

Selection Intensity Among the Nicobarese of Car-Nicobar Island

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ABSTRACT The Nicobarese are one of the six tribes of Andaman and Nicobar Islands. The Nicobarese under study are the inhabitant of Car-Nicobar island and are horticulturalist. However, they may be considered as pre-agricultural community. In the present study an effort has been made to report the selection intensity index among the 151 Nicobarese women aged 45 years and above. The average number of live birth is noticed to be 5.26 with variance 8.11. The mortality component I_m is 0.2195 and the fertility component I_f is 0.2931. The index of opportunity for selection I is found to be 0.5731. The comparison of the index of selection intensity with other tribal populations revealed that the Nicobarese are closer to the Muria 0.55, Toto 0.55 and Naika (Rural) 0.58.

Selection is one of the major evolutionary factor that brings about change in genetic equilibrium of the populations. It operate through differential fertility and differential mortality. Crow (1958) suggested a formula for calculating the index of opportunity for selection based on fertility and mortality component. The index of total selection intensity I , measures the maximum potential rate of change by selection, where O indicate no change. As the intensity of selection is the function of environment which has direct relationship with the reproductive performance. Number of studies have been under taken to see the intensity of selection intensity among the industrialized populations (Sphuler, 1962), in different altitudinal sub-groups (Gupta, 1980), in different economic sub-groups (Bharti, 1981), in urban and rural populations (Mukhopadhyay, 1982; Padmanabham, 1985; Ghosh Dastidar and Gupta, 1993), in consanguineous and non-consanguineous (Barua, 1976). In the present paper an attempt has been made to study selection intensity among the Nicobarese of Car-Nicobar Island with the help of demographic data.

The Nicobarese are spread over as an endogamous population in twelve islands. According to 1981 Census, the total population of the Nicobarese were 21,172 of whom almost two third live in Car-Nicobar Island (13,574). The Nicobarese inhabiting Nicobar Islands belong to

the Mongoloid stock and the differences existing in culture, language and morphogenetic traits among these people have been attributed to their life in isolation. They speak their own language which belong to the Mon-Khmer group of languages.

Demographic data on the Nicobarese of Car-Nicobar Island were collected during the year 1976. Demographic informations per house hold was obtained with the help of house hold census and genealogies including such items as total number of individuals in the house hold, occupation, pregnancy by pregnancy listing of the reproductive performance and mortality. The age of the children and adults were recorded and cross checked from available school and church records. In other cases age was estimated by referring to events remembered by the informers. The present paper is based on the 151 mothers aged 45+ years as they are supposed to have crossed the age of child bearing. The index of opportunity for selection has been calculated as per the formula suggested by Crow (1958).

$$I = I_m + I_f/P_d$$

$$I_m = P_d/P_s$$

$$I_f = V_f/x^2$$

where I is index of opportunity for selection, I_m is mortality component, P_d is proportion of deaths below 15 years of age, P_s is proportion of surviving children, I_f is fertility component, V_f is variance in the offspring number in completed sibship and x is mean number of live births per mother aged 45 years and above.

The average number of live birth noticed among the Nicobarese is 5.26 with a variance 8.11. The fertility and mortality components obtained are 0.2931 and 0.2195, respectively. The contribution of fertility component is little more than the mortality component. The index of opportunity obtained for the Nicobarese is 0.5731 (Table 1).

The comparison of Nicobarese with other

Table 1: Indices of opportunity of selection among Nicobarese

Number of mothers aged 45+ years and above	151
Mean number of live births ($\bar{X}$)	5.26
Variance in the number of liveborn children (V_p)	8.11
Proportion of deaths below 15 years of age (P_d)	0.81
Proportion of surviving children (P_s)	0.82
Mortality component (I_m)	0.21
Fertility component (I_f)	0.29
Index for opportunity for selection (I)	0.57

Table 2: Index of Selection Intensity in available Tribal Indian Populations

Population	I_m	I_f	I	Authors
Purum (Chote-I)	0.20	0.10	0.31	Basu, 1984
Purum (Chote-II)	0.23	0.12	0.37	Basu, 1984
Naika (Rural)	0.30	0.13	0.48	Padmanabham, 1985
Nicobarese	0.21	0.29	0.57	Present Study
Muria	0.25	0.24	0.55	Saha, 1981
Tote	—	—	0.55	Saroj and Sen, 1983
Hajong	0.44	0.13	0.63	Barua, 1982
Jaintia	0.46	0.13	0.64	Deka, 1989
Southern Pahira	0.48	0.14	0.67	Basu, 1969
Raj Gond	0.35	0.38	0.72	Murthy and Ramesh, 1978
Hill Kolam	0.35	0.38	0.73	Murthy and Ramesh, 1978
Southern Pahira I	0.53	0.14	0.74	Basu, 1969
Mahaboobnagar Chanchus	0.50	0.20	0.81	Sirajuddin, 1993
Mallia	0.69	0.16	0.95	Sahu, 1983
Kurmool Chanchus	0.63	0.23	1.00	Sirajuddin, 1993
Manne Kolam	0.53	0.47	1.10	Murthy and Ramesh, 1978
Northern Pahira	0.81	0.18	1.13	Basu, 1969
Pardhan	0.80	0.38	1.19	Murthy and Ramesh, 1978
Kota	0.45	0.64	1.37	Ghosh, 1972
Kota	0.79	0.83	2.25	Basu, 1972

variable tribal populations with regard to selection intensity index indicate that the index values ranges between 0.31 to 2.25. The lowest value of selection intensity index is observed among the Purum (Chote-I) 0.31 and highest among the Kota 2.25. The Nicobarese with a selection intensity value 0.5731 are nearer to the lower limit of the range. Further, Nicobarese shows closeness to Muria, Toto, Mill and Naika (rural) for incidence of selection intensity index value.

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