CHAPTER V

CONTACT, CONFLICT AND ADAPTATION
CHAPTER V
CONTACT, CONFLICT AND ADAPTATION

For unknown centuries, many of the human groups living in the environment of the dense/deep forests, mountain interiors, deserts and isolated islands remained unknown, fully or partially, to rest of the world. With the passage of time, contacts could be established with many of them, but some exceptions are still left. Probably, the Jarawa are the most recent group of hunter-gatherers with whom the friendly contact has been established. Whether it is isolation or contact of a human group with other, it has its own advantages and disadvantages. The disadvantages are more if a human group happens to be small in numbers and practise hunting-gathering mode of subsistence activities with simple tools and technology. This is also true for most of the indigenous human groups of the world, including the Jarawa.

The indigenous human groups in most parts of the world have been subjected to various types of threats, sometimes even endangering their very existence. They are being constantly pushed out of their resources as well as livelihood. The risk appears particularly intense when such a population is small in numerical strength. Therefore, indigenous small populations appear extremely vulnerable in the event of direct or indirect threat from various forces, particularly encroachment of their territory by others, invasion of modern culture etc., as an aftermath of the contacts. In such conditions, smaller the size of the population, larger is the threat to their existence and survival. Such examples are not rare where vibrant human populations due to intervention of forces of modern culture, including spread of communication network and market mechanism, were altogether obliterated or eliminated or assimilated. For example, the Tasmanian aborigines, who once dwelt the island with mighty strides, could not withstand the pressure let loose by the expansion of European empires on
their land (Danda, 1993). Several among the tribes of Australia, America and Canada failed to adjust to the new situation grown owing to the arrival of waves of the white immigrants to their territories and in the process were ultimately eliminated. The examples of the Great Andamanese and the Onge of the Andaman Islands make almost close parallels in this respect. Though they have not been eliminated, their population has decreased alarmingly.

It is important to note that in the present context, even apparently conducive programmes of welfare states or those introduced through activities of the other agencies do not appear to be wholly beneficial to the indigenous populations. In fact, there appears something rather paradoxical in this context. While intentions of welfare states or governments need not be doubted, in spite of serious endeavours on their part, the net results of welfare programmes largely have not been very rewarding. In fact, the outcomes have often been quite baffling to the governments or the welfare agencies. The overall impact of such a situation has mostly been frightening. Owing to exposure to such a situation, the small groups often face cultural disintegration, if not biological extinction. Thus, small populations have almost everywhere become pathetically vulnerable. As a result, they have been subjected to the process of cultural disintegration and are declining in number all over the world. Of late, the Jarawa, one of the four Negrito tribes of the Andaman Islands has been undergoing through the similar situation and experiences as witnessed by the Great Andamanese and the Onges. An effort has been made in this Chapter to describe and analyse the history of contacts, causative factors behind it, its impact on the Jarawa, and adaptation of the Jarawa to the changed situation. Both friendly and unfriendly contacts have been mentioned in the following lines, and the unfriendly contacts are termed as ‘conflict’.
5.1 CONTACTS AND CONFLICTS

Contacts of Jarawa with the other people have not been at one go and in one fashion or manner. In fact, contacts between the Jarawa and Non-Jarawa have a chequered history. There have been definite phases of contact characterised by specific nature, extent, characteristics, forces and impacts. Therefore, the contacts between the Jarawa and Non-Jarawa have been discussed and analysed according to some periods, marked by important historic events/accidents/decisions etc.

5.1.1 The Pre-Colonial Period

The Andaman Islands have found place in the accounts of sailors, travellers and traders since long, much before the colonial control over these Islands. For example, the Island of Buzacat, as described by Claudius Ptolemy in the Second Century A.D., was probably the Andaman Islands. While the Chinese mentioned about it in their accounts of the Seventh Century, the Arabs in the Ninth Century and the Europeans in the Thirteen-Century (Mathur, 1968:7). The central theme in almost all these references was the cruel nature and the demonic appearance of the cannibal inhabitants of the Islands. The Arabs wrote that “..... the people on this coast eat human flesh quite raw... their countenance and eyes frightful, their feet are very large...” (cf. Portman, 1899:51). Marco Polo’s account was no less interesting: “The people are ... no better than wild beasts and I assure you all the men of this Island of Angamanian have heads like dogs, and teeth and eyes likewise; in fact, in the face they are just like big mastiff dogs ...they are a most cruel generation, and eat everybody that they can catch, if not of their own race” (cf. Portman, 1899: 52). Traders and travellers from distant places might have been misinformed about the physical appearance and nature of the inhabitants of the Andaman Islands, but there was no such confusion in the neighbouring countries of South-East Asia. In reality, the Andaman Islands were not as isolated as the travellers have described about it.
Pirates from the neighbouring South-East Asian countries often used the shores and creeks of these Islands as harbours. They plundered ships sailing through the sea, and sometimes they even ventured into the surrounding and interior of these Islands to collect edible birds' nest, shark fin and tortoise shell. The most prized catch for them were the Andaman Islanders who were sold as slaves in different parts of South-East Asia (Portman, 1899: 11-19).

5.1.2 The Colonial Period (1789 to 1947)

During the colonial period, a number of events took place that shaped the history of the Islands and brought a great variety of changes in the human population, cultural fabric and environment of the Andaman and Nicobar Islands. Of course, this definitely looks a very long period spanning for about 160 years, but there were some lulls and gaps, for example between 1796 and 1858 there was a gap of approximately half a century i.e., time gap between the first and second penal settlement, when there were no contacts. Contacts during the colonial period can be divided into two distinct phases i.e., first penal settlement and second penal settlement, each representing its own period, nature of contacts and different happenings.

The First Penal Settlement was established by the British in September 1789 in Andaman islands. A documented account of contact with Negrito populations of Andaman and Nicobar Islands is available only since first penal settlement (Majumdar, 1975:52). When the British set their foot on the Andaman Islands in 1789, the behaviour of the Andaman Islanders was baffling for them during the brief phase of colonisation. While the tribesmen on the northern side of the Port Cornwallis (Port-Blair of present day) were very hostile, those inhabiting the southern side were quite friendly. To the British, both the groups were same while in reality they were confronting two different tribes, the hostile Aka-Bea, a group of the Great
Andamanese in the north, and the friendly Jarawa in the south. Lt. Colebrook and Archibald Blair were the first to encounter the Jarawa and described them to be indifferent (Portman, 1889:76). There was practically no major confrontation even with the different groups of the Great Andamanese. Nevertheless, it was the first major contact of the Negrito tribes with the alien people or Non-Islanders. However, the British vacated the Islands in May 1796 on many counts; most important was that they were prone to tropical diseases, particularly malaria.

The Second Penal Settlement in Andaman Islands was established in March 1858 after the acceptance of ‘the Report of a Committee’ formed to give its suggestion, regarding reoccupying the Andaman and Nicobar Islands and establish penal settlement, by the British Government. It was done immediately after the First Indian war for independence in 1857. Interestingly, there were penal settlements already existing in this part of the world, which had been established by the British. The first in the order was Benkulen in Sumatra followed by Singapore, Penang and some places in Myanmar (erstwhile Burma) (Majumdar, 1975: 48-49). By establishing a penal settlement in the Andaman Islands, the British government were faced with two urgent problems that required immediate attention. The first was the general policy to be adopted towards the aborigines, and second was the creation of a suitable machinery of administration for the Islands. Considering the aborigines as primitive and cruel, the Court of Directors formulated a policy of behaviour towards the aborigines. The British officials were told “all possible precautions may be taken to protect the aboriginal inhabitants of the Andaman Islands from the collision with convicts, which, it is not too probable will be provoked on both sides and which once commenced are so likely to end in the extermination of the weaker race” (cf. Mathur, 1968:69). Now, contacts of different Islanders of the Andaman with other people can be seen separately for a clear picture of contacts of each human group with the others.
and to have a comparative scenario of contacts. It is better to see this tribe wise so that contact, conflict and its impact on each human group can be understood separately.

5.1.2.1 The Great Andamanese

The Great Andamanese, one of the four Negrito tribes of the Islands, originally had ten subgroups and were distributed from south to north in the Andaman Islands. The present day Great Andamanese include members of three groups namely the Aka-Chari, Aka-Jeru and the Aka-Bea-da. Besides these three, they had other seven groups, viz., the Aka-Kora, Aka-Bo, Aka-Kede, Aka-Kol, Okka-Juwai, Aka-Puikwar and the Aka-Bele. Each group had occupied a certain area of the island. Leaving aside the Aka-Bea, the average extent of territory occupied by a tribe was about 264 sq km (Fig. 5.1). Of the ten tribes, the largest in terms of area was probably the Aka-Kede, having over 300 sq km of territory, while the smallest was probably the Aka-Chari having less than 160 sq km territory (Radcliffe-Brown 1922:25). Within their own territory, these small subgroups were nomadic in order to make the best use of natural resources available there. The relationships among these groups were not friendly. On the contrary, there existed tribal warfare among these different groups.

As expected, skirmishes of different types started taking place immediately after the establishment of the penal settlement. Hitherto the aborigines were in a sullen mood of anger and discontent at the intrusion of the outsiders into their habitat, and this feeling found vent in occasional clashes and skirmishes. As punitive measures, several expeditions were sent to teach a lesson to the autochthones. The Government communication admitted that the settlement officials preferred to ignore the path of conciliation and selected to play the role of assailants (Portman, 1899:271-73). It was evident from the suggestion of the Superintendent of Port-Blair, Mr. P.
Walker, who had sent a proposal to the Secretary for State to the British Government in India that the Great Andamanese should be driven out by the military guards from the southernmost part of the Great Andaman Island and the area should be cordoned off by a military in order to prevent entry of the aborigines. But the Government did not accept the proposal of Mr. Walker.

However, the cruel and vindictive policy of the British officials posted in the area generated among the aborigines a definite spirit of hostility against the British and a grim determination to drive them out from their habitat. It found expression in a series of attacks by them in quick succession during the months of April and May 1859. But the bow and arrows were no answer to the fire arms of the British. The first organised attack by the Great Andamanese was made on 6th April, 1859. It was followed by another attack on 14th April 1859, in which about 1500 aborigines participated (Majumdar, 1975: 82-83). It was a revelation to the whole spectrum of contacts of the aborigines with the British, and the latter’s relation with and attitude towards the aborigines. In the said attack, the Great Andamanese vented their wrath on gang men but were quite friendly with convicts who had iron ring round the ankle as distinctive marks. According to Portman, the Great Andamanese told him that they objected to the clearing of the forests. Important among them was conflict of 17th May 1859, also known as the ‘Battle of Aberdeen’. In this skirmish, many Great Andamanese were killed (cf. Majumdar, 1975: 82-83). Portman (1899:279, 288) said “Far from being a ludicrous skirmish, it was the most desperate and determined attack by the aborigines ever made on the settlement. The policy of Mr. Walker must be held responsible for these unfortunate episodes.” After the retirement of Mr. Walker in 1859, his successor adopted a friendlier attitude towards the aborigines and consequently a gradual change in the attitude of the aborigine towards the settlers was noticeable.
Table 5.1 Decadal Population of Negrito Groups in Andaman Islands (Up to 1950s)

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Tribe</th>
<th>Estimated Population</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1858</td>
</tr>
<tr>
<td>1</td>
<td>Aka-Chari</td>
<td>100</td>
</tr>
<tr>
<td>2</td>
<td>Aka-Kora</td>
<td>500</td>
</tr>
<tr>
<td>3</td>
<td>Aka-Jeru</td>
<td>200</td>
</tr>
<tr>
<td>4</td>
<td>Aka-Bo</td>
<td>700</td>
</tr>
<tr>
<td>5</td>
<td>Aka-Kede</td>
<td>500</td>
</tr>
<tr>
<td>6</td>
<td>Okka-Juwai</td>
<td>300</td>
</tr>
<tr>
<td>7</td>
<td>Aka-Kol</td>
<td>100</td>
</tr>
<tr>
<td>8</td>
<td>Aka-Puikwar</td>
<td>300</td>
</tr>
<tr>
<td>9</td>
<td>Aka-Bea-da</td>
<td>500</td>
</tr>
<tr>
<td>10</td>
<td>Aka-Bele</td>
<td>300</td>
</tr>
<tr>
<td>11</td>
<td>Onges</td>
<td>700</td>
</tr>
<tr>
<td>12</td>
<td>Jarawa</td>
<td>600</td>
</tr>
</tbody>
</table>


*It is the combined population of the Great Andamanese group from Sl. No. 1 to 10.

Table 5.2 Decadal Population of Negrito Groups in Andaman Islands (After 1960)

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Tribe</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Great Andamanese</td>
<td>19</td>
</tr>
<tr>
<td>2</td>
<td>Onges</td>
<td>129</td>
</tr>
<tr>
<td>3</td>
<td>Jarawa*</td>
<td>500</td>
</tr>
<tr>
<td>4</td>
<td>Sentinelese**</td>
<td>50</td>
</tr>
</tbody>
</table>


* Population of the Jarawa were estimated till 2001. First time in 2002 a head count of the Jarawa population was done.

** Population of the Sentinelese are estimated.
In 1863, E. H. Man at Port-Blair established “Andaman Home”. Rev. Corbyn, a priest, was entrusted with task of civilising the Great Andamanese. “Here they were provided free rations, lodgings and medical attendance” (Radcliffe-Brown, 1922:10). The Great Andamanese were free to come and stay as long as they wanted and then could go back with gifts from the British administration. Nevertheless, the Portman report (1899) reveals the yearning of the Great Andamanese to go back and to live the traditional way of life in the forests always remained strong among them. In the latter years, the situation gradually improved and by the end of 1860s almost all the subgroups of the Great Andamanese had been slowly and gradually tamed following the policy of carrot and stick. The Aka-Bea-da was the first to be completely befriended followed by other groups of the Great Andamanese. But an obvious fallout of the contact situation was the sudden decline in their population from a strong 3,500 in 1858 to 50 in 1951 and 19 in 1961 (Table 5.1 and Table 5.2). In the post-Independence period, they were living in dilapidated condition in and around Port-Blair. Finally, the Andaman and Nicobar Administration settled them at Strait Island in 1974 (Chakraborty, 1990). Presently their population is 41 (AAJVS, 2007). Now they are no longer full time hunter-gatherers. Presently, few of them are working in different departments of Andaman and Nicobar Administration also.

5.1.2.2 The Onges

The Onges are another Negrito tribe inhabited in the Little Andaman. Like other Negritos, they also resented any intrusion in their territory. They put up resistance within the limitation of their weaponry based on simple tools, technology and their physical strength, which lasted for several years. References are found of many unsuccessful attempts between 1867 and 1874 by the British to bring the Onges in the fold of friendship. The goodwill efforts of the M.V. Portman, Officer-in-Charge of relations with the aborigines from 1879 to 1900, bore fruits in 1886 when he
succeeded in establishing friendly contacts with the Onges. Within a span of twenty years since their friendly contact with outsiders in 1886, the Onges had completely been befriended (Sarkar, 1993:171). This change in their outlook from hostility to friendliness towards outsiders proved a turning point because thereafter they never picked bows and arrows to defend them and their territory. The British did not colonise the island of Little Andaman as they had done in South, Middle and North Andaman Islands, nor were the Onges put in any kind of “Homes” for civilising them. In the post-Independence period, Little Andaman was opened for the rehabilitation of the refugees in 1967 (Pandit and Chattopadhyay, 1993:171). It dealt a major blow to the Onges as it not only reduced the size of their territory but also curtailed their resource base. To compensate the loss of space (niche) and resources, they were settled in 1974 at two places in the Little Andaman - namely South Bay and Dugong Creek. Today they are no longer solely dependent on hunting, fishing and gathering. At the new place of settlements, the Andaman Administration regularly provides them the articles of daily use including food items. Like the Great Andamanese group, the Onge population has also declined from 700 in 1858 to 150 in 1951 and 97 in 2002 (Table 5.1 and Table 5.2). In the Year 2005, the total population of the Onges was only 97 (Kumar and Haider, 2007: 128).

5.1.2.3 The Sentinelese

The Negrito hunter-gatherers of the North Sentinel Island are known as the Sentinelese. They have been described as the world’s most isolated population and hence the least known. As such, there has been a mystique about their life style, culture and society. The British in the absence of any urgent need for land and forest resources of this small island (area 50 sq km) off the west coast of the South Andaman did not make any efforts to befriend them. Only few visits were made from 1867 onwards by the British but no close contact was made. In the post-Independence
period from 1967 onwards, occasional expeditions were sent to the North Sentinel Island, but the Sentinelese did not like it. At few occasions, they even shot arrows at the visiting party, though nobody was hurt. The situation improved with time and a breakthrough was achieved in February 1991 when the Sentinelese accepted the gifts from the hands of the members of the contact team who were awaiting ashore (Pandit and Chattopadhyay, 1993: 176). Thereafter, a few of them even boarded the lifeboat and then disembarked on their own. Despite the initial success, there still exists an ambience of hostility between the Sentinelese and the outsiders. The occasional expeditions are still being sent by the local Administration into their area for establishing friendly contacts with them, but of no avail. Presently, the Andaman and Nicobar Administration is following the policy of non-interference with respect to the Sentinelese.

5.1.2.4 The Jarawa

While all ten groups of the Great Andamanese and the Onge tribe had come under the influence of the British within the few years of the establishment of the second Penal Settlement at Port-Blair in 1858, the Jarawa, however, did not accept the friendly overture of the British. The Jarawa suffered violence because of the punitive expeditions sent by the British Administration against them for their disinclination to be friendly with the new settlers and their unwillingness to submit to new arrangements. The Jarawa continued with their defensive posture until the latter half of 1997, and then they became friendly with the Non-Jarawa. The history of the contacts of the Jarawa with Non-Jarawa has been discussed in three broad time-periods: (i) contacts during 1858 to 1900, (ii) contacts 1901 to 1939 and, (iii) contacts during the Japanese occupation between 1942 and 1945. The details of the contacts during the afore-mentioned time-periods have been discussed below.
5.1.2.4.a Contacts during 1858 to 1900

As mentioned earlier that during the first phase of the penal settlement the Jarawa behaved in a nonchalant manner with the colonizers in contrast to the Aka-Bea-da tribe. During the initial years of the second penal settlement, the Jarawa remained inoffensive. The British learnt about the hostility of the Jarawa around 1863 when Topsy, the Great Andamanese girl staying at the “Andaman Home” told the Reverend H. Corbyn, in-charge of the “Home” that there were tribes in the south like the Jarawa who were hostile not only to the Andamanese but also to the British and warned him not to proceed to their settlement (Majumdr, 1975: 87). However, he failed to understand the reasons behind their hostility. In the annual report for the year 1872-1873, General Steward wrote that the Jarawa “seem to be peacefully disposed, whereas the Little Andaman Islanders habitually kill or attempt to kill, everyone that lands on their shores” (cf. Portman, 1899:716). The Jarawa attacked the settlement for the first time in the year 1872. However, the situation took a turn for worse in the following years and hostility with Jarawa scaled up and hardly a year passed without violent skirmishes between the Jarawa and the Non-Jarawa (Census of India, 1931:14). There appeared to be following reasons for Jarawa turning hostile against the Non-Negrito population:

1. The Jarawa resented the partiality shown by the settlers to them in treatment compared to the other tribes of the Great Andamanese group.

2. The clearing of the forests near the Port-Blair made them angry, which they regarded as a part of their homeland.

3. In the latter years, several expeditions were sent against them. It resulted in the killing of many Jarawas that further worsen the situation.

4. To add fuel to the fire, the Great Andamanese were used to catch and befriend
the Jarawa ignoring the fact that the Great Andamanese, particularly the Aka­
Bea-da, were traditionally at enmity with the Jarawa. The objective was to
catch the Jarawa, bring them to Port-Blair, keep them in “Home” as had been
done in case of the Great Andamanese, give them gifts and then send them
back. The underlying idea was that it would help establish friendly relations
with the Jarawa as this method had contributed partially in the overall efforts
of establishing friendly contact with the Great Andamanese and the Onges.
Even this method did not bear fruit. For example, the British Administration
succeeded in capturing one Jarawa man with the help of the Great
Andamanese in March 1885 and he was kept in Mr. Portman’s house.
However, the Jarawa kept begging the Great Andamanese to kill him by
throttling or cutting his throat, and rejected all overtures of friendship
(Portman, 1899:60).

By sending armed personnel into their territories, a people with friendly
disposition were pushed to abject hatred, and the British Government refused to learn
any lessons from it. By the end of the Nineteenth Century, the situation had further
worsened. The British Administration was thinking of invading the Jarawa territory
and catching them alive with the help of armed police and convicts. Astonishingly,
some British officials even wanted complete extermination of the Jarawa people.

5.1.2.4.b Contacts during 1901 to 1939

After the retirement of Mr. Portman in 1900, the conciliatory policy that was
followed till 1900 for the Jarawa was abandoned. As a result, the hostility on both
sides aggravated. Now the Jarawa were even resisting with all their might
establishment of any settlements in their territory. In turn, the settlers and British
authority were attacking the Jarawa frequently. The turnaround from a policy of
protecting the tribes from collision with the settlers and thus saving the indigenous people from extermination was complete when in 1905 a ‘Bush Police Force’ was formed with friendly Great Andamanese as members and Burmese Jamadar in-charge of it. The job of the Bush Police Force was to hunt the Jarawa and the runaway convicts too (Mathur, 1968:114-15). In one such expedition by Captain West in 1925, as many as 37 Jarawa were claimed to have been shot dead (Census of India, 1931: 16). With each passing year, the number of the punitive expeditions sent inside the Jarawa territory increased. Consequently, the feeling of hostility in the Jarawa against the outsiders was further fuelled. Later at some point of time, it was felt that the most effective way to conciliate the Jarawa was to ‘capture them in large numbers, tame them and then sent them back as messenger of peace’. One such expedition, organised in 1939 by McCarthy Commandant, Civil and Military Police, was considered to be successful as they could capture one young Jarawa woman with three of her children (Census of India, 1961: 104). However, in the following years such expeditions could not be carried out because of the Japanese occupation of these islands during Second World War.

5.1.2.4.c Contacts during the Japanese occupation (1942 -1945)

Andaman and Nicobar Islands were under Japanese occupation from March 1942 to October 1945. The Japanese were interested to fortify the entire coast but the Jarawa made their work difficult on the west coast of the Andaman. Consequently, the Jarawa areas were reported to have been machine gunned from air because two Japanese soldiers had allegedly been killed at the hands of the Jarawa (Sarkar, 1993:104). Though nothing is known about the causalities the Jarawa suffered in that attack, it did enhance their hatred towards the outsiders.
5.1.3. The Post-Independence Period

In the initial two years after the Independence of India, the situation remained more or less same. Soon the events that followed the Independence made substantial impact on the Jarawa people and their territory. Important among these events was opening of the Islands for the rehabilitation of the refugees from the erstwhile East Bengal (now Bangladesh). Development of the events was in the following manner.

5.1.3.1 Refugee rehabilitation

Between 1949 and 1959, altogether 68 villages of the refugees consisting of 2328 families having a total population of 10,018 persons were established in the South and Middle Andaman Islands (Table 5.3 and Table 5.4). It was an open case of invasion of the Jarawa territory. During that time the forest cover in the Andaman Islands was wider and thicker and it was very difficult to get any large patch of cleared land, hence the forests were cut from a large area for settling the refugees. However, in different parts of the South, Middle and North Andaman Islands some lands were identified and a programme for acquiring the land was made. It was also estimated that approximately 5,000 refugee families could be settled in those areas (Sen, 1962:92).

In course of the rehabilitation programme, the refugees were taken in batches to the Andaman Islands. Initially some parts of the South Andaman Island were selected for rehabilitation because of the readily available cleared land, nearness to the administrative Headquarters at Port-Blair and communication facilities. Initially, the first batch of 202 families was rehabilitated in March 1949 (Table 5.3). Each of the rehabilited families was provided with certain facilities. They were given an ex-gratia grant of Rs. 1,050, a recoverable loan of Rs. 1,730 and a total of 10 acres of land, of which five acres each for paddy land and hilly land (Sen, 1962:103-104).
addition to this land, each family was given five acres of land as homestead and for other uses. During a span of seven year from 1949 to 1955, altogether 931 families were rehabilitated in various villages of South Andaman like Homfregunj, Herbertabad, Guptapara, Wimberlygunj and Shoal Bay.

Similar process of encroachment on the Jarawa territory was repeated in the Middle Andaman during the second phase of rehabilitation. In the Middle Andaman alone, between 1953 and 1956 as many as 1300 families were rehabilitated (Table 5.4). The peak years of the rehabilitation activities were 1954 and 1956. Within a period of seven years, about 1397 families were rehabilitated in six batches in different parts of the Rangat Valley, stretching from Betapur to Uttara. Here, each family was provided with Rs. 2000/- as loan in addition to the usual allotment of 10 acres of land. This area has certain special features like good soil, abundant rain, and perennial sources of fresh water, which attracted more settlers. As a result, population in this part of the Island registered phenomenal growth.

Table 5.3 Year-wise Achievement of the Rehabilitation Programme in South Andaman

<table>
<thead>
<tr>
<th>Years</th>
<th>Number of villages established</th>
<th>Number of families rehabilitated</th>
<th>Population settled (in persons)</th>
<th>Area allotted for paddy cultivation (in acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1949</td>
<td>6</td>
<td>202</td>
<td>830</td>
<td>1,530</td>
</tr>
<tr>
<td>1950</td>
<td>10</td>
<td>265</td>
<td>1,165</td>
<td>1,765</td>
</tr>
<tr>
<td>1951</td>
<td>4</td>
<td>114</td>
<td>554</td>
<td>0,625</td>
</tr>
<tr>
<td>1952</td>
<td>8</td>
<td>123</td>
<td>595</td>
<td>0,789</td>
</tr>
<tr>
<td>1953</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>1954</td>
<td>3</td>
<td>97</td>
<td>400</td>
<td>0,575</td>
</tr>
<tr>
<td>1955</td>
<td>5</td>
<td>130</td>
<td>620</td>
<td>0,735</td>
</tr>
<tr>
<td>Total</td>
<td>36</td>
<td>931</td>
<td>4,164</td>
<td>6,019</td>
</tr>
</tbody>
</table>

Table 5.4 Year wise Achievement of the Rehabilitation Programme in Middle Andaman

<table>
<thead>
<tr>
<th>Years</th>
<th>Number of villages established</th>
<th>Number of families rehabilitated</th>
<th>Population settled (in persons)</th>
<th>Area allotted for paddy cultivation (in acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1953</td>
<td>3</td>
<td>198</td>
<td>812</td>
<td>1,439</td>
</tr>
<tr>
<td>1954</td>
<td>12</td>
<td>438</td>
<td>1,810</td>
<td>1,905</td>
</tr>
<tr>
<td>1955</td>
<td>7</td>
<td>264</td>
<td>1,157</td>
<td>0,725</td>
</tr>
<tr>
<td>1956</td>
<td>8</td>
<td>400</td>
<td>1,729</td>
<td>1,884</td>
</tr>
<tr>
<td>1957</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>1958</td>
<td>1</td>
<td>88</td>
<td>807</td>
<td>400</td>
</tr>
<tr>
<td>1959</td>
<td>1</td>
<td>9</td>
<td>039</td>
<td>45</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
<td>1,397</td>
<td>5,854</td>
<td>7,398</td>
</tr>
</tbody>
</table>

NA= Data not available. Source: Chakraborty and Dinda, 2002: 47.

The unfortunate part of the rehabilitation plan was that the refugees were settled near sources of fresh water, which effectively barred access of the Jarawa to this vital resource. The intrusion in their habitat and resultant loss of territory and life sustaining resources because of establishment of refugee settlements must have made the Jarawa more and more hostile towards the Non-Jarawa. Therefore, the Jarawa resisted rehabilitation, as there were 76 encounters with them between 1946 and 1961 in which 15 settlers and a number of Jarawa were killed (Census of India, 1961).

Administratively elaborate arrangements were made to protect the villages, forest camps and persons working in the Reserve or in the adjoining areas. The Bush Police Force was no more a group of game trackers and hunters. By 1961, it was manned by 35 Jamadars, 311 Constables and 1 Inspector from 44 camps along the periphery of the Reserve. In addition, the Forest Department also maintained 150 constables. Both the forces were armed (Census of India, 1961:104). Besides giving protection to the Non-Jarawa, one of the aims of the Bush Polish was to keep a watch on the movement of the Jarawa.
5.1.3.2 The Andaman trunk road

The induction of new settlements brought with it the need of development of road for transportation and communication between Port-Blair and the settlements. The easiest method would have been communication by the ships and boats, as in the first decade of settlement the sea transport was the main means of transport between Port-Blair and the settlements. However, the settlers themselves had a continental mind-set, distinctly different from that of a true islander. They were gripped by the natural fear and mistrust of the sea transport. To them the road was a preferred means of transportation. Even more, the administration and decision makers in the Independent era were also mainlanders with continental mindset and preferences.

A grandiose project was conceptualized and soon the survey work for the proposed 343 km long Andaman Trunk Road started in 1970s. The road became fully operational in 1989, which now connects the four major Islands of South Andaman, Baratang, Middle Andaman and North Andaman, from Chiriyatapu in South Andaman to Diglipur in North Andaman. When the road construction started, the Jarawas actively opposed it as it was passing through their territory and disturbing their way of life (Acharya, 2002:170). Besides, the Jarawa were also traumatised by the large-scale tree felling and use of noisy heavy machinery for construction of the road, which probably drove their game species away and scared them. The Jarawa regularly raided the labourers’ camps, drove wedges in the water pipes to obstruct the flow of water and made log barriers. On the other hand, the armed police protected the construction crews. According to a report in the local press, the construction agency used to surround the camps with live electric wire, a sort of improvised electric fence, which claimed many lives (cf. Acharya, 2002: 167-69). Many incidents of conflicts had taken place on the road since the 1970s and continued until 1997 when the situation changed. The number of Jarawa killed during the road construction
will never be known, be it by electrocution, bullets or other means. Attacks on labourers, Bush Police, trucks and buses by the Jarawa were merely a form of resistance towards the intrusion into their lives and territory, which today is seemingly complete.

5.1.3.3 Deforestation and commercial forestry operations

The development of the Andaman Trunk Road through the South Andaman and Middle Andaman Islands also caused large-scale deforestation in the area that led to further deterioration of the environment of the Jarawa in the form of erosion of their forest and other resources. A notification issued by the Chief Commissioner of the Islands in 1957 had virtually declared the whole of the northern part of the South Andaman Islands as a ‘Tribal Reserve’. Later the same authority amended the notification in 1979 and excluded the areas east of the Andaman Trunk Road from the ‘Tribal Reserve’ and opened the area to logging and for the construction of the road (Mukhopadhyay, 2002: 41).

The eastern portion of the forest along the trunk road beyond Jirkatang was felled in suitable areas and regenerated with teak commercial species of timber including *padouk*, teak, *didu* and other timber wood species. This had definitely caused great distress to the Jarawa as it has ruined their hunting grounds and reduced the diversity of food species due to raising of timber plantations, extraction and hunting by the Non-Jarawa, and other forestry operations including setting up of temporary camps at Pochang, Poona Nallah and Puttatang. Forestry operations were finally stalled after March 1996 when about 60 to 70 Jarawas ambushed workers of the Forest Department from three sides, killing two and injuring three of them (Department of Police, 1997). Until date, the Putatang camp has not been abandoned, skeletal staff has been kept there to maintain a token presence in the area.
5.1.3.4 Contact missions and the Jarawa

After the Independence, under the new policy of the Indian Government, the legacy of large scale and organised state violence and policy of punitive expedition towards the Jarawa was entirely given up. The Jarawa were declared a ‘Scheduled Tribe’ along with other five tribes of the Andaman and Nicobar Islands. Their territory was declared a Reserved Territory under the Government of India Forest Act and the Tribal Regulation of the Andaman and Nicobar Islands. Further, in order to befriend the Jarawa, intermittent gift giving operations were started.

In mid 1968, three Jarawa were caught by the villagers of the Kadamtala in Middle Andaman when they had come to pick up some metal implements from the village. They were taken to the Port-Blair and kept for a month, then sent back to Kadamtala for release. After this incidence, the activity of gift dropping operation in the Jarawa area was increased and systematised. On the 18th February 1974, a gift dropping party, under the supervision of Shiv Prasad Singh, Head Constable, Bush Police, was accosted by a group of Jarawa without their weapons and with friendly gesture. This was followed by vigorous efforts to renew contact with the Jarawa in the area. On 5th and 10th April 1974, Mr. Bakhtawar Singh, Officer-in-Charge, Bush Police, and other members of the contact team were able to meet the Jarawa at Lakra Lungta on the west coast of the Middle Andaman (Pandit and Chattopadhyay, 1993:173). This was followed by frequent contact missions organised by the Andaman Administration. Between 1974 and 1996 scores of visits were paid to the Jarawa area. The contact parties used to visit the western coast of the Middle Andaman in small vessels and make contact with the Jarawa on the shore. Such visits were conducted on every full moon day and the visitors used to be officials of the local government, doctors and anthropologists. The underlying idea was that the Jarawa would be able to understand the regularity of such visits if they were visited
on each full moon day, keeping in mind that natural cyclic phenomenon would presumably be intelligible enough to the Jarawa. It was also recommended that the visitors should be medically screened to prevent any possible spread of communicable diseases among the Jarawa (Awaradi, 1990: 132). During the contact missions the Jarawa were gifted with huge quantity of banana, coconut, and pieces of red cloth.

The contact missions did succeed in creating some positive impact on the Jarawa. After sometime, the Jarawa started coming forward on their own to greet the members of the contact team. However, the nascent friendship and amity were interrupted time and again by continuing conflicts with the settlers (Mukhopadhyay, 2002: 24-29). In this way, one comes across ambiguous behaviour of the Jarawa, i.e., both friendliness and hostility towards the Non-Jarawa after 1974. While on one side the Jarawa were hostile to the settlers, forest labourers working in and around the Jarawa Reserve and vehicles passing through the Jarawa Reserve, on the other they displayed friendly gesture to the members of the contact team. It clearly explains the fact that the Jarawa did not like encroachment in their territory and sharing of natural resources by others as it was the question of life and death for them. Nevertheless, the Jarawa were friendly with members of the contact teams as the Jarawa found them to be not encroaching on their ecological niche and destroying it. However, after 1990 the Jarawa have also demonstrated more friendly behaviour towards their Non-Jarawa neighbours.

5.1.3.5 Enmei episode and friendliness of the Jarawa

In April 1996, a Jarawa named Enmei with broken leg was captured and admitted to the Primary Health Centre at Kadamtala and then referred to G.B. Pant Hospital, Port-Blair, where he received treatment for about six months. Following this incident, the contact situation took a decisive turn. After being released from the
hospital, Enmei was sent back to the Kadamtala from where he was released in the Jarawa territory. The underlying approach of the administration behind this act was that he would carry back to his Jarawa people the message of goodwill and friendship. Unexpectedly, few months later, one day in October 1997, a group of unarmed Jarawa appeared at Uttara Jetty, Middle Andaman. This event was a watershed in the history of relationship of the Jarawa with the Non-Jarawa as it marked the end to the phase of hostility and beginning of friendly relations between the Jarawa and the Non-Jarawa. After that eventful day, the Jarawa started visiting the settlement areas frequently. On the subsequent visits, they started plucking banana from the plantation of the settlers and it soon became a regular phenomenon. The Primary Health Centre was the other place, which they were visiting quite often. It was a welcome change as hardly any incident of conflict between the Jarawa and the villagers was reported thereafter.

5.2 IMPACT OF CONTACTS AND CONFLICTS

Every contact, whether friendly or hostile, between two human groups has its own impact on both the groups, and the contacts have their own origin, nature and development. In the background of the above-mentioned contacts, it would be worthwhile to see the impact of contact and conflict on the Jarawa people and their habitat. Impact of contact has been seen through two time periods- determined by important historical events.

5.2.1 Impact During the British Period (1858-1947)

Major impact of contact during the British period was in the form of territorial displacement and redefining of boundaries. Both the social and geographical boundaries amongst the Andaman Islanders have evolved through many factors such as language, customary law, spatial organisation and access to resources. Such variables are applicable to most societies in the world. The tribes of the Andaman
Islands largely distinguished themselves by their own territory and dialect. Maintenance of exclusive territories by these groups gave them the benefits of extraction of resources from specific areas and social cohesiveness of small groups, and at the same time created a situation of diversity of cultures. Previous studies on Andamanese culture and social organisation described the Andamanese tribes based on their spatial organisation as people were divided in groups. The area used and occupied by a particular Andamanese group was delineated by specific names pertaining to and corroborative of both natural features and accounts that were associated with the area (Man, 1883: 30-40).

For long in the past, different Negrito groups of the Andaman Islands were hostile to each other and their territories were well demarcated and protected. During the year 1889, the North Andaman was inhabited predominantly by four major tribes, i.e., the Aka-Chari occupying the coastal areas of the North Andaman, and the Aka-Kora living mostly in the interior of the North Andaman, while the Aka-Bo and Aka-Jeru inhabited the central and southern part of the island respectively (Fig. 5.1). By 1901, there was remarkable shrinkage of the Aka-Jeru territory and conspicuous spread of the territory of the coastal Aka-Chari (Fig. 5.2). It means the coastal tribe dominated their counterpart in the tribal warfare. By 1961 there was a complete disappearance of the Aka-Kora and Aka-Bo from the North Andaman (Fig. 5.3).

In the Middle Andaman, during the year 1889, there were four main tribal groups (Fig. 5.1). These were the Aka-Kede occupying more than half of Middle Andaman. While the Aka-Kol were settled along the south-east coast, the Okka-Juwai occupied the south-western interior, and the Aka-Puikwar the southern coastal area of the Middle Andaman. By 1901, the Aka-Kede had pushed their territory southward by dominating over the other tribes (Fig. 5.2). Consequently, the Aka-Kol were pushed
further south and south-west dominating over the other two tribes i.e., the Aka-Puikwar and the Okka-Juwai. Later on, all suffered the same fate as those of the North Andaman groups and in the process completely vanished and sometime around 1930 the area came under the control of the Jarawa (Fig. 5.3 and Table 5.1).

Further south, the Baratang Island and a part of the South Andaman were inhabited by the Aka-Puikwar tribe during the year 1889 (Fig. 5.1). In 1901, the Jarawa from south invaded their territory and pushed them out of south Andaman and occupied a part of Baratang Island also (Fig. 5.2). In the following decades the whole of the Aka-Puikwar had vanished. Later, the British pushed the Jarawa out of the Baratang Island.

The South Andaman Island and Rutland Island were inhabited by three major tribes in 1889 (Fig. 5.1). The Aka-Bea-da had occupied the major areas of South Andaman; the Jarawa were in the interior and the Aka-Puikwar in small territory along the north-eastern coast. The Aka-Bele tribe inhabited the Richie archipelago. Table 5.1 shows a progressive decline of all these tribes except the Jarawa in 1901 that had moved themselves from south to north. By 1930s, the Jarawa had established themselves over major parts of the South and Middle Andaman Islands.

By 1951, most of the tribal groups of the Great Andamanese had vanished. Of the ten groups of the Great Andamanese only three were surviving and had a total population of 19 only in 1961 (Table. 5.4). They were namely the Aka-Chari, Aka-Jeru and the Aka-Bea-da. They had no control over their formal territory (Fig. 5.3). Having been reduced in number and without any territory of their own they were living in miserable condition in and around Port-Blair. Finally, they were settled at Strait Island in 1970 (Sarkar, 1993:7).
ANDAMAN ISLANDS
AREAS UNDER DIFFERENT ABORIGINAL GROUPS IN 1889

North Sentinel Island

INDEX

Aka-Chari
Aka-Kora
Aka-Bo
Aka-Jeru
Aka-Kede
Aka-Juwai
Aka-Kol
Aka-Puiwar
Aka-Bele
Aka-Bea-da
Jarawa
Onge
Sentinelese

Fig. 5.1
Fig. 5.2

ANDAMAN ISLANDS
AREAS UNDER DIFFERENT ABORIGINAL GROUPS IN 1901

INDEX
- Non-tribal area
- Aka-Chari
- Aka-Kora
- Aka-Bo
- Aka-Jeru
- Aka-Kede
- Aka-Juwai
- Aka-Kol
- Aka-Puikwar
- Aka-Bele
- Aka-Bea-da
- Jarawa
- Onge
- Sentinelese

Kilometres
0 16 32
Fig. 5.3

ANDAMAN ISLANDS
AREAS UNDER DIFFERENT ABORIGINAL GROUPS IN 1961

INDEX

- Jarawa
- Onge
- Sentinelese
- Bush Police Post
- Non-tribal area
ANDAMAN ISLANDS
AREAS UNDER DIFFERENT ABORIGINAL GROUPS IN 2007

INDEX
- Jarawa
- Onges
- Sentinelese
- Great Andamanese
- Non-Tribal Area
- Andaman Trunk Road

Fig. 5.4
By 1951, the Jarawa had completely vacated Richie Island and were occupying the western part of the South and Middle Andaman as these islands were vacant (Fig. 5.3). The situation remained same in the following decades (Fig. 5.4). The Onges, who were once the sole inhabitants of the Little Andaman, were settled in 1974 at two places namely Dugong Creek and South Bay and since then the situation has remained more or less same (Fig. 5.4). The Little Andaman also witnessed rehabilitation of refugees from the erstwhile East Pakistan (Kumar, 2002:131). The Sentinelese are the only human group whose territory and most probably the population have remained more or less intact owing to the absence of any contact of the Non-Sentinelese with them.

As discussed earlier that because of the growing hostility with the Jarawa, the British Government established Bush Police Force in 1905 to contain the Jarawa and to protect the settlers and convicts. As such, several outposts of the Bush Police Force were established on the periphery of the Jarawa territory. Many of these outposts continued to exist even in the post-Independence period (Fig. 5.3). After 1997, when the Jarawa became friendly with the Non-Jarawa, the name of the Bush Police Force was changed and now it is known as the Jarawa Protection Force. Only few outposts of the Jarawa Protection Force exist now. From the above discussion, it can be inferred that the population size of the aborigines declined to a great extent for which following reasons may be attributed:

1. War was one of the major factors. The British used to conduct punitive expeditions against the warring tribes. Though some information are available on the number of persons (of expedition party) killed in such war but it was never known as how many of the tribes’ men were wounded in the war and
afterwards succumbed to their injuries. However, it certainly disrupted their sex and age structure and that had implication on their over all population.

2. War was followed by the spread of diseases among the Islanders in the aftermath of the taming of them. The physical contact because of their being friendly with the outsiders led to the emergence of many diseases like the syphilis, measles, influenza and small pox, which proved fatal for the Great Andamanese group and the Onges. In 1870, the tribes of South Andaman were contracted with syphilis that soon spread to other tribes and took the form of an epidemic. Similarly, in March 1877 epidemic of measles spread out among the Andamanese killing many of them (Sen, 1962:86). In the year 1897, the measles and small pox killed almost half of the total lives of the Island of the South Andaman (Sarkar, 1993: 18). The measles proved fatal for the Onges also as it struck disastrously on number of occasions (Cipriani, 1966:46). The Jarawa were not reported to suffer from any such diseases as they were not in the friendly fold or in regular contact with the Non-Jarawa people.

3. A large number of aborigines of the Great Andamanese group and the Jarawa died due to traditional tribal warfare prevailing among them.

4. A large number of aboriginals, particularly the Jarawa, were killed due to the Japanese bombardment in the tribal areas during the Japanese occupation of the Andaman Islands between 1942 and 1945.

5.2.2 Impact During the Post-Independence Period

The independence of India ushered in a new era for all the tribal groups of the country including the Jarawa. Initiation of a number of developmental activities, the rehabilitation of the refugees from the erstwhile East Bengal after the formation of Bangladesh, redefining of the Jarawa territory etc. were crucial events that had telling impact on the Jarawa and their territory.
5.2.2.1 Shrinkage of territory

The historical events in the Indian subcontinent following the termination of colonisation led to the opening up of the Andaman Islands for the rehabilitation and resettlement of refugee population. It has the far-reaching consequences for the surviving Negrito populations of the Andaman Islands, particularly the Jarawa and the Onges, as their territories were chosen by the Government for the rehabilitation. However, in order to facilitate the rehabilitation and to protect the Jarawa area, a regulation for the protection of aboriginal tribes of the Andaman and Nicobar was notified in 1956. Exercising this power in April 1957, the Chief Commissioner declared certain areas reserved for the ‘aboriginal people’. Consequently, the ‘Jarawa Reserve’ boundary was described but never delimited and demarcated. A subsequent notification was issued in 1979, which modified the boundary of the ‘reserved areas’ in South and Middle Andaman (Mukhopadhyay, 2002: 40-41). Under the notification a large part of the ‘Jarawa Reserve’ was de-notified, particularly the area east of the Andaman trunk road, thus causing a reduction in the Jarawa territory. This exposed the denotified area of the Jarawa territory to logging, plantation and construction of road, leading to erosion of their resource base in terms of thinning of resources and reduction in diversity of food species in the areas close to the increased forestry operation.

Under the resettlement plan, about 68 villages consisting of 2328 households with a total population of 10,018 persons were established in the Jarawa territory in South and Middle Andaman Islands (Table 5.3 and 5.4). In order to rehabilitate the population and develop the required infrastructure, forests were cleared from a considerable area. For the rehabilitation alone about 13,417 hectares of lands were cleared of forests. All these resulted in the shrinkage of the Jarawa territory.
Moreover, the refugees were settled near sources of fresh water, which effectively barred the Jarawa from having access to this vital resource.

At the time of Independence of India, the Jarawa territory extended over northern part of the South Andaman and entire Middle Andaman Islands with a total area of approximately 2950 sq km. Besides, the forest areas of Baratang Island were also well within the functional resource region of the Jarawa. However, in the post-Independence period, the opening of the Islands for resettlement and rehabilitation of the refugee population, and modifications in boundary of the Jarawa territory in subsequent Gazette notifications resulted in huge reduction of the Jarawa territory from 2,950 sq km to 765 sq km. This shrinkage entailed loss of the life sustaining resource base of the Jarawa. Besides, in those notifications, the Jarawa Reserve was defined only on the paper but no attempt was made to delimit and demarcate it on the ground. As a result it always remained some vague on the ground. In addition, there was no buffer area between the Jarawa Reserve and the settlement areas of the Non-Jarawa. Subsequently it resulted in illegal extraction of resources and encroachment in the Jarawa Reserve.

5.2.2.2 Illegal extraction of resources from the Jarawa territory

As discussed earlier, the Andaman Islands were opened for the resettlement and rehabilitation of the refugees from the erstwhile East Pakistan between 1949 and 1959 (Table 5.3 and 5.4). In the initial days of rehabilitation, the settlers were primarily involved in agricultural activities. In addition, some of them also worked as agricultural labourers as a secondary source of income. A few of them worked as wage labourers in the Forest Department. Those immigrants who reached the Andaman Islands on their own and were not allotted any land by the authorities,
started carpentry work with wood and cane, in addition to working as wage labourers in various works.

With increase in population over decades (Table 5.5), the tendency to exploit both forests and aquatic resources increased. In the beginning, only jobless and landless persons entered the forest in search of some livelihood. Later, people who had land or other means of livelihood also started exploiting the natural resources on a regular basis. Even the cultivators, whenever they were free, entered deep into the forest either for hunting or for collecting non-timber forest produce. In this way, people were involved in illegally extracting valuable timber and collecting various non-timber forest produce like resin, honey and fruits. Besides, they were also involved in hunting of wild boars and deer (Chakraborty and Dinda, 2002:48-50). However, all these activities were restrained and under control because the hostile relationship with Jarawa acted as deterrent.

Table 5.5 Population Growth in Census Years

<table>
<thead>
<tr>
<th>Area</th>
<th>South Andaman*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>16844</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Area</th>
<th>Middle Andaman</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>5,392</td>
</tr>
</tbody>
</table>


* South Andaman includes the population of Port-Blair also.
However, in post-hostility phase, i.e., after 1997, the situation changed. With the absence of hostility, the illegal exploitation of resources from the Jarawa territory has increased manifold. Based on fieldwork and discussion with a large number of the people, it has been found that poaching activities are quite high in the Jarawa territory. Such activities include the illegal extraction of the minor forest produce, fishing and hunting, discussed below in details.

5.2.2.2.a Extraction of timber and minor forest produce

For some villagers, illegal extraction of timber from the forests for making furniture has become a ready means of earning. Even foreign poacher are found to extract good quality timber, particularly of Padauk and Black Marble woods from the ‘Jarawa Reserve’, for this area is rich in such resources. In order to accomplish their illegal task, they first befriend the Jarawa by offering them some edible items so that they do not resist them. However, the illegal extraction of timber is not very high.

In order to meet the day-to-day requirements of minor forest produce, the villagers extract the required materials from the forests. These minor forest produce include fuel wood, wooden poles, leaves for thatching and cane as building material and for making furniture. In addition to the villagers, there are some businesspersons who engage persons to collect forest produce like certain fruits and seeds, which have commercial value. Such extraction might turn out to be harmful in the long run as indiscriminate plucking and picking of fruits would interfere in the natural regeneration of the forests. It is done by misusing the forest permit which is given to the villagers for collecting minor forest produce from the forests out side the Jarawa Reserve. But the forest or vegetation outside the Reserve is so much so degraded that the villagers are tempted to sneak in to the Jarawa territory, where the vegetation is abundant, to meet their needs.
5.2.2.2.b *Fishing and hunting*

A study by Chakraborty and Dinda (2002:47-50) shows that persons from both landowning and landless households earn part of their livelihood from fishing or from trading in aquatic items like fish, crab, sea cucumber, lobster and prawn. Now, their favourite hunting grounds are the coastal waters and creeks of the ‘Jarawa Reserve’. The presence of many fishing canoes in the creeks and along the western coast of the ‘Jarawa Reserve’ during the course of the field work indicates the extent of the illegal fishing in the Jarawa area. Interview with the villagers revealed that most of them are ignorant about the extension of the Reserve by 200 metres in the sea. Earlier fishermen used to stay away from the shoreline to save themselves from Jarawa arrows. Now they lay nets pretty closer to the shore, sometimes they even seek help of the Jarawa while fishing. ‘The Jarawa Report’ of Anthropological Survey of India (An.S.I., 2002) also mention of illegal fishing, hunting and extraction of timber and non-timber forest products from the Jarawa area. Further, it cites one case where five persons were arrested along with three dinghies along the western coast of the Reserve with catch of shark, turtle, ray fish, flat fish, king shell and other marine animals (Table 5.6).

### Table 5.6 Animals Found in Poachers’ Net

<table>
<thead>
<tr>
<th>Species</th>
<th>Total number</th>
<th>Live</th>
<th>Dead</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shark</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Golden turtle</td>
<td>3</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Green turtle</td>
<td>1</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Ray fish</td>
<td>16</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>Flat fish</td>
<td>2</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>King shell</td>
<td>2</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>17</td>
<td>5</td>
<td>12</td>
</tr>
</tbody>
</table>

Fig. 5.5

Fig. 5.6
Similarly hunting of the wild pigs and deer during the hostility phase was very limited and it used to be mainly for the purpose of domestic consumption. However, after 1997, poaching of these game animals has become another way of income generation for the modern neighbours of the Jarawa.

Data were collected on fish and pig catch for 10 days in the month of September in the years 1999, 2002 and 2004 near Dhani Nala in Kadamtala area (Fig. 5.5 and 5.6). The objective was to find out whether there was any impact of poaching on the resources, particularly, on the pig and fish population in those areas of the Jarawa territory which are close to the villages of the settlers (Non-Jarawa). One such point of study was Dhani Nala, a place close to Kadamtala and frequented by both the Jarawa and the settlers.

Figure 5.5 reveals that the Jarawa hunted wild boar weighing about 36 kg by spending 99 hours in 10 days in 1999. The pig hunting registered a decline in 2002 because even after spending 93 hours in 10 days (almost nearing the time spent in 1999) they could hunt pigs weighing about 26 kg only. However, in 2004 they could not hunt any pigs even after spending 42 hours. Though it would be incorrect to deduct from the above analysis that there are no pigs available now in that area for the pig is a mobile prey, it certainly reveals the fact that pig density has decreased owing to poaching in that area. Poachers do not take care of the regeneration cycle, but the Jarawa do. However, in case of fishing no significant change was observed in the total fish catch between 1999 and 2002 (Fig. 5.6). But in 2004, a marginal decline in the total fish catch was observed as the Jarawa could catch only nine kg of fish after spending 40 hours. Though it did not tell much about decline in the fish density, it did show that fishing grounds of the Jarawa, which are nearer to settlements, have began to exhibit the sign of taxation owing to fishing by the villagers.
The above findings on the poaching are also corroborated by the survey of five small hotels at Kadamtala, which revealed that meat of wild boar and deer is invariably available in one or two of the hotels. Though the deer is not the game animal for the Jarawa, the pig is. More importantly, if the poaching continues to grow at the same rate soon it would surpass the rate of natural replenishment, and that would be detrimental to the Jarawa because the Jarawa have a simple extraction based economy. In order to collect resources the technology used by the Jarawa is very simple and primitive i.e., bows, arrows and hand nets. Such economy coupled with simple technology requires very high resource density in order to get satisfactory collection of resources in limited time. This, in turn, gives them sufficient time for social and leisure activities. Now with the shield of hostility gone, the poaching inside the Jarawa territory has increased. As a result, the Jarawa are competing with poachers for the natural resources both terrestrial and aquatic. The poachers on the other hand have superior technology compared to the Jarawa. Such competition, if not controlled or curbed, may soon turn out to be fatal for the Jarawa for two reasons:

1. The Jarawa do not have access to any other set of resources except those available in the ‘Jarawa Reserve’. So any scarcity or degradation of these resources on which the Jarawa are dependent would cause immense hardship to them.

2. The Jarawa have non-accumulative (except the seeds of wild jackfruit and *Cycus rumphii*) subsistence economy. They collect only that much of resources from the nature which is essential for their sustenance by practicing hunting and gathering. The poachers on the other hand indulge in getting as much of resources as possible and they are equipped with superior technology. In addition, they follow carpet approach in which they do not discriminate between adult and young animals in the course of poaching. The Jarawa, on
the other hand, shoot pig or fish with arrows and as such, the chances of getting bigger animal are much higher compared to small animals. Presently, the Jarawa and the poachers compete over same set of resources with their respective technologies. In such situation the latter has the advantage over the former in terms of technology. Moreover, the poachers always tend to over exploit the resources.

From the above analysis, it is apparent that many of the resources used by the Jarawa and Non-Jarawa are common to both. It was one of the reasons of development hostility between Jarawa and Non-Jarawa in the past (i.e., before 1997) and a matter of concern in the present (i.e., after 1997). In the post hostility phase, the Jarawa have to share in a big way their resource base with the Non-Jarawa. It is more so in the case of animal resources. Now, it has created a situation where the two groups of people are using same set of resources and that too from the same ecosystem. Such exploitation of the resources of the ‘Jarawa Reserve’ by the Non-Jarawa is disadvantageous to the Jarawa, as it may lead to the diminishing of the resources in the Jarawa territory, and in turn hardship for the Jarawa.

5.2.2.3 Encroachment

In the absence of a clearly delimited and demarcated boundary of the ‘Jarawa Reserve’ it is very difficult to discern the boundary of the ‘Jarawa Reserve’ on the ground. As a result, it is difficult to ascertain the extent of encroachment in the reserved area. However, it has been found that encroachment has taken place on two types of land- (i) the fringe area of ‘Jarawa Reserve’, and (ii) those parts of the forest, which are not in the ‘Jarawa Reserve’. There are following three types of encroachers.
ANDAMAN ISLANDS
VEGETATION FRAGMENTATION STATUS

INDEX
- Intact
- Low
- Medium
- High
- Plantation
- Non-forest
- Water body
- Sea
- Road
- Jarawa Reserve

Fig. 5.7
SOUTH ANDAMAN
VEGETATION FRAGMENTATION STATUS

INDEX
- Intact
- Low
- Medium
- High
- Plantation
- Non-Forest
- Water body
- Sea
- Road
- Jarawa Reserve

Fig. 5.8
MIDDLE ANDAMAN VEGETATION FRAGMENTATION STATUS

Fig. 5.9
1. One group is of those people who were refugees from the erstwhile East Bengal or East Pakistan and were settled by the Government of India under the refugee resettlement and rehabilitation scheme. Over the period as their population grew, the need for extra land was felt which found expression in terms of expansion of their land into the adjacent territory. The areas of many of the refugee villages are contiguous to the ‘Jarawa Reserve’ or reserved forest. Few such villages are Colinpur, Manpur, Ferargunj in South Andaman and Kadamtala, Shantanu, and Phooltala in Middle Andaman. Instead of clear felling the people have thinned the forests, and have planted coconut, areca nut, banana etc. in the encroached lands. Consequently, there is vegetation fragmentation, which is very high near the settlements of the Non-Jarawa (Fig. 5.7, Fig. 5.8, and Fig. 5.9).

2. Second category is of those people who were working either in the Bush Police Force, which was later renamed as Jarawa Protection Force. They were tribes from the Chhotanagpur region who had been brought here as labourers and later found jobs in the Forest Department and Bush Police. Since most of the time they were posted in or around Jarawa areas, they constructed huts in the forest in the absence of any other proper residential facilities. Some of these settlements are Jirkatang-2, Jirkatang-7, Putatang, Beach Dera, Putatang, Bamboo Tikri, Sippi Tikri, Kesri Dera etc.

3. In third category are those people who moved into these Islands on their own, cleared the forests and settled down. In fact, it is mainly post 1970 phenomenon when the communication (ship) between these islands and main land became more regular on account of introduction of more ships plying between Andaman Islands and the main land.
The thinning of the forest and the degradation of the resources outside the Jarawa Reserve are also harmful for the Jarawa because forest adjacent to the Jarawa area function as buffer and reduce the pressure on the Jarawa area. Unfortunately, the forests outside the Jarawa area are completely denuded and have fewer resources now to offer. The above mentioned fact is also supported by the satellite imageries which clearly show about the fragmentation status of the forest which is considerably high near the settlements of the Non-Jarawa (Fig. 5.7, Fig. 5.8, and Fig. 5.9).

5.2.2.4 Detrimental effects of the Andaman trunk road

After settling the refugees of the erstwhile East Bengal in different parts of South, Middle and North Andaman Islands, the need of a road connecting all these settlements was felt. The construction work for the 343 km long road, known as Andaman Trunk Road (ATR), began in 1970s and the road was fully operational by 1989. The road effectively cut off their (Jarawa) unhindered access to the eastern coast resulting in loss of habitat and shrinkage of area of resource gathering. Consequently, the Jarawa had opposed the construction of road. Apart from it, the road led to many encroachments en route and later facilitated forestry operation also. The Andaman Trunk Road had marginalized the Jarawa like never before, admits the Master Plan for the Tribal Development (Awaradi 1990).

The Andaman and Nicobar Islands experience rain for about eight months in a year, as such the maintenance cost of the road is very high. Every year 20 per cent of the total length of road is taken for repair. Such repair work alone require 38 metric tons of bitumen and 88 metric cord of firewood (approximately 249.04 cubic metres). The use of firewood for the 50 km stretch of road that is repaired every year is estimated to be 12,452 cubic metres. The said firewood is extracted from the Jarawa
Reserve. Thus, the very existence of road appears to be posing a threat to the forest too (Acharya, 2002:168).

In the post-hostility phase when the Jarawa first started coming out on road, there were certain risks involved in terms of road accidents. The Jarawa were a people without any knowledge about how to behave on road in presence of moving traffic. On the other hand, the drivers using the trunk road were not sure as what to do when confronted with some Jarawas who were either standing on the middle of the road or were trying to stop the vehicles. During initial two to three years, few road accidents did occur and in one of the accidents in 1999, a Jarawa boy even lost his right hand (AAJVS, 1999). With passage of time, the Jarawa have learnt ways to avoid accidents caused by the vehicles plying on the road. Now the risk of accident has decreased to a great extent but the risk still persists, particularly with respect to children.

Andaman and Nicobar Islands have been one of the preferred locations for the Indian tourists, but before 1997, the tourist flow to the island was not very high. In the wake of the Jarawa becoming friendly, the tour and travel operators have used this new situation as opportunity. The tourists are promised to be taken through the ‘Jarawa Reserve’ with all possibilities of seeing and meeting the Homo sapiens who are still in Stone Age. Consequently, it has found expression in terms of sudden spurt in the number of the vehicles plying on the Andaman Trunk Road, which passes through the Jarawa Reserve. It is directly related with the sudden increase in the number of the tourists visiting the Andaman and Nicobar Islands. In the year 1996, a total of 3,695 buses and 5,802 other vehicles crossed the Jirkatang Check post either way. By applying the IRC norms for calculation of volume of traffic, one finds that the road was used by only 515 persons daily or a total of 1,87,895 persons in the entire year (Acharya, 2002:169). By 2004, there was 150 per cent increase in the
traffic volume with more than 1500 persons crossing the ‘Jarawa Reserve’ every day. A large section of them is in fact tourists desirous of seeing the Jarawa. The movement of so many vehicles across the Jarawa Reserve disturbs the tranquillity of their habitat, scares away their preys and poses danger of accidents to the Jarawa people.

The commuters and tourists who travel along the Andaman Trunk Road meet the Jarawa at different points in the South and Middle Andaman Islands. They feel pity on the Jarawa and consider them hungry when they find the Jarawa to be begging for food. But the asking for the food on the part of the Jarawa is not due to the fact they are hungry or there is shortage of resources in their territory. It is rather an induced habit. The genesis of this habit is related with earlier practice and act of giving gift by the Andaman Administration.

During the contact mission in the hostility phase it was practice to give gift articles to the Jarawa whenever and wherever the contact party was able to contact them. In fact, this practice remained in vogue for few years even after the watershed year of 1997. Besides, during the initial years of post hostility phase most of the passengers of the vehicles passing through the Jarawa territory used to give gift items to the Jarawa. Now this practice of giving gift has been abandoned as well as banned by the Administration. Despite the ban, the both vehicle operators and tourists are still pursuing the practice of giving gift. As a logical corollary, whenever a Jarawa confronts a passing vehicle he or she asks for food or other articles. This behaviour of the Jarawa is being interpreted as begging and it is correlated with food scarcity in their habitat. However, there is no paucity of food resources in the ‘Jarawa Reserve’, except in some of the border areas adjacent to the villages. Many of the commuters are found to be carrying edible items like banana, biscuits etc. for the Jarawa.
Sometimes, they are found to dispense fried and spicy food items among the Jarawa. However, the oily and spicy food articles pose health hazards to the Jarawa, as they are not accustomed to such foods. Moreover, no one knows how far these items are hygienic and safe for eating.

5.2.2.5 Spread of diseases

It has been observed throughout the world that whenever a hunting-gathering group is exposed to the outsiders, they suffer from some health problems. It is believed that this is primarily because of their long isolation from other human groups, and thus certain pathogens or disease-causing organisms could not reach them. As a result, such communities never develop immunity in their body against all such pathogens. Once contact is established, the pathogens get a chance to enter into their bodies that can offer little or no resistance. Diseases that are very common among sedentary populations can be fatal for such hunting-gathering communities. The same pattern has been repeated time and again in different parts of the world. For example, in the Andaman Islands, the Great Andamanese suffered from epidemic caused by such diseases like measles and pneumonia, which were largely responsible for rapid population decline of the Great Andamanese and to some extent of the Onges (Cipriani, 1966).

<table>
<thead>
<tr>
<th>Year</th>
<th>Name of Diseases</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>As per records available</td>
<td>Community Acquired Pneumonia</td>
<td>27</td>
<td>22</td>
<td>49</td>
</tr>
<tr>
<td>between 1998 and 2001</td>
<td>Measles with its complication</td>
<td>45</td>
<td>50</td>
<td>95</td>
</tr>
<tr>
<td></td>
<td>Mums</td>
<td>18</td>
<td>9</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>Malaria</td>
<td>37</td>
<td>28</td>
<td>65</td>
</tr>
</tbody>
</table>

Source: Directorate of Health Services, 2002.
The analysis of data on diseases among the Jarawa since 1998 shows outbreaks of many disease like community acquired pneumonia in 1998, measles in 1999, malaria in 2000-2001 and mums (Table 5.7). Except the malaria and mums, the other two diseases are highly contagious. These diseases were probably absent among the Jarawa before their friendly relations and free mixing with the Non-Jarawa people. Outbreak of measles among the Jarawa in 1999 needs special mention. When there was an outbreak of measles in 1999, the Jarawa of the Tanmad and Thidong areas were quick to seek medical help and therefore timely medical aid could be provided that could save them. However, this was not the case with the Jarawa of Boiab area, as they were still hesitant to seek any medical help. Therefore, it could not be confirmed as how many of them, who were suffering from measles, died of it. However, through the field investigation it could be ascertained that that time approximately 25 to 30 Jarawas of Boiab died due to measles or secondary infection caused by measles.

Among other diseases, which have witnessed sudden increase, are anaemia, skin diseases, and respiratory tract infection. Besides these diseases, Hepato-megaly, Spleeno-megaly and Hepatitis B are the new diseases detected among them (Table 5.8). In the past the Jarawa were not reported to be suffering from any infectious skin diseases, but after 1997 manifolds increase in the skin diseases has been recorded. The causative factors behind the sudden spread in the skin diseases are attributed to mixing of the Jarawa with the Non-Jarawa and giving of used clothes by the latter to the former. Moreover, consumption of alien food items prepared with oil, salts and spices is causing high blood pressure among many of the Jarawa.
Table 5.8 Types of Diseases and Number of Affected Jarawas

<table>
<thead>
<tr>
<th>Diseases</th>
<th>Sample size</th>
<th>Number of persons affected</th>
<th>Percentage</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Total</td>
</tr>
<tr>
<td>Anaemia (WHO criteria)</td>
<td>120</td>
<td>-</td>
<td>-</td>
<td>33</td>
</tr>
<tr>
<td>Chronic Energy Deficiency</td>
<td>96</td>
<td>11</td>
<td>4</td>
<td>15</td>
</tr>
<tr>
<td>Malaria</td>
<td>120</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Skin infection</td>
<td>231</td>
<td>50</td>
<td>41</td>
<td>91</td>
</tr>
<tr>
<td>Respiratory tract infection</td>
<td>231</td>
<td>15</td>
<td>11</td>
<td>26</td>
</tr>
<tr>
<td>Hepato-megaly</td>
<td>231</td>
<td>-</td>
<td>-</td>
<td>64</td>
</tr>
<tr>
<td>Spleeno-megaly</td>
<td>231</td>
<td>-</td>
<td>-</td>
<td>32</td>
</tr>
<tr>
<td>Hepatitis B carrier stage</td>
<td>120</td>
<td>35</td>
<td>24</td>
<td>59</td>
</tr>
</tbody>
</table>

Source: Directorate of Health Services, 2002

The laboratory investigation of 120 Jarawa blood samples with ELISA method for HBsAg have revealed some startling facts about the presence of deadly diseases among the Jarawa. About 49.10 per cent of the Jarawa were found to be HBsAg positive (Table 5.8). It is also known as Hepatitis B. Fortunately, all of them are healthy carrier of HBsAg. However, there is danger of contracting HBsAg (Hepatitis B) by chance by some of the Non-Jarawas who quite frequently come in contact with Jarawa for various purposes. Similarly the laboratory investigation of the blood sample of 231 Jarawa reveals the about 27.7 per cent of them are suffering from Hepato megaley while 13.8 per cent from Spleeno Magaly. Though these diseases are not as dangerous as the HBsAg, they are take place due to chronic infection. The diseases detected among the Jarawa can be put under the following four broad categories:
2. Infectious diseases: Pneumonia, measles, respiratory tract infection and fungal infection of the skin.
3. Endemic: HbsAg (Hepatitis B).
4. Other diseases: Hepato-megaly and spleeno-magaly.

Nevertheless, the acceptance of the new way of life by the Jarawa has made them understand the importance of taking timely medical aid from the nearby health centre or from the medical personnel who pay visits to their territory. It has resulted in reduction in their morbidity and mortality.

5.2.2.6 Use of tobacco and betel leaf (paan)

The friendly relations between the Jarawa and the Non-Jarawa has brought in its wake some of the vices and one of them is addiction to tobacco and paan. Until the year 2000, the Jarawa were never seen chewing tobacco and paan. Now many of the male Jarawa have become addicted to tobacco and paan. They have picked-up this habit from the villagers, drivers and police personnel who are in regular contact with the Jarawa. If the situation is compared with the Onges, Great Andamanese and the Shompen, it is found that the Jarawa, like their counter parts, have also fallen pray to these intoxicants after becoming friendly with the Non-tribal people. In fact, presently the Great Andamanese and the Onges are exposed to the liquor also, which is fortunately not the case with Jarawa yet. However, their addiction to intoxicants soon may prove Achilles heel for them. The burning examples are the Onges of Little Andaman, and the Shompen of the Great Nicobar who part with many of their valuable resources like honey, resin etc. for the sake of getting a little amount of the intoxicants.
5.3. JARAWA ADAPTATION TO THE CHANGING ENVIRONMENT

The historical development of contact between the Jarawa and Non-Jarawa, is marked by incidents like, British policy towards the Jarawa during colonial period, post-Independence policy towards the Jarawa, settling of the refugee population in the Andaman Islands and the resultant enmity of the Jarawa towards them, the reduction and erosion of the resources base of the Jarawa due to numerous factors, impact of contact and conflict on the Jarawa etc. In the backdrop of aforementioned incidence, it is worthwhile to understand how the Jarawa have adapted themselves to the changed environment/situation. It is also significant to know how far the Jarawa have been successful in retaining their traditional hunting-gathering way of life, culture, and growth (in terms of number and health). Therefore, the following lines are devoted to adaptation of the Jarawa to the changing environment.

5.3.1 Staying Close to ATR

It is well known that the Jarawa usually set up their huts at the transition of two ecological zones, but staying close to the road was never an option in the ambience of hostility. However, in recent times some of the huts of the Jarawa have been set up close to the road, particularly in Thidong area. Staying close to the road gives them certain benefits. As already mentioned that the daily movement of the Jarawa from the base camp is generally in the radius of five to six km. However, while camping at the roadside they make use of the vehicles plying on the road to cover longer distances in search of edible and no-edible resources. Thus, in less time they are able to reach distant places. In addition, the Jarawa also make use of the vehicles while shifting their camp from one place to another. Of course, the road, besides facilitating faster movement, also offers other attractions like foreign food, and lots of fun and amusement.
5.3.2 Use of Boat

In the post-hostility phase, particularly after 2000, it has been observed that when the Jarawa camp in the vicinity of road or the villages of the settlers and have to shift their camp to a place along the coast, they make use of the boat (motorized canoe). In order to avail the boat, they approach either police personnel or the staff of the Adim Janjati Vikas Samiti, who are posted at that place and make them aware of their need. At times, they also ask the fishermen to help them shift by taking them in their motorized canoe to the place of their next encampment. Thus, the Jarawa are making use of both the water and the road transport to their advantage to cover longer distances in less time and with much ease.

5.3.3 Iron Implements for Making Tools

The iron is of cardinal importance to the Jarawa. It was one article along with other metal items that was not naturally available in their territory. Earlier (during hostility phase) the Jarawa used to obtain these articles from the jetty, ships wreck and the settlements of the Non-Jarawa. The recent development, however, has assured them of regular supply of iron. These days they are getting a regular supply of iron both as raw material and as iron tools from the AAJVS (Andaman Adim Janjati Vikas Samiti). Now the Jarawa can be seen working with hammer, chisel, file, and makeshift anvil made of huge pieces of iron rails or thick iron sheets for making hunting and fishing implements. While some years back they used to protect each piece of iron very jealously, but now they do not mind to gift or barter an arrow or a knife for some other articles.

5.3.4 Acceptance of New Technology

Instances of acceptance of a new technology by the Jarawa for their subsistence activity has not come to notice. It may be due the fact that they continue
to forage the way they were doing earlier. It is true that the Jarawa have observed and gathered information about some foraging techniques of the Non-Jarawa like the use of snare to catch pig or use of line and hook for fishing. However, they still do not use snares for the purpose of hunting, though the children sometimes playfully fix up snares collected from the forest. In case of the other two Negrito tribes of the Andaman Islands, namely the Onges and the Great Andamanese, it has been found that they have learnt the foraging techniques of the Non-Jarawa and are using them successfully. However, in case of the Jarawa the new techniques are yet to be accepted and adopted by them. It may take some more time for them to accept new technology because they are still able to fulfill their needs with the help of their own traditional tools and techniques.

5.3.5 Change in Raw Material

Earlier the Jarawa used to make use of bark fibre as thread while making their fishing nets, baskets and few other articles. Now they also use nylon threads for making these items. However, there are certain articles, which are still made from bark fibre only like, the arrowheads are tied to the shaft with bark fibre.

5.3.6 Food

Nowadays, the Jarawa procures many non-traditional food items from the Non-Jarawa people. These items were not consumed earlier. Prior to 1997, banana and coconut were the main non-traditional food items which used to be given to them as gifts by contact teams. However, after 1997, some more items have found their way into the Jarawa menu, though none of these items has yet become a part of their staple diet. The major non-traditional food items are banana, coconut, biscuits, bread, paratha, vada, idli, rice and tea. These are procured from the tourists, drivers of
tourist and other vehicles, shops located at the jetties, villagers and the policemen posted in the pickets near the huts of the Jarawa. This practice of procuring non-traditional food items influences their foraging behaviour also particularly when they camp near Andaman Trunk Road, for example, the Jarawa children and young boys invariably spend some part of the day on the road. Though it is done generally out of curiosity and to derive some entertainment, in the process they get some food items also which are given to them by the tourists passing through the Jarawa territory. Generally, the young Jarawa boys are more involved in it compared to the elderly persons.

5.3.7 Cooking and Storing Utensils

Use of metal utensils was noticed among the Jarawa of Middle Andaman even in 1980s (Sarkar, 1990). In the post-Independence phase particularly after the settling of the refugee population at the fringe of the ‘Jarawa Reserve’ during 1950s, the Jarawa used to procure metal utensils stealthily, mostly of aluminum from the settlements of the refugee population. Before coming up of the refugee settlements, the Jarawa had been collecting flotsam, bottles, pans, iron pieces etc. for a long time from the coastal areas. Even now, one can see the huge amount of glass and plastic bottles accumulated along the western coast, carried there by the waves from the waste left be the vessels in the seawaters.

It has been observed that now the Jarawa depend more on the metal pans for cooking their food and less on their traditional pit ovens. Despite this, there are certain items which are broiled in oven pit or roasted, like jackfruit, flesh of wild pig etc. In the post-hostility period, the metal utensils for cooking and storing purpose are being supplied by the AAJVS. It is a welcome change.
5.3.8 Acceptance of Medical Treatment

Prior to 1997 when the Jarawa were still hostile, they used to seek for first aid like bandage and ointments for the treatment the injured parts and fungal infected areas of the skin from the members of the contact team. During those days, the Jarawa never accepted tablets, syrup, or any other oral medicines for their injuries or diseases. After 1997 when they became friendly with the Non-Jarawa, the number of visits by the medical team to the habitat of the Jarawa and the number of the Jarawa being brought to the Primary Health Centre or Hospital at Port-Blair for treatment increased manifolds. It created further confidence in the Jarawa people towards the Non-Jarawa. Of late, it has been observed that the Jarawa have no hesitation in accepting any kind of medicines, either orally or externally. Changes have also been observed with respect to their behaviour in the hospital.

It has been observed that initially during 1998-99 (i.e., post contact time) when there was an out break of pneumonia and measles among the Jarawa, they were very much apprehensive to send their fellow members alone, who were suffering from any of these diseases, to the health centre. Firstly, they always accompanied the patients to the hospital in large numbers. Secondly, they did not want to stay in the hospital for more than a day or two. With passage of time, the Jarawa have developed more confidence about the Non-Jarawa. Now, when a Jarawa patient is admitted in the hospital, he or she is rarely accompanied by more than two to three members of his/her community. Besides, they have also accepted the co-existence of other patients in the nearby wards, which they were earlier wary of. Further, in case they are required to stay in the hospital even for a week or so they do not long to go back to their habitat.
These are positive changes, which will go a long way in providing modern medical coverage to the entire Jarawa population. It assumes more importance in the light of the fact that in the post-hostility phase the entire Jarawa community has suddenly been exposed to new diseases, which they are unable to treat through their traditional system of healing or ethno-medicine. Even more, it will also be helpful in the treatment of some of the endemic diseases that the Jarawa have been found to be carrier, e.g., *Hepatitis B*.

5.3.8.1 Preventive measures for diseases

The acceptance of medical treatment has also paved the way for the taking preventive measures to curb the spread of certain diseases. Hepatitis B is the only endemic disease that could be detected among the Jarawa during the comprehensive health survey. Though the Jarawa are the healthy carrier of the hepatitis B, it can be prevented by launching immunization programme among the Jarawa. It becomes more necessary in the light of the fact that now the interaction between Jarawa and Non-Jarawa has increased manifolds and so has increased the risk of the Non-Jarawa contracting the *Hepatitis B*.

The other new diseases detected among the Jarawa are community acquired pneumonia, measles and malaria (*Plasmodium falciparum*). Community acquired pneumonia can be prevented by maintenance of good sanitation and hygiene and avoidance of overcrowding at the Jarawa hut. Besides, early detection and prompt treatment would also help cure the disease and its spread. Occurrence of measles can be prevented by immunizing all the children at 9-12 months of age with measles vaccine. In recent times, the malaria cases have increased, including that of the fatalist. Occurrence of malaria among the Jarawa can be contained by detecting mosquito-breeding places and by introducing anti-larva measures around their habitat.
However, as a precaution, mass administration of anti-malaria drugs should be avoided as the Jarawa may develop some other complications. Administration of anti-malarial drugs, including treatment of *Plasmodium falciparum*, should be based on clinical tests and thorough medical checkups to avoid any side effects and negative impact on the Jarawa, as they are already a small population, and cannot afford any risk, intentional or unintentional, to their health and survival. While popularising modern medicare all possible care should be taken to keep alive the traditional medicinal knowledge of the Jarawa.

5.3.9 Beginning of Barter System

In the Jarawa community, there exits a system of reciprocity within different groups as it happens in most of the hunting-gathering communities. However, with growing interaction between the Jarawa and the Non-Jarawa the demand for certain articles by both sides have surfaced. It, in turn, has led to the beginning of the barter system. The Non-Jarawa, who are involved in it are the tourists, villagers, vehicle drivers and at times police personnel who are posted there. Generally, the Jarawa exchange resin and iron implements particularly bows and arrows in lieu of tobacco and pan. At times, they also exchange these articles for colourful garments and some non-traditional edible items. Sometimes, the Non-Jarawa give money to the Jarawa, the use of which is still not known to the latter. This kind of barter trade is disadvantageous to the Jarawa because for few small sachets of tobacco and few packets of *paan* they part with their bows and arrows and good amount of resins. Earlier, the Jarawa were never found to part with iron implements because procuring the iron was difficult and at times hazardous too. Now, with assured supply of iron from the AAJVS, they easily give away their iron implements. In the barter trade, the ultimate consumers of the Jarawa implements are the tourists, who never barter directly with the former. Instead, these articles of the Jarawa reach to the end users
i.e., tourists through intermediaries like tour operators and field level personnel of different Departments who are posted in the ‘Jarawa Reserve’.

There is some sort of barter system existing between the Jarawa and the poachers also. In order to buy safe passage in the forests, the poachers offer tobacco, paan, and eatables to the Jarawa. The Jarawa do not give them any thing directly in exchange of it, but indirectly the poachers get unhindered access to the resources of the Jarawa territory. Such bartering is disadvantageous to the Jarawa as their resource base lay open to the poachers, but the Jarawa do not know the damages caused to their habitat by such bartering due to their innocence and ignorance.

Thus, considering the baneful impacts of the bartering and taking lessons from the Onges of the Little Andaman and the Shompen of the Great Nicobar, where they can part with almost any items in exchange of liquor and tobacco, it is necessary to ban any type of gift giving to and bartering with the Jarawa. Even more, efforts should be made to get them rid of addiction to paan and tobacco. This will not only help maintain health of the Jarawa but of their habitat as well.

5.3.10 Dress and Ornaments

Traditionally, the Jarawa do not put on any clothes to cover their bodies. Instead, both males and females use various kinds of headband, necklace, armlet and waistband made of shells, barks, leaves and flowers to adorn them. In addition, both males and females decorate their body and face with white clay and red ochre. They also decorate their body with different types of seasonal flowers and young leaves. They, however, were not found to use any clothes to cover their body. Despite knowing the use of cotton threads, extracted from the pieces of red cloth given to them as gift, for making bands for head or arm or waist, they never covered their
bodies with clothes. However, in recent years, particularly after two to three years of their being friendly with the Non-Jarawa, a number of Jarawa individuals have been found to wear clothes. The clothes come from several sources, viz., hospital, villagers, tourists and Andaman administration. Ornaments are another gift item that the Jarawa adore a lot. Almost all of them, including those who are not attracted to garments, enjoy wearing bead necklace, plastic or metal bangles, rings and trinkets.

During the early years of friendly relationship, i.e., 1998-1999, whenever the sick Jarawas were brought to Port-Blair and admitted in the hospital, they were given clothes by either the hospital staff or the AAJVS officials. It was felt necessary because the Jarawa patients were visually exposed to the Non-Jarawa people present in the hospital. Later, when the Jarawa started visiting the villages, the villagers often presented them with used garments. Of late, many villagers have stopped giving clothes to them but some of the villagers continue with the practice of giving clothes to them. Besides villagers, the tourists also gift clothes, mostly used ones. The Jarawa generally carries all such used garments back to their huts.

It is the younger generation who is more interested in collecting and putting on such clothes (Plate 31). In the young generation, the boys show more fascination for clothes. This is because the boys are fond of frequently visiting the villages and public places like jetties and police stations. Contrary to it, the older ones and the less frequent visitors possess fewer clothes, which they put on less frequently. Territory wise analysis shows that the Jarawa of Thidong or Tanmad possess more clothes than those of Boiab because the contacts with outsiders are comparatively more prolonged and frequent in the case of the former than the latter. It also shows that the longer a person is in contact with outsiders, the more clothes he or she has in possession, and they use it more frequently than other Jarawas.
Covering the body with clothes is an induced cultural trait for the Jarawa. It is more pronounced among those who frequently meet the Non-Jarawa. They have come to realise that they are expected by their neighbours to put on clothes when they are meeting them. They might have also learnt a bit about the positive preference for covering the body or negative preference for nakedness prevalent among the Non-Jarawa. However, for the Jarawa, the wearing clothes are not a necessity. It is exemplified by the fact that when the Jarawa put-up their camp inside the forest, away from the villages and road, they rarely use clothes.

Clothes have also brought in its wake health hazards. Most of the clothes given to them by the outsiders except by the Andaman Administrations are used ones. As a result, when the Jarawa are wearing the clothes they often contract contagious diseases particularly skin diseases. Now most of the Jarawa suffer from the skin diseases, particularly ringworms. The situation gets aggravated in the light of the fact that the Jarawa have no concept of washing the clothes. Another danger lies in the fact that most of the time they take bath with clothes on their bodies and do not remove the wet clothes even after bathe. As a result, many of them get upper track respiratory infection. Therefore, both the tourists and the villagers should be sensitized about the health hazards associated with their act of giving clothes to the Jarawa and should be prevented from gifting clothes to the Jarawa. Further, the Jarawa should also be slowly trained to wash their clothes with soaps, and should be taught as not to put on wet clothes.

5.3.11 Language

The Jarawa were a monolingual community until the other day. Their prolonged isolation from all other human groups did not warrant them to learn any other language. In course of the contact missions since 1974, they occasionally picked
up a few words of Hindi language like *khana* (meaning food) from the visitors. With the end of the phase of hostility in late 1997s, both the Jarawa and the Non-Jarawa have started coming in more regular and prolonged contacts with each other in comparison to the previous years. In such interactions, participation by some of Jarawas is more frequent compared to others. Similar is the case with the Non-Jarawa also. A handful of the AAJVS workers, some policemen and paramedical staff meet the Jarawa more frequently, while the tourists, vehicle drivers and the general villagers meet them only occasionally. Naturally, those Jarawa who are exposed to the outsiders more frequently have better opportunity of learning Hindi. Most of them are young boys of ten to twenty years of age. A few of them can speak the Hindi language better compared to others. Knowledge of Hindi also gives the Jarawa certain advantages while interacting with the Non-Jarawa. For example, in a contact situation on road while the tourists cannot make out what the Jarawa children are discussing among them, the Hindi-knowing children would be able to understand, at least partly, what the tourists or the drivers of their vehicles are talking about. Even a broken knowledge of Hindi puts them in slightly advantageous position. The knowledge of Hindi on the part of the Jarawa has proved very useful in case of medical treatment also as both the Jarawa and the medical attendant or Doctor are able to make each other understand. Thus, now the medical treatment of the Jarawa has comparatively become much easier.

While some of the Jarawa are picking up Hindi, few Non-Jarawa people also have learnt the Jarawa language to various extents. The most proficient speakers of the Jarawa language are some of the AAJVS workers, who can converse very fluently on subjects related to economic and other daily life activities. However, the knowledge of the Jarawa language among other people like villagers, policemen and shopkeepers is very rudimentary.
5.3.12 Keeping of Pets

The Jarawa, like the Great Andamanese and the Onges, never kept dogs during the hostility phase. The reason for it is attributed to the fact that in a hostile environment keeping the dogs would have been suicidal as the barking of dogs at their camps could have made it easy for their enemies to track them down. However, in the post-hostility phase the presence of dogs at Jarawa camps was observed for the first time in mid-1999 in certain parts of Middle Andaman (AAJVS, 1999). They reportedly collected the puppies from villages of settlers as well as from forest camps. Initially, the puppies hardly served any practical purpose, but when these puppies grew up, they started accompanying the hunters to the forest on hunting expeditions.

Relationship between the people and their dogs is noteworthy. Dogs have been accepted as members of the group (Plate 32). Food and living space are shared with them the way they share these two things with their children. Some lactating mothers were found to breastfeed the puppies. However, recently they have developed some aversion towards dogs. It is primarily because of three reasons. Firstly, they have found that the dogs create more disturbance than convenience for them during hunting expedition as the barking dogs scare away their prey. Secondly, the furs of the dogs soon become full of fleas, which, in turn, begin biting the masters of the dogs also. Thirdly, AAJVS workers have explained and convinced the Jarawa about the harmful effects of keeping dogs as the dirty dogs are the carriers of many skin diseases. Consequently, many of the Jarawa have driven away the dogs from their camps. There are very few dogs left with the Jarawa as pet animal. Presently there is almost no pet dog with the Jarawa of the Tanmad area.

*******