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A Comparative assessment of socio-economic determinants influencing beneficiaries and non-beneficiaries under the ARYA program in Kaushambi district, U.P.

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Abstract

The Attracting and Retaining Youth in Agriculture (ARYA) program's socioeconomic effects on rural beneficiaries and non-beneficiaries are assessed in this study. Family size, housing style, land holding, yearly income, extension contact, exposure to mass media, innovativeness, risk-taking, and economic motivation were among the characteristics on which data were gathered. The results show that, in comparison to non-recipients, ARYA beneficiaries exhibit increased innovativeness, improved information access, higher engagement in extension activities, and stronger economic drive. Additionally, their socioeconomic circumstances have improved, as evidenced by higher incomes, better housing, and land ownership. These results imply that by improving their abilities, stimulating entrepreneurship, and fostering long-term involvement in agriculture, the ARYA program successfully empowers young people in rural areas. The report emphasizes how the program promotes sustainable livelihoods and aids in rural development.

Keywords: ARYA, entrepreneurship, rural migration

Introduction

In the era of Science and Space - Agriculture remains the primary pillar of India's economy, particularly India's rural economy where 47 per cent of the population is dependent on agriculture for livelihood and almost 65 per cent of the population lives there (Economic Survey 2021 data). India has 378 million young people. Two out of three lives in rural areas, and are largely disconnected India's story of economic growth with women and youth disproportionately affected (State of Rural Youth Employment 2024)

In the village context, youth embody a productive force whose skills, aspirations and adaptability can reorient agriculture from subsistence practices towards innovation and enterprise. Thus focus of the government on rural development and youths became imperative as they contribute not only to household incomes but also to larger village economy through agriculture and allied activities. At the national level empowering youth in agriculture strengthens the overall economy, reduces unemployment and fosters inclusive rural development. To guarantee more equal and inclusive growth the emphasis has been on particularly enhancing the quality of rural life (Indian Economic Survey 2021-2022) The rural youths generally tend to migrate because of several pull push factors, between 2001 and 2011 while population grew by 18 per cent, the number of migrants increased by 45 per cent. In 2011, 99 per cent of total migration was internal and immigrants comprised 1 per cent.

The government aims to encourage rural youth to take up agriculture as a means of livelihood. However, many young people in rural areas face a dilemma. On one hand, they lack the highly specialized skills required to join other sectors of the economy, limiting their options. On the other hand, agriculture, the most accessible occupation for them, is often seen as unattractive due to its low profitability, uncertain returns, and limited opportunities for growth. As a result, rural youth find themselves caught between limited choices and an unappealing agricultural sector, leading to uncertainty and hesitation about their future. To keep youths in agriculture, we need to make it more profitable and a viable option for their livelihoods. Recognizing the value of rural youth in agriculture, ICAR started a program called "Attracting and Retaining Youth in Agriculture" on July 16, 2015. The program aims to draw rural youth to agriculture and keep them engaged by involving them in agri-enterprises and helping them become agri-entrepreneurs. The major goal remains to build up the confidence they need to sustain farming as a viable career rather than seeking just a livelihood sustaining work in cities (Bairwa and Kushwaha, (2015)^[4].

At times, certain calamities offer an opportunity to revive existing systems. The COVID-19 pandemic was one such moment, forcing thousands to reverse migrate from urban centers back to rural areas. This shift presents a renewed opportunity to refocus and strengthen the objectives of the ARYA scheme, making it more relevant and impactful in

the current context. That's why several experts suggest full fledged implementations of the scheme (Thakur *et al.*, 2021) [6].

Methodology

Ex-post facto research design was used for the present study as the event has already occurred and the design is considered appropriate. The study was conducted in the state of Uttar Pradesh, where maximum KVK's are engaged in implementing the ARYA scheme. These KVKs run

entrepreneurship development training programmes and also provide assistance to these trained youths to set and run their enterprise. In the current investigation, the Kaushambi KVK was chosen as the scheme is successfully running in the area, and is focussing in three enterprises namely Poultry, Seed production and Goatery. For the study, 160 youths beneficiaries and 160 youths non beneficiary were selected from the same region.

Results and Discussion

Table 1: Socio-economic characteristics of ARYA beneficiaries and non-beneficiaries

Category	Beneficiaries		Non-beneficiaries	
	Frequency	Percentage	Frequency	Percentage
Age				
Young (18-35yr)	33	37	37	23.12
Middle (36-55yr)	68	50	50	31.26
Old (56 and above)	59	73	73	45.62
Education				
Illiterate	00	00	17	10.62
Primary	13	8.12	52	32.50
Secondary	27	16.88	56	35.00
High school	26	16.25	22	13.76
Intermediate	51	31.88	09	5.62
Graduation and above	43	26.87	04	2.50
Gender				
Male	129	80.62	137	85.62
Female	31	19.38	23	14.38
Caste				
General	66	41.25	47	29.38
OBC	26	16.25	33	20.62
SC	60	37.50	66	41.25
ST	8	5.00	14	8.75
Occupation				
None	00	0.00	17	10.62
Agriculture	64	40.00	50	31.25
Agricultural labour	69	43.12	33	20.62
Agriculture + subs	12	7.50	21	13.13
Independent occupation	9	5.62	29	18.13
Service	06	3.76	10	6.25
Family Type				
Nuclear	109	68.12	101	63.12
Joint	51	31.88	59	36.88
Size of family				
Less than 4 members	44	27.50	49	30.62
4-8 members	101	63.12	74	46.26
More than 8 members	15	9.38	37	23.12
Type of house				
Thatched house	19	11.88	45	28.12
Semi cemented house	49	30.62	73	45.63
Cemented house	85	53.12	40	25.00
Mansion	7	4.38	2	1.25
Land holding				
Landless	10	6.25	14	8.75
Marginal (>1 ha)	60	37.50	88	55.00
Small (1-2 ha)	69	43.12	49	30.62
Medium (2-4 ha)	16	10.00	6	3.75
Large (above 4 ha)	5	3.13	3	1.88
Annual Income				
Low (less than 50k)	39	24.38	91	56.88
Medium (50k-2lac)	76	47.50	55	34.37
High (above 2 lac)	45	28.12	14	8.75
Extension Contact				
Low (7-11)	24	15.00	82	51.26
Medium (12-16)	71	44.38	61	38.12
High(17-21)	65	40.62	17	10.62

Mass media exposure				
Low(8-13)	40	25.00	71	44.38
Medium (14-18)	74	46.25	65	40.62
High (19-23)	46	28.75	24	15.00
Innovativeness				
Low (6-10)	41	25.62	55	34.38
Medium(11-14)	51	31.88	58	36.25
High (15-18)	68	42.50	47	29.37
Risk orientation				
Low(6-10)	31	19.38	60	37.50
Medium(11-14)	78	48.75	52	32.50
High(15-18)	51	31.87	48	30.00
Economic Motivation				
Low(8-13)	44	27.50	69	43.12
Medium (14-18)	53	33.12	49	30.63
High (19-23)	63	39.38	42	26.25

Age

The study revealed that(table 1) maximum number of respondents among beneficiaries i.e 42.50 per cent belong to middle age category (24-29 years) followed by old age group(30-35 years) beneficiaries which were 36.88 per cent. whereas in contrast in case of non beneficiaries maximum percentage of respondents belong to the old age category (30-35 years) i.e. 45.62 percent. Similar results were shown by Gautam *et al.* (2007) ^[1] and Khode *et al.* (2009) ^[2].

Education

It is well established that people who are having more formal education tend to have more awareness of their lives and the related innovations. (Table 1) findings in the study suggest that among the beneficiaries the largest proportion of respondents belongs to the group who had attained education at least up to intermediate level with 31.88 per cent, followed by respondents 26.87 per cent who were having Graduate level of education. whereas in case of Non Beneficiaries respondents with secondary education level were prominently found with 35.00 per cent population, followed by primary level of education with 32.50 of respondents. Consistent with the findings of Hundal *et al* (2016) ^[6].

Gender

It can be inferred from the above table that there was predominance of male participants in both groups, comprising 80.62 per cent and 85.62 per cent respectively, while females account for only 19.38 per cent and 14.38 per cent in each group. This suggests that the study population is largely male-dominated.

Caste

Data in the table reveals that 41.25 per cent of beneficiaries were from the General category followed by 37.50 per cent and 16.25 per cent from SC and OBC category respectively. Only 5 per cent belong to the ST category. Whereas in non-beneficiaries 41.25 per cent belong to SC category followed by General category and then OBC category.

Occupation

It was concluded from table-1 that 40 per cent of the respondents from the beneficiaries category had agriculture as a major occupation while most of the respondents (43.12 per cent) were involved in agriculture+labour. While only

7.50 and 5.62 per cent of beneficiaries were involved in agriculture+subs and independent occupation respectively. In contrast, 31.25 per cent of non-beneficiaries had agriculture as their major occupation followed by 20.62 per cent in agriculture+labour followed by 18.13 per cent had independent occupation. While only 13.13 per cent were involved in agriculture+subsidiary. There were few non-beneficiaries (10.62 per cent) that were doing nothing.

Family type

Data in table-1 indicated that the majority of respondents in both beneficiaries and non-beneficiaries group were having nuclear family as their family type accounting for 68.12 and 63.12 per cent respectively followed by joint family. Similar findings by Satyanarayan and Jagadeeswary (2010) ^[3].

Size of Family

Among the category of beneficiaries, 63.12 per cent had families of 4-8 members, while 27.50 per cent had less than 4 members and only 9.38 per cent had more than 8 members. While non-beneficiaries show a higher percentage (46.26 per cent) in the 4-8 member category, with 30.62 per cent having less than 4 members and 23.12 per cent with more than 8 members. This indicates the predominance of medium sized families, which often ensures manageable household responsibilities while doing agricultural work.

Type of House

Among the beneficiaries, 53.12 per cent live in cemented houses followed by those of 30.62 per cent who live in semi-cemented houses, and 11.88 per cent in thatched houses, while a minimum of 4.38 per cent live in mansions. Whereas among the non-beneficiaries, 45.63 per cent reside in semi-cemented, 28.12 per cent in thatched, while barely 1.25 per cent lives in mansions.

Cemented and semi-cemented houses indicate a better socio-economic status and better quality of living. Different research paper's consistently show that pucca (cemented) houses are more common among economically better-off households, while vulnerable groups tend to live in poorer housing types.

Land Holding

Among beneficiaries, 43.12 per cent hold small land holding (1-2 ha), followed by 37.50 per cent of those who are marginal (>1 ha), and only 10 per cent medium land holding

(2-4 ha), with landless and large holders at 6.25% and 3.13% respectively. Whereas among non-beneficiaries, 55 per cent are marginal and only 1.88 per cent are large holders. Marginal and small landholdings dominate, which aligns with the broader Indian pattern of land fragmentation and prevalence of small to marginal farmers. Small holdings often constrain agricultural productivity but can promote diversification and family labor use.

Annual income

Table 1 illustrates that among beneficiaries 47.50 per cent fall in the medium income bracket (₹50,000-₹2,00,000), followed by 28.12 per cent in the high income group (above ₹2 lakh). Among non-beneficiaries, most of the respondents were in the low income category, followed by 34.37 per cent in medium annual income category. The higher proportion of medium and high income among beneficiaries suggests better economic gains, possibly due to program participation. Similar trends are observed in ARYA outcome studies, which note increased economic security and income diversification among beneficiaries. Similar findings were given by Rajesh *et al* (2024)^[9].

Extension Contact

Among beneficiaries, 44.38 per cent have medium extension contact, followed by 40.62 with high contact and 15.00 per cent with low contact. For non-beneficiaries, 51.26 per cent have low extension contact, 38.12per cent have medium extension contact, and only 10.62per cent have high extension contact.

Extension contact is crucial for effective dissemination of agricultural information and technology. The relatively high contact in beneficiaries indicates that program participants are better connected to extension agencies. Similar studies show that proactive extension linkage leads to better adoption of innovations among youth in ARYA and other extension-focused programs.

Mass Media Exposure

Table 1 depicts, Among the beneficiaries, 46.25 per cent respondents have medium mass media exposure, followed by 28.75 per cent have high, and 25.00 per cent have low mass media exposure. Whereas in contrast the non-beneficiaries respondents show 44.38 per cent with low mass media exposure, 15.00 per cent with high exposure. Mass media exposure plays a key role in awareness and adoption of agricultural practices. The greater exposure among beneficiaries enhances their access to timely and relevant farming information. National studies confirm that youth with more media exposure are more likely to adopt new farming methods and diversify their livelihoods.

Innovativeness

Among a total of 42.50 per cent beneficiaries score high on innovativeness, while 31.88 per cent have medium and 25.62 per cent have low innovativeness. Non-beneficiaries display 29.37 per cent high innovativeness, followed by medium level of innovativeness, and 34.38 per cent low innovativeness. Innovativeness reflects the tendency to try new ideas and practices. Higher innovativeness among beneficiaries suggests that the ARYA program successfully nurtures

entrepreneurial and creative mindsets. Prior research on ARYA and youth entrepreneurship highlights that program participation often increases readiness to experiment and innovate in agriculture.

Risk Orientation

Among beneficiaries, 48.75 per cent have medium risk orientation, 31.87 per cent have high, and 19.38 per cent have low risk orientation. Whereas among non-beneficiaries, 37.50 per cent show low, and 30.00 per cent high risk orientation. Medium and high risk orientation are more prominent among beneficiaries, indicating their greater willingness to experiment and adopt new practices, which is essential for entrepreneurial ventures and successful farm diversification. Similar studies on ARYA and youth entrepreneurship reflect a trend where program participants tend to exhibit higher risk-taking abilities, facilitating innovation and growth.

Economic Motivation

Out of total respondents 39.38 per cent of beneficiaries were having high economic motivation, 33.12 per cent were medium level of economic motivation. Among non-beneficiaries, 43.12 per cent showed low economic motivation, 30.63 had medium level, and only 26.25 per cent had high economic motivation.

Higher economic motivation among beneficiaries demonstrates strong financial aspirations and drive to improve livelihood through agriculture, which aligns with ARYA’s goal of promoting rural youth income generation. Previous research confirms economic motivation as a crucial factor for retention and success of youth in agriculture programs, echoing the importance of targeted interventions for improved socio-economic outcomes.

Table 2: Distribution of respondents according to their overall socio-economic profile

S. No.	Category	Beneficiaries		Non-beneficiaries		Total	
		F	P	F	P	F	P
1	Low (12-20)	43	26.88	69	43.12	112	35.00
2	Medium (21-29)	67	41.87	58	36.26	125	39.06
3	High (30-38)	50	31.25	33	20.62	83	25.94
	Total	160	100	160	100	320	100

The table illustrates the overall socio-economic profile of ARYA scheme respondents of both beneficiaries and non beneficiaries, categorizing them into low, medium, and high group. Among beneficiaries, the maximum respondents fall in the medium category (41.87 per cent), with 31.25 per cent in high and 26.88 per cent in low. In contrast the Non-beneficiaries show a higher proportion in the low category (43.12 per cent), followed by medium (36.26 per cent) and only 20.62 per cent in high.

As the above results show a higher percentage of ARYA recipients receive medium or high ratings, this suggests that they typically have a better socio-economic standing than non-beneficiaries. The scheme's beneficial effects on the social and economic advancement of participating youngsters are highlighted by the increased number of non-beneficiaries in the low category. These results are in line with recent research that demonstrates the substantial contributions that focused rural initiatives like ARYA make

to improving livelihoods, empowering young people, and decreasing socioeconomic inequalities in rural communities.

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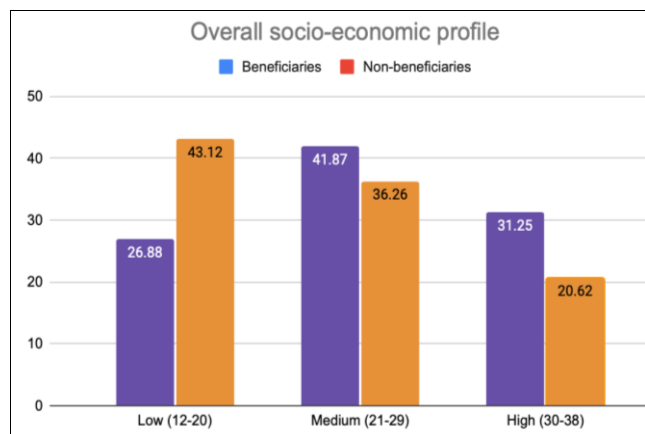


Fig 1: Distribution of respondents according to their overall socio-economic profile

Conclusion

The ARYA program has positively impacted rural youth by enhancing their socio-economic status, extension contact, media exposure, innovativeness, risk orientation, and economic motivation. Beneficiaries show improved housing, and land holdings compared to non-beneficiaries, which shows positive results. The program fosters youth engagement in agriculture through skill development and entrepreneurship, reducing migration and providing sustainable livelihoods. These findings align with other research confirming ARYA's role in empowering rural youth and promoting agricultural growth.

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