



# To study the impact of developmental programmes of agriculture, animal husbandry and fisheries departments on socio-economic development of Nicobari tribes of Nicobar group of Islands of Andaman and Nicobar Islands, India

DILIP KUMAR AND S.K. ZAMEER AHMED

**ABSTRACT :** The study was carried out during 2015-2016 in Andaman and Nicobar Islands on Nicobari tribes regarding impact of Major Schemes of Agriculture, Animal Husbandary and Fisheries department. The 240 farmers were selected as respondents. The characteristics namely education, contact with extension agencies, mass media exposure, risk orientation and innovativeness exhibited positive and statistically highly significant correlation with the knowledge gain of Nicobari tribal farmers. The profile characteristic scientific orientation and social participation had a positive and significant relationship with knowledge gain of the tribal farmers, whereas, farming experience exhibited negative but significant relationship with knowledge gain. However, age, occupational status, farm size, annual income, family type and tribal leadership shown no effect on the knowledge gain of tribal farmers. The characteristics namely social participation, mass media exposure, economic motivation, risk orientation, scientific orientation and tribal leadership exhibited positive and highly significant correlation with adoption among Nicobari tribal farmers. The character farming experience had negative but highly significant association with adoption. The profile characteristic educational status, contact with extension agencies and innovativeness had a positive and significant relationship with adoption among the tribal farmers. However, age, occupational status, farm size, annual income and family type shown no effect on the dependent variable adoption.

**KEY WORDS :** Nicobari tribal farmers, Knowledge gain, Adoption, Tribal leadership, Risk orientation innovativeness

**HOW TO CITE THIS PAPER :** Kumar, Dilip and Ahmed, S.K. Zameer (2017). To study the impact of developmental programmes of agriculture, animal husbandry and fisheries departments on socio-economic development of Nicobari tribes of Nicobar group of Islands of Andaman and Nicobar Islands, India. *Res. J. Animal Hus. & Dairy Sci.*, 8(1) : 41-45 : DOI: 10.15740/HAS/RJAHDS/8.1/41-45.

## INTRODUCTION

India is a vast and diverse country, which is also a home for over one-fourth of world's absolute poor. Among

the social groups in India, scheduled tribes (ST) has the highest proportion of the poor. While they account for only 8.6 per cent of the total population, they comprise 40 per cent of the displaced population (CTDP, 2009). Tribals are the most vulnerable sections of the population in India. They are exploited by the most age-old social and cultural handicaps coupled with environmental factors. The age old exploitation and repression of the tribals have considerably cut them off from the main stream of socio-economic development of the country

### MEMBERS OF RESEARCH FORUM

#### Address for correspondence :

Dilip Kumar, Ponnaiyah Ramajayam Institute of Science and Technology University, THANJAVUR (T.N.) INDIA

#### Associated Authors' :

S.K. Zameer Ahmed, ICAR-Central Inland Agricultural Research Institute, PORT BLAIR (ANDAMAN AND NICOBAR ISLANDS) INDIA

as a whole.

The Union Territory of Andaman and Nicobar Islands constitute a group of 572 Islands, islets reefs and isolated rocks in the Bay of Bengal. It is situated between 6.45° and 13.45° North latitude and 92.15° and 94° East longitude. There are two different group of Islands the Andaman and Nicobar. The Andaman group of Islands has a land area of 6408sq. km and Nicobar group has an area of 1841 sq. km. The Andaman and Nicobar Islands comprises of six scheduled tribes of two races- The Negrito and the Mongoloids. The Negrito race comprises of Andamanese, Jarawas, Sentinelese and Onges. The Mongloid race comprises of the Nicobarese and Shompens.

The Nicobarese are settled agriculturists and dependent on their land for their food. At present a sizable member of them are working as government servants. Other members in the family will be engaged in agricultural works. Their agriculture is for subsistence and very few of the modern technologies are adopted by them. They work only as much as is necessary to keep in good health and no more. The reason behind this may be:

–The tropical climate saps strength and makes hard work difficult.

–Basic needs of the Nicobarese are few and as the nature is bountiful, very little efforts are needed to grow and cater to their basic needs.

–Finally, amusements and festivals are as important as the need to work hard.

In spite of this, the Nicobarese raise plantation crops like coconut, yams, banana, other fruits, besides making copra, extracting oil, looking after livestock and fishing. Though the agricultural practices of Nicobarese are very simple, they grow a number of crops successfully getting enough produce for their subsistence and feasting.

In the present study all the major developmental programmes being implemented by the Department of Agriculture, Animal husbandry and Fisheries have been studied. The study would yield variable data on the socio-economic and psychological characteristics of Nicobari farmers. This will enable to understand, whether the selected characteristics really played a role in their socio-economic development. The findings of personal, socio-economic and psychological variables and their relationship with their knowledge gain and adoption towards developmental programmes would be helpful to design a sound situation specific livelihood enhancement programmes for the benefit of Nicobari farmers by

stressing positive effects of the variables and taking precautionary measures for nullifying the effects of variables with negative impact. The main focus of the study is to evaluate the role of various developmental schemes in the development of Nicobarese tribal areas of Andaman and Nicobar Islands.

Naik *et al.* (2009) in their study on knowledge level about organic farming in Haryana revealed that age was showing positive but non-significant relationship with the knowledge level of respondents regarding organic farming practices.

Gaikwad and Khalache (2010) in their study of agricultural development of Saora Tribes in Bolangir district of Orissa state found that there was negative and non-significant relationship between age and level of knowledge about recommended agricultural practices.

Sharma *et al.* (2013) in their study on impact of training programme on knowledge and adoption of preservation technologies among farm women found that age had negative and highly significant relationship with knowledge.

Shruti *et al.* (2015) in their study on knowledge of tribal farmers regarding scientific animal husbandry practices revealed that education was positively and significantly correlated with knowledge gain.

Patel and Chauhan (2015) in their study on constraints faced and suggestions offered by tribal farmers of Navsari district of South Gujarat found that occupational status had positive and highly significant correlation with the knowledge.

Mooventhan *et al.* (2016) in their study on symbolic adoption of dairy farming practices by tribal dairy farmers in Chhattisgarh found no relation between educational status and symbolic adoption of dairy farming practices.

Samajdar *et al.* (2016) in their study on knowledge, attitude and practices of different tribes of Garo Hills districts of Meghalaya towards scientific horticulture found a non-significant relation between adoption and education of the respondents.

Sharma *et al.* (2013) in their study on impact of training programme on knowledge and adoption of preservation technologies among farm women found that extension contact had a non - significant relationship with adoption.

Patel and Chauhan (2015) in their study on constraints faced and suggestions offered by tribal farmers of Navsari district of South Gujarat found that extension contact had positive and highly significant

correlation with the adoption.

Ramesh and Santha (2008) in their study on extent of adoption and relationship between the characteristics of organic farmers and their adoption level found that higher information source utilization by the respondents would have helped them to accept the practices to higher level.

### Objective :

To measure the extent of knowledge gain and adoption of development programmes by the Nicobari tribes.

### MATERIAL AND METHODS

The present investigation was conducted in four blocks of Andaman and Nicobar Islands, namely, Little Andaman, Car Nicobar, Kamorta and Katchal selected purposively for the study. Little Andaman comes under South Andaman district and the rest three blocks belongs to Nicobar district. 60 farmers from each block were selected randomly. A total of 240 respondents were investigated for this study. The data were collected from the sampled respondents with the help of specially designed interview schedule. Appropriate scoring procedure was developed to measure the dependent variables knowledge gain and adoption towards developmental programmes. The main objectives of this study were to identify the existing relationship and influence between independent socio-economic variables and dependent variable knowledge gain and adoption. Further, the degree of association is measured by a correlation coefficient ( $r$ ). It is sometimes called Pearson's correlation co-efficient after its originator and is a measure of linear association. If a curved line is needed to express the relationship, other and more complicated measures of the correlation must be used. The correlation co-efficient is measured on a scale that varies from + 1 through 0 to - 1. Complete correlation between two variables is expressed by either + 1 or -1. When one variable increases as the other increases the correlation is positive; when one decreases as the other increases it is negative. Complete absence of correlation is represented by 0 (BMJ, 2015).

### RESULTS AND DISCUSSION

The results of the present study as well as relevant discussions have been presented under following sub heads:

### Relationship of the independent variables towards knowledge gain :

The results of correlation analysis of fifteen independent variables on knowledge gain are presented in Table 1.

**Table 1 : Relationship of the independent variables towards knowledge gain (n=240)**

Variables	'r' value
Age	-.007 <sup>NS</sup>
Educational status	.223**
Occupational status	-.075 <sup>NS</sup>
Farming experience	-.144*
Farm size	-.010 <sup>NS</sup>
Annual income	-.014 <sup>NS</sup>
Extension contact	.372**
Social participation	.143*
Mass media exposure	.354**
Economic motivation	.148*
Risk orientation	.197**
Scientific orientation	.149*
Innovativeness	.195**
Family type	.057 <sup>NS</sup>
Tribal leadership	.056 <sup>NS</sup>

\* and \*\* indicate significance of values at P=0.05 and 0.01 respectively  
NS= Non-significant

The results indicate that out of fifteen characteristics studied, five characters were found to be having a positive and highly significant association with knowledge gain. The characteristics namely education, contact with extension agencies, mass media exposure, risk orientation and innovativeness exhibited positive and statistically highly significant correlation with the knowledge gain of Nicobari tribal farmers at 1 per cent level of probability. Borker *et al.* (2000) and Patel and Chauhan (2015) also found similar findings on the relationship between education and knowledge. Sharma *et al.* (2013) in their study on impact of training programme on knowledge and adoption of preservation technologies among farm women found that education had positive and highly significant relationship with knowledge.

Gaikwad and Khalache (2010) and Shruti *et al.* (2015) also found similar relationship between extension contact and knowledge.

Veeranna and Singh (2004); Shruti *et al.* (2015) and Patel and Chauhan (2015) also found positive and highly significant association between mass media exposure and knowledge, Kumar and Popat (2010) found similar results between innovativeness and knowledge. The profile

characteristic scientific orientation and social participation had a positive and significant relationship with knowledge gain of the tribal farmers at 5 per cent level of probability. Borkar *et al.* (2000) found similar result on scientific orientation and Waikhom *et al.* (2015) found similar results on social participation. The profile character farming experience exhibited negative but significant relationship with knowledge gain. The findings of farming experience was in line with the results of Mooventhan *et al.* (2016). Where it was observed that with decrease in farming experience the knowledge gain was found to be increasing. It may be concluded that younger tribal farmers possessed more knowledge compared to aged farmers. However, age, occupational status, farm size and annual income had a negative but non-significant association with knowledge gain. Gaikwad and Khalache (2010) found similar results on age, Shruti *et al.* (2015) found similar results on occupational status and Samajdar *et al.* (2016) revealed similar findings between the independent variables farm size and annual income with knowledge gain of tribal farmers. Whereas, family type and tribal leadership shown positive and non-significant relationship with knowledge gain of tribal farmers.

#### Relationship of the independent variables with adoption :

The results of correlation analysis of fifteen independent variables on adoption are presented in Table 2.

The results indicate that out of fifteen characteristics studied, five characters were found to be having a positive and highly significant association with adoption. The characteristics namely social participation, mass media exposure, economic motivation, risk orientation and scientific orientation exhibited positive and statistically highly significant correlation with the adoption of departmental schemes by the Nicobari tribal farmers at 1 per cent level of probability. Satishkumar (2009) and Patel and Chauhan (2015) also found similar findings on the relationship between social participation and adoption. Veeranna and Singh (2004); Choudhary *et al.* (2001) and Satishkumar (2009) found similar relationship between mass media exposure and adoption. Mishra *et al.* (2012) also found positive and highly significant association between economic motivation and adoption. Farkade *et al.* (1999); Pandit *et al.* (2007) and Maraddl *et al.* (2007) found similar results between risk orientation and adoption. Ranganath *et al.* (2001) and Chandra and Reddy (2002)

**Table 2 : Relationship of the independent variables towards adoption (n=240)**

Variables	Adoption
Age	-.019
Educational status	.141*
Occupational status	-.020
Farming experience	-.252**
Farm size	.079
Annual income	.049
Extension contact	.149*
Social participation	.170**
Mass media exposure	.196**
Economic motivation	.292**
Risk orientation	.167**
Scientific orientation	.237**
Innovativeness	.152*
Family type	.027
Tribal leadership	.369**

NS= Non-significant,

\* and \*\* indicate significance of values at P=0.05 and 0.01, respectively

found similar results between scientific orientation and adoption. The character farming experience had negative but highly significant association with adoption. Samajdar *et al.* (2016) also found a negative association between farming experience and adoption. The profile characteristic educational status, contact with extension agencies and innovativeness had a positive and significant relationship with adoption of departmental schemes by the Nicobari tribal farmers at 5 per cent level of probability. Yomota and Tan-Cruz (2007) and Singh and Yadav (2013) found similar result on educational status and Gaikwad and Khalache (2010) found similar result on extension contact. However, age, occupational status, farm size, annual income and family type had non-significant association with adoption. Among these age and occupational status had negative relationship. Samajdar *et al.* (2016) found similar results on age, farm size and annual income. Veeranna and Singh (2004) also that family type shown positive and non-significant relationship with adoption.

#### Conclusion :

It can be summed up as, the variables such as education, contact with extension agencies, mass media exposure, risk orientation and innovativeness were found to act as critical variables in the knowledge gain of tribal farmers. So, while preparing future plans for development of tribal farmers, one should take care of above variables. The variables such as farming experience, social participation, mass media exposure, economic motivation,

risk orientation and scientific orientation were found to act as critical variables in the adoption of departmental schemes by the Nicobari tribal. So, while preparing future plans for development of tribal farmers, one should take care of above variables.

### LITERATURE CITED

Borkar, M.M., Chote, G.D. and Lanjewar, A.D. (2000). Characteristics of farmers influencing their knowledge about use of bio-fertilizer of farmers influencing their knowledge about use of bio-fertilizers. *Maharashtra J. Extn. Edu.*, **19**: 130-131.

Chandra, K.V.S. and Reddy, D.R. (2002). Effect of the selected profile characteristics of the televiewers by the farmers. M.Sc. (Ag.) Thesis, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola, M.S. (INDIA).

Choudhary, R.P., Singh, P. and Mishra, B. (2001). Correlates of adoption of improved rice production technology. *Indian J. Extn. Edu.*, **37**(3&4): 200-201.

Farkade, B.C., Ahire, R.D., Patange, N.R. and Ahire, P.S. (1999). Extent of adoption of biological pest control in cotton. *J. Soil & Crop*, **9**(1): 108-110.

Gaikwad, J.H. and Khalache, P.G. (2010). A study of agricultural development of Saora Tribes in Bolangir district of Orissa state. *Agric. Update*, **5** (3&4): 439-442.

Kumar, G.D.S. and Popat, M.N. (2010). Farmers' perceptions, knowledge and management of aflatoxins in groundnuts in India. *Crop Protec.*, **29** (12): 1534-1541.

Maraddi, G. N., Vhirevenkanagoudar, L.V., Angadi, J.G. and Babalad, H.B. (2007). Extent of adoption of selected suitable cultivation practices by sugarcane growers. *Karnataka J. Agric. Sci.*, **20** (3): 560 - 563.

Mishra, A., Mishra, A. and Jabbar, M.F. (2012). A motivation and innovation profile of tribal goat production system in Pakur district of Jharkhand state. *Indian Res. J. Extn. Edu.*, **12** (1) : 326-329.

Mooventhan, P., Kadian, K.S., Senthilkumar, R. and Meena, B.S. (2016). Symbolic adoption of dairy farming practices by tribal dairy farmers in Chhattisgarh : An experimental study. *Indian Res. J. Extn. Edu.*, **16** (2): 15-18.

Naik, Hussain Munir, Srivastava, S.R., Godara, A.K. and Yadav, V.P.S. (2009). Knowledge level about organic farming in Haryana. *Indian Res. J. Extn. Edu.*, **9** (1): 50-53.

Patel, N.G. and Chauhan, N.M. (2015). Constraints faced and suggestions offered by tribal farmers of Navsari district of South Gujarat in watershed management through No- cost and Low-

cost technologies. *Internat. J. Mgmt. & Soc. Sci.*, **3** (8): 166-174.

Ramesh, P. and Santha, G. (2008). Extent of adoption and relationship between the characteristics of organic farmers and their adoption level. *Mysore J. Agric. Sci.*, **42**(3) : 526-529.

Ranganath, A.D., Veerbhadriah, V. and Lalitha, K.C. (2001). Adoption of organic farming practices by small farmers. *Agric. Extn. Rev.*, **13**(6): 3-6.

Samajdar, Tanmay, Das, Tarun Kumar and Lahiri, Biswajit (2016). Knowledge, attitude and practices of different tribes of Garo Hills districts of Meghalaya towards scientific horticulture. *J. Krishi Vigyan*, **4** (2): 58 - 65.

Satishkumar, V. (2009). A study on knowledge and adoption of organic farming practices in paddy cultivation among the tribal farmers of Kanker district, (C.G.). M.Sc. (Ag.) Thesis, Indira Gandhi Krishi Vishwavidyalaya, Raipur, C.G. (INDIA).

Sharma, Parvinder, Singh, G.P. and Jha, S.K. (2013). Impact of Training Programme on Knowledge and Adoption of Preservation Technologies among Farm women: A Comparative Study. *Indian Res. J. Extn. Edu.*, **13** (1) : 96-100.

Shruti, G., Mandal, M.K. and Ruchi, S. (2015). Assessing knowledge of tribal farmers regarding scientific animal husbandry practices. *Indian Res. J. Extn. Edu.*, **15** (2): 91-94.

Singh, D.P. and Yadav, S.K. (2013). Knowledge and adoption gap of tribal farmers of Bastar towards rice production technology. *American Internat. J. Res. Human. Arts & Soc. Sci.*, **14** (129): 54-56.

Veeranna, K.C. and Singh, D.P. (2004). Attitude and adoption of improved dairy production practices by Lambani tribe. *Karnataka J. Agric. Sci.*, **17** (2): 299-302.

Waikhom, T. M., Biswarup, S., Prasenjit, P. and Prabhat, P. (2015). Factors influencing women's empowerment through fisheries activities: A study in Manipur. *Indian Res. J. Extn. Edu.*, **15** (4): 35-40.

Yomota, J.R.G. and Tan-Cruz, A. (2007). Farmers adoption of organic farming in Magsaysay, Davao Delsur: Factors and practices. 10<sup>th</sup> national convention on statistics, ESDA Shangri-La hotel, Oct. 1-2, 2007.

### ■ WEBLIOGRAPHY

BMJ (2015). <http://www.bmj.com/about-bmj/resources-readers/publications/statistics-square-one/11-correlation-and-regression>. Accessed on Oct. 2016.

CTDP (2009). Chhattisgarh tribal development programme. project brief. <http://cjtdp.cg.gov.in/Projsummarye.htm>. Accessed on Dec. 2016.

**Received : 24.02.2017; Revised: 10.05.2017; Accepted : 23.05.2017**