0.27
12.	Cosmopoliteness	3.32^{NS}	0.22	2.16^{NS}	0.18	5.03^{NS}	0.25
13.	Socio-political participation	10.13*	0.38	2.18^{NS}	0.18	2.33^{NS}	0.13
14.	Mass media exposure	13.01*	0.21	12.34*	0.26	12.75^{*}	0.15
15.	Extension contact	10.34*	0.32	7.43^{NS}	0.23	12.16*	0.25
16.	Extension participation	10.11^{*}	0.28	13.44*	0.42	10.55*	0.22
17.	Decision making ability	13.23^{*}	0.22	15.30^{*}	0.3	15.39*	0.33
18.	Material possession	2.75^{NS}	0.25	3.85^{NS}	0.14	4.37^{NS}	0.18

** & *: Significant at 1% and 5% level of significance, NS: Non-significant

10. **Risk orientation**: Risk orientation had significant associations with economic performance in Chitradurga, but not in Chikkaballapura and overall with a higher contingency coefficient in Chitradurga. This suggests that risk orientation is more influential in Chitradurga than in Chikkaballapura district.
11. **Credit orientation**: Credit orientation showed no significant associations in Chikkaballapura and Chitradurga districts and the overall group, but with a moderate contingency coefficient. Overall suggesting a weak association with economic performance.
12. **Cosmopoliteness**: It had no significant associations in Chikkaballapura, Chitradurga and overall indicating that this characteristic did not strongly influence economic performance.
13. **Socio-political participation**: Socio-political participation showed a significant association in Chikkaballapura districts but not in Chitradurga district and overall suggesting its role in economic performance in Chikkaballapura.
14. **Mass media exposure**: Mass media exposure was significantly associated with economic performance in all groups: Chikkaballapura and Chitradurga and overall with moderate contingency coefficients. This indicated that access to mass media significantly affects economic performance.
15. **Extension contact**: Extension contact showed significant associations in Chikkaballapura and the overall group with moderate contingency coefficients while it was not significant in Chitradurga district. This suggested the importance of extension contact in enhancing economic performance in Chikkaballapura.
16. **Extension participation**: Extension participation was significantly associated with economic performance in all groups: Chikkaballapura and Chitradurga districts and overall with moderate to high contingency coefficients.
17. **Decision making ability**: Decision-making ability had a significant association with economic performance in all groups: Chikkaballapura and Chitradurga districts and overall with strong contingency coefficients. This indicated that decision-making ability was a critical factor influencing economic performance.
18. **Material Possession**: No significant associations were found for material possession in Chikkaballapura and Chitradurga districts and overall suggesting minimal influence on economic performance.

4. Conclusion

The present study was concluded to know the overall association between profile characteristics with livelihood security, perception level and economic performance of Pomegranate growers under National Horticulture Mission (NHM) in Chikkaballapura and Chitradurga districts of Karnataka. Several profile characteristics, such as landholding, achievement motivation, scientific orientation, mass media exposure, and extension contact, were significantly associated with livelihood security across Chikkaballapura and Chitradurga districts and the overall beneficiary group. These findings highlighted that certain factors like land size, achievement motivation, and access to information and extension services play a crucial role in improving livelihood security. Regarding, variables such as education, landholding, farming experience, achievement motivation, scientific orientation, mass media exposure, extension contact and economic motivation, significantly influence perception level among beneficiary pomegranate growers. The associations varied between Chikkaballapura and Chitradurga district. Further, the certain profile characteristics, such as education, landholding, farming experience, achievement motivation, economic motivation, mass media exposure, extension contact, extension participation and decision-making ability, significantly influence on economic performance among beneficiary

pomegranate growers. These associations varied across the districts, with some characteristics like landholding and extension contact showing more influence in Chikkaballapura district, while others like risk orientation was more significant in Chitradurga district. Extending the NHM schemes support to all pomegranate growers could help improve their horticultural productivity and economic outcomes, benefiting them in all the way to NHM beneficiaries.

References

1. Behera UK, France J. Integrated farming systems and the livelihood security of small and marginal farmers in India and other developing countries. Advances in Agronomy. 2016;8(2):235-282.
2. Bharath HG. Comparative analysis of adoption level and economic performance of chrysanthemum growers in Tumakuru district of Karnataka. Bangalore: University of Agricultural Sciences; 2022.
3. Gopika MH, Lalitha KC. Perception of beneficiary and non-beneficiary farmers towards integrated farming system demonstration (IFSD). Mysore Journal of Agricultural Sciences. 2018;52(2):227-233.
4. Barela HR, Jha SK, Rai CK, Yadav R. Assessment of livelihood security of tribal farmers: a case study from tribal area of Madhya Pradesh, India. International Journal of Current Microbiology and Applied Sciences. 2018;7(3):1135-1141.
5. Kumar SN, Reddy GP, Ratnakar R. Perception of farmers on agricultural extension service providers (public, private and NGO extension service providers) in Andhra Pradesh, India. International Journal of Current Microbiology and Applied Sciences. 2018;7(3):3772-3779.
6. Kumar PP. An analysis of adoption level and economic performance of pomegranate growers in Tumkur district of Karnataka. Bangalore: University of Agricultural Sciences; 2017.
7. Pradhan S, Pande AK, Bisht K. Constraints confronted by small farmers in achieving livelihood security in Shahpura block of Jabalpur district, Madhya Pradesh, India. International Journal of Current Microbiology and Applied Sciences. 2020;9(6):2108-2116.
8. Ravisankar N, Ansari MA, Shamim M, Prusty AK, Singh R, Panwar AS, *et al*. Sustainable livelihood security of small farmers improved through a resilient farming system in the semiarid region of India. Land Degradation & Development. 2022;33(15):2830-2842.
9. Jhamb S. Assessment of livelihood security of farmers in Malwa region of Punjab. Ludhiana: Punjab Agricultural University; 2021.
10. Shwetha NV. A comparative analysis of livelihood security of farmers practicing different farming systems in southern Karnataka. Bangalore: University of Agricultural Sciences; 2019.