MATERIALS AND METHODS

The present study was carried out among fifteen inbreeding castes/communities of Kanyakumari, the southern most district of Tamil Nadu state. The district is named after the Goddess Kanyakumari and it lies between $77^005^1$ and $77^036^1$ of the eastern longitudes and $8^003^1$ and $8^035^1$ of the northern latitudes (map). The present Kanyakumari district was part of Thiruvananthapuram district of the erstwhile Kerala state. But during the states reorganization in 1956, the Kanyakumari district comprising the four taluks viz., Vilavancode, Kalkulam, Agasteeswaram and Thovalai was merged with Tamil Nadu state. The mother tongue of the people is Tamil, though they can speak and understand Malayalam also. The district has a dominant Hindu population (60%) followed by Christians (32%) and Muslims (5%). There are also a few Scheduled Castes (4.23%) and Scheduled Tribe (0.45%) groups. (Gazeteers of India, 1995).

The selected communities belong to four different social groups namely Forward Community (Nair and Vellala), Backward Community (Nadar, Muslim, Viswakarma, Chetty, Saliyar, Krishnavaka, Vaniyar and Yadava), Most Backward Community (Maruthuvar and Vannan) and Scheduled Caste (Bharathar, Sambavar and Vetan). Of them, the Nadars are the most dominant community distributed uniformly in all the four taluks. The other major communities are Vellala and Nair, though their distribution is not uniform in all the regions. Nairs are mainly inhabited in Vilavancode and Kalkulam taluks, while the Vellalas are concentrated in Thovalai and Agasteeswaram taluks and certain localised regions in Kalkulam and
A Sketch Map of
KANYAKUMARI DISTRICT (TAMIL NADU)
Vilavancode taluks. The communities such as Viswakarma, Muslim, Vaniyar, Maruthuvar, Vannan and Sambavar are restricted in certain regions of the four taluks. The distribution of all other communities studied was confined to different pocket regions in the district.

A brief note highlighting the salient features of the customs, traditions, cultural practices and socio-economic status of the various groups studied is furnished below:

**Nair**

The Nairs who were exclusively of Kerala origin are seen to be one of the major castes in Kanyakumari district. The word Nair is an honorific plural of the word nayan derived from 'Nayaka', meaning 'the leader'. There are different titles affixed to their names like Pillai, Menon, Thampi, Panicker, Unnithan and Kurup. In Tamil Nadu, the Nairs have the synonym of Nayammar. Their mother tongue is Malayalam and they are also familiar with Tamil language. Illakar, Padamangalam, Surupam and Karuvelam are the subgroups of Nairs in Kanyakumari district. They have many lineages and clans, and differentiation on the basis of hierarchy exists at social level. They followed the joint family system where the family is known as the Tharavadu and head of the family as Karanavar.

Traditionally, the rule of inheritance was Marumakkathayam by which the succession was through the female line. This earlier system of inheritance is now replaced by Makkathayam (equigeniture inheritance). The family property is equally shared among all the children, who are
looked after by their parents. This paved the way for the emergence of the nuclear families. Community endogamy and Tharavadu exogamy is the norm. Mainly a landowning community, their traditional occupations are settled cultivation, trade and business. A few are engaged in private and government service.

Related marriages are common among the Nairs. Preference is given to mother's brother's daughter or father's sister's daughter while selecting a spouse. Monogamy is the norm, though polygamy and polyandrous marriages were also recorded.

Marriage (Sambandhum) is generally arranged and conducted by the head (Karanavar) of the family. It is performed with religious fervour and guilty at a prefixed auspicious time (Muhurtam) determined by the astrologer and witnessed by an invited assembly of friends and relatives. The Nair marriage is also referred to as 'Pudavakoda' because one of the notable features of the marriage is the handing over of well adorned dress (dhoti and melmundu) to the bride by the bridegroom. The other marriage rituals include exchange of garlands and finger-rings and tying of 'thali' round to the neck of bride by the bridegroom. The symbols of a married women are a sacred pendant (thali) and a finger-ring. Nairs are both patrilocal and matrilocal, but patrilocal residences are increasing in recent years. Pre-delivery rituals are performed at the seventh or ninth month of first pregnancy. They also perform post-delivery rituals. Puberty bath is performed in the presence of close relatives on the seventh or ninth day of first menstruation.
Dead bodies are generally cremated and death pollution is observed for sixteen days. The relatives of the dead will be free from pollution (Pula) after 'Pulakuli' on the 16th day of demise.

Vellala

A community distributed in several districts of Tamil Nadu and Kerala, they trace their historical past to the reign of the Cheras, Cholas and Pandyans and also to the reign of Krishna Deva Raya of Vijaya Nagar. The word Vellalan is derived from Vellammai, (Vellam = Water, Ammai = management) meaning cultivation. Agriculture is their main economic pursuit. This is one of the major communities in Kanyakumari district and is mainly concentrated both in the rural and urban areas of Kalkulam, Agasteeswaram and Thovalai taluks. They speak Tamil and use the Tamil Script.

The traditional occupations of the people are agriculture in villages and business in urban areas. They are also engaged in government and private organisations and in trade. The community has businessmen, scholars, administrators, teachers, doctors and engineers. Politically they are active. They have social divisions such as clans, sects and subcastes. Hierarchy with social divisions exist. All groups observe the norm of community endogamy. Marriage with one's sister's daughter, mother's brother's daughter or father's sister's daughter is the common practice. The occurrence of these three types of consanguineous marriages are significantly very high. Marriage takes place at the bride's place. The tying
of 'thali' around the bride's neck and three times circumambulation around the sacred fire are the main rituals observed in connection with the marriage. Earlier they followed both matrilocal and patrilocal rules of residence, but now they follow only the patrilocal. Pre-delivery (Valaikappu) and post-delivery rituals are performed. Post-delivery pollution is observed for sixteen day. Puberty rites for girls are observed.

The dead are cremated. They observe pollution for sixteen days. The mortuary rites are observed on the second, sixteenth and forty-first days after cremation. They profess Hinduism. Vaishnavites as well as Shaivites are found among them.

Nadar

One of the major communities in Tamil Nadu, the Nadars are concentrated particularly in the Southern districts of Tamil Nadu and in the adjoining Southern districts of Kerala. They are also referred to as Gramani, Shanan etc. The title 'Nadar' has been adopted by them. They claim that the name Shanan is derived from the Tamil word "Sanror' meaning learned' or 'nobleman'. Nadar is the most dominant community in Kanyakumari district and is seen to be distributed in both the urban and rural areas of all the four taluks. They are socially a Hindu Backward community. During the past two centuries a sizeable number of them were converted into Christians by the influence of foreign missionaries. Despite the radical difference in the religious faith (Hindu and Christian), the Nadars conventionally holdfast to their caste-bind so much so in the same
family, there are Hindu as well as Christian members. Even for marriage alliance the caste is the main factor of consideration rather than religious affiliation. Tamil is their mother tongue.

The Nadars are a patrilocal and patrilineal society. Parental property is divided equally among the sons. Both nuclear and mixed extended families are seen. They practise endogamy at the community level and marry cross-cousins. Hindu marriage is solemnized either at a temple or at the bride's residence, while Christian Nadar marriages are conducted at Church. The marriage rituals observed are the betrothal, tying of the thali, exchange of garland and blessing of the newly wedded couples. Pre- and post-delivery rituals are performed. Birth pollution is observed for 16 days. The dead are either cremated or buried and the final rite is observed in the 16th day.

The traditional profession of the Nadars has been tapping of toddy from Palmyra, preparation of jaggery out of palmyra juice and associated business. Now-a-days only a few pursue this profession. In the recent years with the advancement of education, the socio-economic status of the Nadars has considerably increased and are employed in white-collar jobs. Many of them work as wage labourers in agricultural fields.

**Vaniyar**

A community distributed in all the districts of Tamil Nadu, they prefer to call themselves vaniyar, or Vaniya Vysya or Vaniya chetty. Their concentration is in the areas where edible oil seeds like groundnut, gingelly
and coconut are cultivated. Their mother tongue is Tamil. They have several gotras and surnames which govern the marital relations.

They are endogamous at the community level, and prefer to marry father's sister's daughter, mother's brother's daughter or sister's daughter. The girls are married after attaining puberty. The marriage ceremony includes Kappukattu, Kanyadan and tying of thali. They perform pre-delivery ritual (Pirmudithal) in the fifth month of first pregnancy. Birth pollution is observed for seven days. Puberty rites are observed by them. They cremate the dead and pollution is observed for fifteen days.

The majority of the Vaniyar are engaged in their traditional occupation of extraction of oil by crushing of oil seeds using less sophisticated wooden chukks (Oil crushers) and trading it. Agriculture is the main occupation of some. Relatively educated people are engaged in private and government services.

Muslim

Muslim communities are spread almost all over the country in all climatic zones. They are linguistically heterogeneous, speaking more than one language. They all speak regional dialects as well. The Muslims are primarily a rural population with a substantial number of them living in urban areas. In Tamil Nadu, the Muslims are drawn from various subgroups, namely Syed, Sheikh, Labbai, Maraikkayar and Rawathar. Labbai is the predominant subgroup of Muslims in Kanyakumari district. In this district they inhabit both in the rural and urban areas of all the four taluks.
They speak Tamil, Malayalam and Urdu. Muslim identity has been reinforced by the collective observance of festivals like Id.

The norms of community endogamy are adhered to by almost all the Muslim communities. Unlike the typical patrilateral parallel cousin marriages practised among the Muslims in other regions, in this district cross-cousin marriages are most widely practised. Monogamy is the rule, though there are incidences of polygamy. The rule of residence after marriage is patrilocal. A rise of nuclear families and decline of extended families have been reported among the Muslims. Pre-delivery rituals, circumcision before 5 years of age for boys by a barber or a doctor and puberty rites for girls are observed among them. Their marriage rituals include consent, nikah and tying of the thali.

They are conventionally engaged in trade and business and therefore their distribution is mainly in business centres. Even among the economically sound Muslims, the inclination for education is poor, especially among women. Many are engaged in settled cultivation and in government and private service and some are engaged as labourers.

**Viswakarma**

A Hindu Backward community of Tamil Nadu, they are also known as Viswa Bhahman, Viswa Kammala, Kammalar, Panchala or Achari. The term "Viswakarma' was originated from their legendary belief that they have sprung from Viswakarma, the divine Universal Architect. In the Kanyakumari district, they are distributed in all the four taluks. They are a
complex artisan group who have several occupational groups such as Goldsmith, Carpenter, Blacksmith, Sawer, Coppersmith etc. Though these subclasses were socially separated from one another, marriage relationships exist among the different groups in the recent years. They speak Tamil and use the Tamil script. Both nuclear and mixed extended families are found.

They practise endogamy at the community level and exogamy at the gotra level. Marriage with father's sister's daughter, mother's brother's daughter or sister's daughter is permitted. The marriage rituals are performed either at the bride's or bridegroom's residence. The marriage rituals include Kanyadanam and tying of thali around the neck of the bride. The thali, vermillian and toe-rings are the marriage symbols for women. The rule of residence after marriage is patrilocal. They observe both the pre-delivery ritual (Valaikappu) in the seventh or ninth month of the first pregnancy and post-delivery rituals. The puberty ceremony (Poopunitha neerattuvizha) is performed in a grand manner either at the girl's house or in a mandapam in the presence of relatives and friends. The dead bodies are cremated.

They are a land owning community. Jewellery making, stone-carvings, wood and metal work are their traditional and primary occupation. In addition, they supplement their income with business, trade and employment in industry, government or private bodies.

Saliyar

Saliyar is a Hindu Backward community residing in Tamil Nadu and Kerala. They believe that they are the descendants of one Saliya.
Matra Rishi. The word Salia is derived from the Sanskrit word 'Salika' meaning weaver. In Kanyakumari district they are concentrated in Nagercoil. They prefer to refer themselves as Saliar, while other weavers of the region call them as Chinnarasingam Saliar. Their mother tongue is Tamil and they are also conversant with the Malayalam language. They placed themselves in the Vysya Varna.

They follow endogamy at the community level, and prefer to marry sister's daughter, mother's brother's daughter or father's sister's daughter. Dowry is in practice and paid in both as cash and gold. Property is inherited by sons equally. Marriage rituals are performed at the bride's residence.

The main rituals observed are the pouring of turmeric rice by the bride and groom on each other, three times circumambulation around the sacred fire, tying of thali and Shantimuhurtam. They observe both pre-delivery and post-delivery rituals. Thread wearing ceremony for boys and puberty rites for females are observed during their adolescence.

The traditional and the present day occupation of the saliar is weaving and spinning. Many are engaged in business employed in government and private services etc. Some are worked as wage labourers.

Krishnavaka

Krishnavaka is a Hindu Backward community mainly concentrated in the Kalkulam Taluk of Kanyakumari district. They have synonyms like Krishna kshatriya kurup and panniyar and use the title pillai. Literally, the term Krishna refers to Lord Krishna and vaka means property. According
to their oral tradition, they have migrated from Dwaraka to Vennar (present Thiruvananthapuram) at the suggestion of Lord Krishna. The then Maharaja of Thiruvananthapuram, Udaya Marthanda Varma, named them as Krishnavaka because they approached him with an idol of Lord Krishna as their property.

The Krishnavaka have two subgroups, namely Makkavali and Maruvakkavali. Among the Makkavali the sons inherit their father's property while among the Marumakkavali the property of a man is inherited by his sister's sons. Marriage between cross-cousins is allowed. Their marriage rituals include circumambulation, wearing of iron ring (Kappu) and tying of the thali around the bride's neck. They observe pre-and post-delivery rituals and puberty rites for girls.

Krishnavaka is a land owning community and most of them practise settled cultivation and animal husbandry, while a few are engaged in business and petty trade. Some work as agricultural labourers while the educated among them are employed in private and Government organizations. Some women prepare parched and puffed rise as an occupation.

They are Hindu by faith and Lord Krishna is their chief deity.

Yadava

Yadava is a Hindu Backward community of Andhra Pradesh migrated and settled in Tamil Nadu, Karnataka etc. They are popularly known as Konar, Idayar, Golla or Idaiyar. They regard their community as
Yadukulam and believe that they are the descendents of king Yadu of Lord Krishna's lineage. In Kanyakumari district this community is seem to be distributed in certain localised regions of Kalkulam, Thovalai and Agasteeswaram taluks.

They follow endogamy at the community level. They prefer to marry sister's daughter, father's sister's daughter or mother's brother's daughter. The important marriage rituals observed are the worship of the sacred fire and tying of the thali. They observe the pre-delivery ritual (Valaikappu) in the seventh month of the first pregnancy. The important birth rituals are naming, first feeding of cereals, tonsure and ear-piercing. Puberty rites are observed in a grand manner.

Animal husbandry, selling of milk and milk products, pastoralism and settled cultivation are the traditional and present day occupations of the Yadava. Some are engaged in private and government services.

Chetty

An agglomeration of a number of occupational castes in Tamil Nadu, they are commonly called Chettiar or Chetti which is also said to be the title of many castes within the community. Thurston (1909) states that Chetti means trader and is one of those title of occupational terms which are often loosely employed as a caste name. Though there are several subgroups in Chetty, the present study concerned only with the Chettu Chettiar. It is believed that their ancestors have migrated from Kaveripoompattinam to different parts of Tamil Nadu. In Kanyakumari
district they have first settled in seven villages such as Kottar, Parakkai, Eraniel, Midalam, Padmanabhapuram, Ganapathipuram, Colachel and Thiruvithamcode. Hence they are also referred to as Ezhoor Chetti.

Their mother tongue is Tamil and use the Tamil Script. Consanguineous marriages with cross cousin or with sister's daughter are prevalent. Spouses are acquired through negotiation and monogamy is the norm. Their marriage ceremony includes the welcoming of the bridegroom, exchange of garlands, daraivarthal and tying of the thali. A marriage pendant (thali) and toe-rings are the symbols of married women. Pre-delivery ritual is performed either at the seventh or ninth month of first pregnancy. Puberty ceremony (Poopuneerattu Vizha) is performed on the seventh or ninth day of first menstruation in a grand manner either at the girls house or in a mandapam.

Mainly a landowning community, their traditional occupations are settled cultivation, trade and business. Some are engaged in government and private service.

Maruthuvar

This community is widely distributed in Tamil Nadu, Kerala and Pondicherry. Maruthuvar is also referred to as Ambattan, Navidar, Kudimagan, Kudipilla or Pandither and are barbers and traditional surgeons. The term ambattan is derived from the Sanskrit words amba (near) and stha (to stand) ie, he who stands near to shave his clients or treat his patients. They are believed to be the descendants of the offspring
of a Vaisya woman and a Bhraman to whom the medical profession was allotted as a means of livelihood. Tamil is the mother tongue, and speak both Tamil and Malayalam. Thali and toe-rings are the symbols of a married woman. The marriage rituals observed are the tying of Kankanam, tying of thali and kanyadan. The rule of residence after marriage is patrilocal. They are Hindus, and are sacred specialists who perform the life cycle rituals.

A good number of the Maruthuvars are barbers by profession, while some are landholders. They are, however, slowly shifting into other occupations such as wage labour, industrial work, government service and self employment.

**Vannan**

This is a Most Backward community distributed in most of the districts of Tamil Nadu including the Kanyakumari district. This community is also referred to as Neriyhan, Pathiyan, Vannan, Peruvannan etc. The word Mannan in Tamil means 'king'. Social divisions exist at the lineage level and regulate their marriage alliances. The earlier practice of polyandry and polygamy have been replaced by monogamy. They follow patrilocal residence. Nuclear families are predominant over joint families. Majority of them are Hindus whereas a section of them have embraced Christianity. Being mostly labourers, their socioeconomic status is very low.

They practise endogamy. Consanguineous marriage with father's sister's daughter, mother's brother's daughter or sister's daughter is allowed. They observe pre-delivery rituals, post-delivery pollution and puberty rites.
Their traditional occupation is washing clothes and providing white cloth to other communities. The females (Vannathi) provide a white cloth for a purificatory bath during rituals. Some are engaged in government and private services, animal husbandry and as wage-labourers.

**Bharathar**

Also referred to as Paravan, Chavalikkaran and Padaiachy is seen to be inhabiting in the rural and urban areas of Kanyakumari and Tirunelveli districts of Tamil Nadu. They believe that they were migrated from Ayodhya and were engaged in fishing and rowing boats during the reign of Bharathar and hence came to be known as Bharathar. Tamil is their mother tongue. They practise community endogamy. Consanguineous marriage with father's sister's daughter, mother's brother's daughter or sister's daughter is allowed. They observe pre-delivery rituals, post delivery pollution and puberty rites.

Fishing is their traditional as well as present-day occupation. Government and private service, industrial work, agricultural labour, business and self-employment are their other occupations. The Bharathar women contribute to the family income by selling fishes.

**Sambavar**

The Sambavars are also referred to as Samban, Paraiyan or Adi Dravidar. The term Samban is derived form Samba meaning Lord Siva. They are a predominantly rural based community. The Dravidian language, Tamil is their mother tongue and Tamil is the script used.
They are divided into four endogamous subgroups, namely Melakkaran (drummers), Petti Pottupavar (who make boxes and winnow, Samsari (agriculturists) and ur paraiyan (Village paraiyan). The basis for their divisions appears to be occupational. Intermarriage between subgroups is permitted. They marry cross-cousins and the sister's daughters. Monogamy is the norm. The marriage symbol for women is the thali. The family pattern is either nuclear or of the mixed extended type. They are patrilocal, and patrilineal. Women have a role in economic, social and religious spheres. Pre- and post-delivery rituals are observed. On attaining puberty, a ceremony is arranged.

They are mainly agricultural labourers. A few of them own small plots of land. Educated persons are employed in white collar jobs. Many of them work as wage labourers.

**Vetan**

Vetan is a small endogamous Scheduled Caste group with a very limited population size seen to be inhabiting in the Devakulam village of Thovalai Taluk. They speak Tamil and use the Tamil script. Adult marriage through negotiation or by mutual consent is the common practice. Women wear the thali as a marriage symbol. Consanguineous marriage between cross-cousins is preferred. They live in nuclear families. They follow equigeniture rule of inheritance with succession rights devolving upon the eldest son. Among the Vetan, pre-delivery and post delivery rituals are performed. A puberty ritual called thirandukuli is observed. Marriage rituals
are performed at the bride's residence and the consummation ceremony is arranged at the groom's residence.

The community is largely a landowning one though a few are landless. Their traditional occupations are hunting and gathering, trapping of birds and animals and collection of minor forest products. Some are employed in government and private service as skilled and unskilled labourers. Women participate in agricultural operations, animal husbandry and other economic activities.

METHODS

The consanguinity data were collected by visiting the houses of the various communities and interviewing the spouses. For this, an elaborate questionnaire (Appendix-I) was used which comprised details on various socio-economic and demographic parameters such as educational and occupational status of the spouses, their family income, year of marriage, age of spouses, age at marriage, marriage distance and relevant reproductive parameters. The reproductive parameters include primary sterility, number of pregnancy, number of livebirths and mortality at various stages and congenital defects and diseases. If a marriage was found to be consanguineous, the type of consanguinity was determined by drawing a pedigree.

The assistance of local responsible persons who were well acquainted with the families of a given area was sought for obtaining
maximum reliable information from the respondents. Some of them who deserve special mention are Sri. P. Rajendra Kumar, Dy. Manager and Sri.Kuttalam, Head cashier of the State Bank of Travancore for accompanying me in the Vetan Community area; Smt. Santhi, and Smt. Subbulakshmi teachers of Saraswathy Vidyalaya, Nagercoil, for their help in the case of Chetty and Vellala communities; Shri. T. Mathias and Smt. S. Rani, members of Palliyadi Panchayat and Advocate Paulraj of Verkilambi in the case of Nadar community in the Palliyadi and Thiruvattar areas; Sri. A. Abbas of Thiruvithamcode in the case of Muslim community and Sri. C. Karunakaran of Vivekananda Kendra for accompanying me at various places in the district. Random additional visits were also made to check the accuracy of the informations obtained during the first visit. The families were selected by employing appropriate sampling method. The sample size ranged from 5 to 50% depending on the total number of families (Table-1) of the community concerned. The study covered 2108 families of Nair, 2025 families of Vellala, 2254 families of Nadar, 1072 families of Muslim, 612 families of Vaniyar, 531 families of Viswakarma, 529 families of Yadava, 418 families of Chetty, 404 families of Vannan, 303 families of Maruthuvar, 512 families of Bharathar, 574 families of Sambavar and 215 families of Vetan.

For the assessment of literacy status the spouses were grouped into 3 categories, namely low (illiterate and literacy up to primary school), middle (Secondary, higher secondary and technical school) and high (University level). The occupational status was scored under four levels
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such as unemployed, low (labourers, skilled workers, marginal farmers, class IV Government employers and employees of trade and service organizations), middle (School teachers, para professionals, class III and class II Government employees) and high (executives, professionals, land lords, businessmen and class I Government employees). The family income was grouped under four categories such as low (annual income below Rs.25,000), lower-middle (Rs.25,000-50,000) upper middle (Rs.50,000-1,00,000) and high (above Rs.1,00,000). The temporal trend of consanguinity was evaluated based on the year of marriage, which was categorised into six classes such as before 1950, 1950-59, 1960-69, 1970-79, 1980-80 and after 1990. The grouping of the age of spouses was done under eight classes (below 20, 20-29, 30-39, 40-49, 50-59, 60-69, 70-79 and 80 and above). Age of spouses at marriage was considered under 6 classes. (below 20, 20-25, 25-30, 30-35, 35-40, 40 and above). The distance between the birth places of the spouses in kilometres was grouped under different categories such as, below 10, 10-19, 20-29, 30-39 and 40 and above.

The population was divided into consanguineous and nonconsanguineous based on the marital relationship. Marriages between maternal Uncle and Niece (U-N), Aunt and Nephew (A-N), Double First Cousin, (DFC) First Cousin (1C) which comprises four subtypes such as Patrilateral Parallel Cousin (PPC), Patrilateral Cross Cousin (PCC), Matrilateral Parallel Cousin (MPC) Matrilateral Cross Cousin (MCC), First Cousin once removed (1.5C) and Second Cousin (2C) were considered as
Consanguineous (Con). Marriages other than these were considered as Nonconsanguineous (NC). The inbreeding coefficients (F) for various degrees of relationship of spouses were determined by the Path Coefficient method (Wright, 1922). The inbreeding coefficients are $1/8$ for UN, AN and DFC, $1/16$ for 1C, $1/32$ for 1.5C and $1/64$ for 2C. The coefficient of unrelated marriages was taken as $F=0$.

Various parameters were used for assessing the reproductive outcome. A married women who had not produced a live-born after unprotected sexual activity was considered to have primary sterility. Fertility was measured in terms of the number of pregnancies and net fertility based on the number of live-born left after non-accidental deaths prior to the age of 20. A women who missed her normal monthly period for five weeks or more was considered pregnant. A pregnancy that did not terminate in a viable birth was prenatal mortality or foetal loss which includes abortion (loss before 28th week of gestation) and still birth (loss after 29 weeks). Neonatal mortality refers to the death of a new-born during the first four weeks after birth, while post neonatal mortality refers to death between the fourth week and one year. Neonatal and postneonatal together constitute infant mortality. Non-accidental death of a child after one year and before 10 years life is taken as child mortality and those between 10 and 20 years as juvenile mortality. Mortality at various stages (neonatal to juvenile) together form the postnatal mortality. Total mortality or pre-reproductive damage is the sum of all losses from abortion to juvenile death. Postnatal mortality was computed in terms of total live births and total mortality in terms of total pregnancy.
Morbidity data were collected under two main categories such as

1) Congenital defects with three subcategories, namely physical defects (polydactyly, syndactyly, brachydactyly, dwarfism, clubfoot, cleft lip etc.), Sensory defects (blindness, stuttering/Stammering, squint-eyes) and mental defects (mental retardation) and 2) Diseases (asthma, diabetics, tuberculosis, epilepsy, heart disease). The rate of morbidity was determined against the total live births.

The data were hand-coded, tabulated and analysed using a personal computer. The mean coefficient of inbreeding was calculated following Wright's (1922) formula. Chi-square tests and analysis of variance were used to find out the significance of association between consanguinity and its influencing parameters, and test for proportion was used to find out the significance of the effect due to consanguinity.

The magnitude of association between inbreeding and reproductive parameters were estimated by using two measures of association, RR (Relative Risk) and AR (Attributable Risk). The Relative Risk (RR) denotes the ratio of risk in offspring of consanguineous marriages (RCON) to the risk in offspring of nonconsanguineous group (RNC). i.e., RR = RCON/RNC. The Attributable Risk (AR) denotes the fraction of mortality that can be prevented if inbreeding were removed from the population. Computation of Attributable Risks for the effects of consanguineous marriage were made using Levin and Bertell's (1978) formula as below.

\[
AR = \frac{P(RR-1)}{1 + p(RR-1)}
\]
The genetic loads in the population were estimated from the consanguinity effects (mortality) in units of lethal equivalents per gamete based on the A and B statistics which were obtained by the weighted regression analysis following Morton et al., (1956)

\[ - \log_\text{e} S = A + BF \]

where 'S' is the proportion of survivors in the study population, 'A' measures all deaths that occur under random mating, 'B' represents all deaths due to the expression of recessive genes via., inbreeding and 'F' is the Coefficient of inbreeding.