IMPACT OF THE ANDAMAN TRUNK ROAD ON JARAWAS

The entire discourse on the Jarawas in the recent past culminating in the PIL filed by Ms Shyamala Ganguli started after a group of Jarawas came out of their secluded habitat and appeared for the first time near Uttarajetty in 1997. This was the beginning. Since then the Jarawas are seen on the main Andaman Trunk Road (ATR) at various points from Jirkatang to Uttarajetty and elsewhere. The Jarawas have now also positioned some of their chaddas in places close to the ATR which they no more shift as per their traditional pattern of movement. During the entire day the Jarawas, particularly children, young boys and sometimes elderly persons are seen on the main road trying to catch attention of persons traveling in vehicles, stopping them and demanding some food and gift items. These activities have increased greatly over the years due to the strategic location of the road. The tourist traffic operated by the private vehicles increased considerably with the sole purpose of having a look at the Jarawas and possibly a few moments of fleeting interface with them. This is the context in which the attention of all those who are deeply concerned with the survival of the Jarawas and the danger which the current situation poses to them has been attracted. The PIL in the High Court is itself an off shoot of this situation. The Andaman & Nicobar Administration has taken some steps through convoy system to prevent passing vehicles from stopping near the Jarawa huts and have also positioned some welfare department workers and constables there. These efforts have, however, failed to check the situation which is deteriorating from bad to worse.

The ATR has, therefore, emerged as the source of the most intimate powerful and multifaceted contact of the Jarawas with the 'other' world. This contact has unleashed an array of forces which have assumed a momentum of their own and have completely sucked the Jarawas into their orbit. The Jarawas are too innocent to understand and evaluate the new situation and the ferocity with which it is affecting them. Their fragility has left them extremely vulnerable. The spontaneity of their behaviour and simplicity of their culture and social organization do not prepare them to resist this onslaught. It is, therefore, no surprise that the ATR has become the most contentious issue in any discourse on the Jarawas today. In fact, it is absolutely central to any understanding of the situation in which the Jarawas are trapped today.

There is no dearth of information and clarity on how adversely the ATR is affecting the Jarawas and the multiple dangers it poses for them[9]. Among the most vicious of such dangers are :

1. The Jarawas have become extremely vulnerable to road accidents involving serious injuries and physical disability. It has been observed that the Jarawas try to stop vehicles to obtain food or gift articles from the passengers. They also try to ride the vehicles to move from one place to another on the ATR itself. Since vehicle drivers have been directed by the Administration not to stop near the Jarawa huts, the Jarawa men, women and children and quite often the Jarawa women with infants on their back try to mount the vehicles in running condition through the staircase attached to the rear of the vehicles. The Jarawa boys try to stop running vehicles by persistently standing on the middle of the road and refusing to be persuaded to step away even when the vehicles come very near to them. As a result, there are ever-present possibilities of accidents. At least, two such accidents in the recent past involving the Jarawa boys have been noticed. One of them lost his arm and the other had a fractured leg. It is not known if any Jarawa has been killed recently from road accident. Serious injuries or disability caused to the Jarawas will completely shatter them psychologically because they cannot undertake their foraging activities, dependent as they are on swift running, walking and climbing. In their cultural system and social situation, each one has to obtain food daily through one's efforts. This itself will cause a great deal of alienation of the affected individuals from the community and will inevitably make them dependent on Government/ Outsiders for access to food. The depression accompanying this dependence will have far reaching implications for their life expectancy and survival. The situation is particularly disturbing because the segment of the Jarawa population which is the most vulnerable to such accidents is the children who are so crucial to the survival of the tribe.

2. Intense contact which the ATR provides to the Jarawas has induced them to consume a variety of alien food items offered by the outsiders which is totally different from the food the Jarawas traditionally consume. These foods contain salt, sugar, saturated fat, carbohydrates, etc. which the Jarawa food does not include. Consumption of such food, as the survey findings point out, can create significant changes in their metabolism and consequently make them

[9] For example Mishra, U (2002) p.16 says that Administration has taken a pathetically myopic view by building the AT Road which actually cuts down available forest resources including water for Jarawas

susceptible to certain diseases of the technologically advanced communities, which they have never experienced. The consumption of salt can increase blood pressure and intake of sugar can produce multiple diseases. The eating of cooked food can create gastroenteritis related problems besides introducing deficiency of certain micro nutrients which the Jarawas used to get from their traditional food. But the greater danger is that as a result of the easy availability of such food obtained from the settlers, tourists, labourers, policemen, volunteers, etc., the Jarawas have stopped foraging for traditional food in the forest to the extent they used to do. This change in the lifestyle will create a large number of health related problems for them as the physical exertion in their traditional routine gets curtailed and sedentarisation sets in, besides creating the dependency on sources from which the food is procured.

3. The entire interface of the Jarawas with the outside world is one of multifaceted inequality which places them in an extremely weak position against the dominant culture represented by the latter. The vested interests coming in contact with the Jarawas include traders, contractors, labourers, petty shop keepers, and a variety of commercial interests. Police and other public functionaries have more intimate interface with them. Unscrupulous among them manipulate the Jarawas by encouraging them to demand certain items which has lately included money from tourists, outsiders or traveling passengers in the vehicles. One case of induced theft was also reported in a local paper. The Jarawas obediently follow such directions and collect these items which are ultimately passed on to the local traders/ shop keepers. In exchange, they get some food items and now 'Sukha' (dried tobacco leaves) pouches as well. This is creating an unfortunate situation in which the innocence of the Jarawas is being exploited by these persons for their own interests.

4. The Jarawas have become a chief attraction for visiting tourists and a huge increase in tourist traffic has taken place on this account. This growth has emerged primarily on account of the voyeuristic instincts of a large section of the visitors. Commercial interests in the island have fueled this demand for making a fast buck. Tourist vehicles charge something between Rs. 6000 to 8000 for a single trip from Port Blair to Rangat solely with a view to provide passengers a fleeting glimpse of the Jarawas. Not only this, a large number of VIPs visit the Andaman islands and all of them without exception insist on seeing the Jarawas. This 'Jarawa centric tourism' has created a situation where the Jarawas themselves have become aware that they are

the center of attraction which may have further influenced their behaviour. This dynamics has emerged only as a result of the Andaman Trunk Road.

5. The repair and maintenance work on the ATR carried out during the year bring labourers from outside who inevitably come in contact with the Jarawas because they are seen on various parts of the road. This results in the exchange of food and intoxicants between them. But the more disturbing aspect is that it is a source of contracting many communicable diseases by Jarawas. It has been mentioned by the DHS (Director, Health Services) that the Malaria virus was contracted by the Jarawas as a result of this physical contact with immigrant labourers. This contact is of a longer duration than the fleeting visits of tourists and the social strata labourers come from is more likely to be a carrier of many communicable diseases because of their poor economic and living conditions. Therefore, a host of new diseases may infect the Jarawas besides those they have already suffered from since the cessation of hostility.

6. There is an alarming rate of tobacco consumption by the Jarawas within a short period. It was totally unknown to them until their contact with the non-Jarawas on the ATR. It is likely that tobacco consumption might have been introduced initially by the police constables who were among the earliest contacts of the Jarawas with this habit. But the lower social and economic strata which comes in contact with them on the ATR are hooked on to tobacco consumption generally. Persons from this segment may have been the source of widespread tobacco consumption among the Jarawas. Now the Jarawas have become so addicted to the tobacco habit that it has become the greatest health hazard for them. The situation is so bad that the Jarawa adult males only ask for 'sukha' (dry tobacco leaves) from any outsider including the Govt. officials whether on the ATR or elsewhere. 'Sukha' pouches have also been found among the meagre belongings in their huts. This addiction has also been induced deliberately by certain elements which is using it as a means of exploiting them for their own ends. Things have come to such a pass that the Jarawas are now prepared to exchange the forest produce collected by them, including valuable food materials for their own consumption such as honey and pig meat [which they have never done in the past] just to obtain pouches of 'sukha'. This desperation to obtain tobacco leaves is a disturbing phenomenon. It may affect their food consumption as addiction would impel them to source tobacco somehow. It might create food deficiency for the affected family, besides introducing non-communicable diseases like cancer.

7. The Jarawas have also been induced to alcohol by the drivers of vehicles on the ATR. The information gathered from non-official sources confirm that the Jarawas have also taken to alcohol consumption and have started demanding small bottles of rum from vehicle operators. There is plenty of evidence on how the alcohol consumption has destroyed the Onges after their settlement was shifted to the present location. The Jarawas are also prepared to exchange their forest materials which the non-Jarawas demand in order to get their drink. This opens yet another source of their exploitation and, therefore, nagging anxiety about the type of damage it would create to the Jarawas.

8. Jarawa women have been extremely vulnerable to sexual exploitation ever since the contact between the Jarawas and the non-Jarawas has been facilitated after the cessation of hostility. This contact is taking place in the rural areas where the Jarawa huts are close to settlement villages and places from where the non-Jarawas easily intrude into the Jarawa territory for obtaining the forest produce. The dangers of sexual exploitation are even greater on the ATR. In fact, any sustained contact even of a short duration with the outsiders, including lower level Govt. functionaries has the potential for this mischief as experience elsewhere has shown. The survey teams had enough exposure to confirm how easy it is for unscrupulous outsiders to lure the Jarawa women for their sexual gratification. Unfortunately, the Jarawa social defence against such instincts of seducers is extremely weak because of a total different value system and social organization which condition their responses and behaviour. This is all the more reason why the intense and sustained contacts which take place on the ATR pose much greater danger than they do in the rural areas or in the forest.

9. The ATR is significantly changing the traditional life style of the Jarawas which have grave consequences for them. One manifestation of such a change is reflected in the practice the Jarawas have adopted now to situate their huts on various locations near the Andaman Trunk Road. Traditionally, the Jarawas used to erect their temporary huts for a period of 7-8 days or sometimes a little longer. They moved on to other areas thereafter depending upon the suitability of such area for their foraging activities. It has, however, been observed now, as the report itself confirms, that huts Jarawas have erected at various points on the ATR have virtually become permanent as they are not moving them to other locations. This is obviously on account of the attraction they have for vehicular traffic and consequent possibility of getting food and gift items from the tourists/ outsiders. Running vehicles also provide them bus ride from one

location to another on the ATR and thus a swifter access to distant forest areas for foraging activities. The easy access to alien food on the ATR is reducing their efforts for gathering food from the forest. Many young boys are not going to the forest at all as they are found loitering on the main road throughout the day. Even some of the elders occasionally skip their foraging activities although this could also be part of occasional relaxation/break from the daily routine which they may be doing while camping in the forest. These trends, overall, are slowly introducing a degree of sedentarisation in their life which has disastrous implication for their health/ life expectancy. The bus/ truck rides to distant areas for foraging implies that the Jarawas are becoming less inclined to walk long distances as per their traditional life style which may itself contribute to the process of sedentarisation. This also explains that the nearby forest areas do not provide sufficient resource base for their subsistence due to over-exploitation by outsiders and, therefore, Jarawas necessitate accessing areas far away from their camping site.

10. The Andaman Trunk Road has undoubtedly encouraged and facilitated poaching by the outsiders in the forest area for accessing various forest produce. This is well recorded not merely in this report but also in various other documents. The non-Jarawas from the settlement villages, in any case, try to obtain honey, wild pigs, fruits, marine produce for their own consumption and some of the non-food items like resin, timber for their use. But the ATR has intensified this process as other category of outsiders (labourers for example) also indulge in extracting resources from the forest. A new dimension has been added by commercialization of some of these items of forest produce (as per the latest evidence, even the pig meat) which are demanded by the tourists as souvenirs. The shop keepers therefore try to manipulate the Jarawas to obtain these items to satisfy the demand. The greatest cause for alarm is that the Jarawas have started exchanging even food items which they greatly value and have thus got dragged into this barter system which endangers their food security not to speak of the conservation of the forest. The Jarawas themselves relate instances of how various poachers have been noticed every now and then indulging in such activities. All this contributes to the serious and fast depletion of food and other resources which constitute the life line of the Jarawas. The ATR, more than any other factor, aids and abets the commercial exploitation of these resources.

11. The Jarawas do not wear any clothes. Some Jarawas who are coming in contact with outsiders on the ATR have been receiving used clothes and other garments from them. As the report indicates, the Jarawa boys have started wearing these clothes perhaps as a response to

perceived expectation (implicit pressures to conform) from the people they come in contact with. But the Jarawas, in the process, are seriously threatened with several infections from these clothes. In addition, the Jarawas are also not used to garment culture and therefore they have no practice of washing these clothes. Some Jarawas keep on wearing these clothes for days together and this practice has extensively spread skin infection among them. The affected persons are not responding to treatment. The prerequisite for successful treatment is that the contact with the infecting agent should be avoided and the affected part should be cleaned regularly. These practices are unknown to the Jarawas. The change of behaviour regarding wearing of clothes has been almost entirely acquired through contacts on the ATR.

12. The Tribal Administration in the Andaman islands has been engaged in transporting the Jarawas to dispensaries, hospitals and sometimes from one place to another for specific reasons. At times, the Administration has also arranged this facility on specific request of the Jarawas. This has created a dependency for free ride across the region and has affected the life style of the Jarawas because they now insist on being transported from one region to another, sometimes feigning illness. This is done to avoid trekking the distance on foot. This kind of sedenterisation is extremely harmful for the Jarawas.

In the light of the foregoing, the natural question which comes to the mind is whether the Administration was taken unawares? Could this not be foreseen as a natural outcome of the unfolding situation? There is some evidence that the considered anthropological advice was against construction of the ATR from the point of view of the Jarawas. It had been anticipated that that it would adversely affect their foraging activities and also bring immense and fast paced contact with the non-Jarawas which would be detrimental to their survival. However, as always, the interest of the larger non-Jarawa community in the islands seem to have prevailed in the decision to push through the construction of the ATR. The Jarawas protested against it with their fragile strength and primitive methods and in the process lost many lives which were so precious for a tiny community like them. But they could not withstand the force and determination of the Government to complete the project under the pressure exerted by the immigrant and settler population. The results are there for everyone to see. The gravity of situation has also been appreciated by the Shekhar Singh Committee on environmental protection in the Andaman islands whose report was considered by the Honourable Supreme

Court last year[*]. The Shekhar Singh Committee had stated in its report that the ATR and the increased access to the Jarawa Reserve it provides pose a major threat not only to the Jarawa tribe but also to the forest that they have protected for so many years. The road has made it easier for encroachment to take place in the forest by allowing easy access to many forest areas that were earlier not easily approachable. The Shekhar Singh Committee, therefore, recommended that the ATR should be closed to all vehicular traffic from Miletilak in the South Andaman to the northern boundary of the South Andaman island. Similarly, it should be closed to all traffic from Kadamtala in the Middle Andaman upto Kaushalyanagar[*]. It has also stated that this should be done within three months. It further recommended that no person, except for the Jarawas living in the Reserve, should be allowed to enter the Reserve by any means unless he or she is permitted by the Chief Conservator of Forests and the Secretary, Tribal Welfare, Andaman & Nicobar Administration, and no such permission should be granted unless the person is proceeding on bonafide work related to welfare of the tribals or the protection of the area. The report elsewhere has specifically outlined an alternative traffic route after closing down of the ATR and the development of shipping sector for this purpose[*]. It was argued in the same case before the Supreme Court by a local NGO (SANE) as an intervener how expensive it is to laying a road and maintaining it in the islands and the extent of drain on financial and forest resources it has turned out to be - though this aspect is not germane to the point being focused in relation to the Jarawas.

It thus appears that the Shekhar Singh Committee has viewed the protection of the Jarawas and forest environment as symbiotically related and integral to each other. The Honourable Court has accepted its recommendation and the matter currently rests at that stage. **There is, therefore, already a decision of the Apex Court on the subject which provides the direction in which to proceed to undo the adverse impact created by the ATR on the Jarawas. This should simply be followed. Still, quite independent of the recommendations of the Shekhar Singh Committee report on this issue and the Order of the Honourable Supreme Court thereon, but based on our own perception, observations and experience as also taking into account the material emerging from the findings of the survey in this**

[*] There are others who have also voiced their views against it. Bhaktawar Singh, (2002) p.11, Samir Acharya, (2002) p. 167-168, and U. Mishra (2002) p.16 already quoted in this chapter.
[*] Recommendation No.26 of the Report.
[*] Bhaktawar Singh (2002) has also suggested that ATR should beclosed – Instead boat service to different parts of island should be started, p.11

report, it is asserted that the ATR constitutes the single largest threat to the very survival of the Jarawas. It has created such enormity of disastrous impact that the future of the Jarawas is in peril. The traffic on this road and the ease it has provided in approaching the Jarawa territory as also the Jarawas themselves, has unleashed social and economic forces which have completely sucked the Jarawas into their orbit of exploitation. It has also become evident that these forces simply cannot be controlled by any regulatory arrangements, however strong, and the closure of the ATR as per recommendation of the Shekhar Singh Committee is currently the only way to a sincere beginning of serious efforts to save the Jarawas from sure and early extinction. The closure of the ATR is the minimum first step for any measures to protect the Jarawas in the current situation.

It is argued by some interests opposed to this proposal that simply by closing the ATR as suggested, the contact between the Jarawas and the non-Jarawas cannot be prevented since the Jarawas can still venture into villages and other stretches of the ATR not connected with their Reserve. Mere closure of the ATR touching the Jarawas area to vehicular/other traffic is, therefore, not the solution. It needs to be pointed out here that the closure of the ATR would at once compel the Jarawas to go back to their territory and resume their traditional foraging activity since the obviously manipulative and deeply enticing pressures on the ATR would cease to operate. They would simply not position their huts in different locations on the ATR if there is no vehicular and human traffic there and consequent opportunity to contact diverse categories of outsiders and obtain various commodities. As regards contact with the villagers, some modicum of it has existed even before the Jarawas appeared on the Uttarajetty in 1997 and dimensions of this contact are simply not comparable with the deluge witnessed on the ATR. Still, the interaction between the Jarawas and the non-Jarawas outside the ATR would have to be checked/controlled through other means. These 'other' steps have already been recommended elsewhere and include demarcation of the area, sensitization of persons residing in settlements, effective measures against poaching and smuggling and communication efforts at conveying to the Jarawas the need for confining themselves to their territory, etc. The latest report from the Anthropological Survey of India suggests that at least the Jarawas have responded to it. **But considering the triggering factor which the ATR has provided to the enormity of adverse pressures and various kinds of exploitative forces, the closure of the ATR to vehicular/other traffic as above constitutes the logical first step to deal with this problem in a focused and effective manner.**

The utility of the ATR to the non-tribal settler population and great inconvenience that would be caused to them by closure has also been raised. The recent study carried out by SANE[1] brings out the low level of utilization of the ATR by the general population and a very high level of subsidy (Rs. 1382.28) per passenger. The farmers are the least dependent on the road. The largest beneficiary seems to be Govt. servants who utilize the ATR. The cost of annual repairs of the ATR has been estimated at Rs. 45 Cr. The cost of policing and enforcement would further add to the expenditure. This works out to a very adverse cost benefit ratio. In fact, the study also brings out that alternative transportation by waterways is not only merely efficient and less expensive, but is also the preferred route between certain locations where the services are direct and regular. Waterways, in any case, transport the maximum goods traffic. Therefore, the alternatives are both eco-friendly and cheaper. **The Order of the Honourable Supreme Court already provides for development of an alternative of ferry traffic[Ω]. It could also lay down immediate and long term measures, as also a detailed time schedule for operationalizing the alternative transport system, with a view to implementing their own order expeditiously. Given the requisite appreciation of both the environmental and the Jarawa problem and the necessary political will there is no reason why this cannot happen. Elsewhere in the country, more complex Orders of the Honourable Supreme Court for environmental protection have been carried out in record time.**

There is a feeling in the Andaman & Nicobar Administration that an easier option can be exercised which may not involve closure of the ATR as directed by the Supreme Court but regulate vehicular traffic on it to check the adverse impact on the Jarawas[♦]. Some measures have been taken to this effect as reported by the Director, Tribal Welfare#. These include convoy system. But they have not achieved much success. For better results, the Administration proposes to issue a notification of speed limit of 45 KMH to prevent breaking up of convoy in the Jarawa sector of the ATR. It also proposes to notify that the rear ladder of buses should be designed in such a way that they could be folded up before the vehicle enters

[1] SANE NEWS – April-May, 2003; Also see Acharya, Samir (2002) ps 166-173
[Ω] Shekhar Singh Committee report, p. 42
[♦] Note of S.A. Awaradi attached to this report
#Also, see Naidu, Som (2002) ps 161-165

the Jarawa sector to prevent the Jarawa children from going up to the bus top. The amendment to the provisions of the A&N Island Protection of Aboriginal Tribes Regulations, 1956 is also proposed to be undertaken. Certain dos and don'ts have also been proposed for the general population but none of these have been incorporated in the ANPTR yet. There is no indication that even the entry of persons in the Jarawa area has been prohibited as directed by the Supreme Court. It is thus evident that there is not much of a regulation at present. In any case, taking into account the situation on the ground as we have seen over a period of more than 1½ years and also the effect of various regulatory measures introduced by the Administration, **it is abundantly clear that no regulatory arrangement, however elaborate, effective and extensively administered, would be able to stop the disastrous impact that is being currently created by the vehicular and human movement on the Jarawas. As a matter of fact, the multiple human contact which the Jarawas have been exposed to through the ATR has unleashed pressures and forces which are beyond the capacity of the Administration anywhere to control or regulate unless the triggering factor generating them itself is removed. There is also a firm belief that suggestions made in respect of regulatory arrangements are incapable of being implemented and beyond the capacity of the Andaman & Nicobar Administration to enforce. Even the regulatory arrangements that were tried out in the recent past have simply not worked. The situation, in fact, has gone from bad to worse. Therefore, if Jarawas have to be saved it is necessary to implement this tough decision.**

In this context, clarifying the legal position has become necessary. **It is not factually correct that the matter regarding closure of the ATR is sub-judice. The issue has already been decided by the Supreme Court and it is not currently pending for any adjudication**. To the best of my knowledge, no Stay Order has been issued by the Supreme Court in this regard. The High Court has not sought any view from the Expert Committee pointedly on this issue though it should obviously figure in any remedial measures for the protection of the Jarawas. **Therefore, the consideration of the issue of closure of ATR in relation to the Jarawas by the Expert Committee in its report cannot and should not be used as a ploy for getting round the order of the Supreme Court.**

THE 'PARADIGM OF DEVELOPMENT AND NATION BUILDING' – JARAWAS, STATE AND THE LARGER SOCIETY

The Jarawas face a very depressing future. Unlike any other tribal community in the past the pressures on the Jarawas are unprecedented and at a speed which is truly torrential. Within a short span of time the Jarawas have moved from a regime of total hostility and virtual lack of contact with the outside world to a state where they are overwhelmed by the multifaceted dimensions of relationship with the stronger society. They obviously do not have the capacity to comprehend and evaluate the resulting impact on their existence, much less the strength to adjust to it or resist it. They are, therefore, becoming victims of wide range of disastrous influences which may cumulatively threaten their early extinction. The Jarawas, in fact, may perish quicker than other Negrito tribes of the Andaman Islands which faced onslaughts of the 'other' world through different modes. The gravity of the concern has been taken due cognizance of by the Honourable High Court which in pursuance of a PIL has been intervening in the matter and issuing interim directions.

The Island Administration was expected to meet the challenge thrown up by Jarawas' inclination to shed their isolation by anticipating the social forces which would get unleashed to the detriment of the Jarawas and to effectively counter-act them. It has taken some ad-hoc measures to control the adverse aspects which the process of contact is generating. The efforts have not achieved much success. It may have been constrained by lack of clarity with regard to its role, inadequate capacity, organization and insufficient prioritization for this work.

The experience of the Jarawas in this respect is not unique. The relationship of tribal communities with the surrounding non-tribal social groups has been exploitative and hegemonic all over the country. Facets of this interface have been multi-dimensional, touching upon their person, environment and resources. The effects have been destabilizing in varying degrees. The explanation lies in the unequal status of the two groups, both in number as well as influence and power. The mainland tribal communities, faced with threats to their dignified survival, in desperation, burst into revolts against the State during the colonial period. The State was targeted because certain policies it had introduced had brought about this situation for the tribals. The revolts were, of course, crushed but not without appreciation of the tribal situation dawning on the Govt. The spirit of accommodation followed. The policies protecting the interests of

tribals in land, forest and respect for their identity, culture and customary institutions were the logical outcome.

The Indian State retained this approach and even widened the ambit of protection. The concerns for the tribals were embedded in the safeguards built into the Constitution, Laws and Policy statements. The experience of the tribal communities, however, turned out to be vastly different. This was on account of the overpowering impact of development programmes which had the effect of displacing large sections of tribal communities and dispossessing them of all that they valued – land, forest, culture, identity, value system and autonomy to shape their lives. The protective policies could not secure tribal interests because the process of development pitted them in sharp conflict with the larger and stronger social groups. It also exposed them to lack of support from State itself, protective framework designed by it notwithstanding. What was gained in terms of constitutional guarantees was irreparably lost through the 'paradigm' of development which the State had wedded itself to. This also emerged as an issue on which the interest of the State and those of non-tribal social groups coalesced. The suffering of tribals was rationalized as a necessary sacrifice for the progress of the nation.

This rationality was neatly wrapped in the policies of development. In a representative democracy, the numbers command political clout necessary for controlling the levers of power and influencing decision making. The vision of development is shaped by this political authority which derives support from these numbers. The bureaucracy translates this vision into projects and programmes. The tribal communities are marginal to these processes and do not have the strength to influence them. They can, no doubt, protest but their voice can be disregarded, ironically speaking, on considerations of democracy itself. The 'paradigm' of development and nation building has the support of the majority and coincides with their interests. The tribal communities have no chance to succeed against this formidable adversary.

The experience of the Jarawas in Andaman Islands as, in fact, of other Negrito tribes, is of the same genre. It is even more poignant. They are a hopelessly tiny minority of less than 300 persons confined to a territory for pursuit of their subsistence. A number of programmes for the development of Islands have been taken up which have hurt them immeasurably. The Administration first started with the establishment of settlement colonies to accommodate the refugees after independence. This was followed by the clearance of the forest for providing land

to the settlers for agriculture and infrastructural development programmes to improve their quality of life. A massive road was built across the Jarawa territory to provide them convenience of commuting long distances with ease. Now the ATR is to be widened for the same reason. These programmes have sprung up from the same 'paradigm' of development and nation building discussed above. In pursuance of this paradigm, the pattern of economic growth is built around exploitation of natural resources directly affecting the survival base of the Jarawas. The Jarawas have thus been prominent losers in this vision of development and progress. The Onges and the Andamanese have also encountered this experience earlier. They cannot, therefore, share this picture of progress and advancement with their numerically larger brothers. They cannot even articulate their needs and problems in terms that this larger segment understands.

As in the rest of the country, the vision of development is conditioned by the needs and aspirations of the majority population. The settler communities and the immigrant population constitute this majority in the Andaman Islands. Their representatives occupy structures of power and influence decisions for embedding this vision in the programmes and the projects. The levers of economy cater to their requirements. The Administration dutifully carries out their directions. The Jarawas do not count in this scheme of governance. Their interests are, at the most, an irritant which can be appropriately managed without disturbing the set goal. This is what has happened.

Thus, the Jarawa problem encountered today is not merely a problem of sudden, torrential and vicious contact with 'outside' world and the fragility of their society to withstand the unprecedented pressure unleashed by it. It also throws up a challenge to the 'paradigm' of development and progress which bypasses interests central to the survival of the Jarawas and, therefore, seeks a re-definition of it. Still more, it looks for illumination on the very position of tiny groups in a democratic polity, its location in power relations and institutions and processes of decision making. The question that is thrown up frontally is how these institutional arrangements should protect and accommodate their interests. The response to these issues would determine the future of the Jarawas. If they continue to pay the price as before for development needs of the stronger community and vision of progress of the nation, the prospects for them are indeed bleak. There would be some credible hope for them if the notion of development is so conceptualized that firstly it helps to sensitize the dominant social groups to

accommodate the need for a small tribe – a heritage one at that - to survive with its system intact. This may entail sacrificing some of their conveniences and interests. Secondly, the State accepts limits to its power to fashion the agenda of development and nation building as perceived by the larger social aggregates.

Incidentally, the Shekhar Singh Committee report hinted that the discourse on this issue could also project dimension of development in which linkages between the survival of tribal communities and the protection of environment are forged which would benefit both groups in the long run and thus provide, in a limited setting, a platform for resolution of conflict of interests. But this vision of development may be fiercely contested by the majority group.

Therefore, the crucial issue in the Jarawa situation revolves around the paradigm of development and nation building and the power of tiny community to shape it in a political matrix where it is pitted against both the larger society and the powerful State. **Dealing with this issue upfront would necessitate effective institutional arrangements which permit critical scrutiny of this paradigm and its alteration by ensuring dignified survival of such groups against processes, implicit or explicit, which threaten their slow but almost certain extinction. This will lead to the question whether mechanisms available in existing constitutional set up and policy declarations are adequate and effective for discharging this responsibility. If not, what other protective arrangements could be built to secure this objective, since the Courts are the ultimate custodians of constitutional guarantees. It is hoped that this larger issue comes up for consideration in the appropriate fora dealing with this case. Till then, it is suggested that a high powered body may be set up with legal sanction which is empowered to scrutinize development projects, programmes, and activities in the Andaman islands in terms of their likely impact on the Jarawas. In the event of such impact being adverse on them, it should have the power and the mobilizing capacity to have such project/s altered, replaced or abandoned to accommodate interests of the Jarawas.**

MEDICAL INTERVENTION

Health is one of the critical areas for any Society. In case of the Jarawas too Health issues affect them vitally. It is well known that when the isolated communities suddenly come in contact with alien human and physical environment, they become vulnerable to various infecting agents of that world unknown to them. This causes a large number of communicable diseases among their members, sometimes in epidemic form. Since their immunity system has never encountered such diseases, it provides no intrinsic resistance against them. The situation can therefore result in large-scale mortality to them in a short period unless treated with appropriate medical intervention in time. This is what happened to the Great Andamanese who came in contact with the British and settlers of the penal colony as a result of the attempts of the colonial government to befriend them. The communicable diseases they suffered from virtually wiped out the community in a short span of time. In the absence of such contact, the isolated communities usually suffer from limited number of health related complaints which are relatively simpler and which they are able to handle, by and large, on the basis of their traditional knowledge of medicine developed over a long period by appropriately using the local plant and other resources available in their environment. Therefore, neither their body immunity system nor their knowledge of medicine prepare them to treat diseases which affect people of a different social and economic system and physical environment. That is why it is always recommended by experts that such isolated communities should be kept away from the 'outside' human contact to prevent infections catching their members and posing a threat to their health.

The Jarawas remained protected from the outside world and confined to their own environment for a very very long time. Some isolated contacts with a few individuals on certain occasions did take place. But these contacts were not of a sufficient duration to spread infection. But since 1997 when they started coming out of their isolation, they suddenly came in contact with diverse people from different physical environments, socio-economic situations and with varying levels of health status. Many of them may have been carriers of serious infections. No regulatory arrangements could be put in place in time to check the intensity and widespread nature of this contact and the adverse effect of such contacts could, therefore, not be prevented. As a result, the Jarawas during a short period have already suffered from several epidemics, not to speak of diseases of lesser gravity. These include the outbreaks of Community Acquired

Pneumonia (1998), Measles (1999) and Malaria (2000-2001) of which they had no history. Although skin infections featured in the health problems of the Jarawas earlier too, its incidence and virulence seem to have increased due to the acceptance of used clothes, which they also continue to wear without washing, bathing in dirty water, etc.

The Health & Nutrition teams have not brought out any serious endemic diseases among the Jarawas except Hepatitis-B which is also found in other tribes including the Nicobarese of Andaman & Nicobar islands. But, Hepatitis-B is a healthy carrier among the Jarawas and no morbidity or mortality has been observed on this account. The Jarawas also suffer from respiratory tract problems, fungal infection of the skin, stomach pain and fever. Some Jarawas suffer from anaemia and chronic energy deficiency as brought out in the report though its incidence is not large. Despite high level of consumption of animal meat, fat related serum indicators have been found to be within normal limits for most of the Jarawas.

Ever since the hostility of the Jarawas has ceased, the Jarawas have been seeking medical intervention for various complaints. Doctors, pharmacists and para-medical staff have been visiting the Jarawa settlements and attending to them. The Jarawas are also approaching public health centers at Kadamtala and Tushnabad for treatment. The Welfare workers and police functionaries also shift the Jarawas from their forest habitat to the dispensary if they are observed seriously ill. It was because of timely medical intervention that during pneumonia epidemics in 1998 and measles in 2000-2001, mortality could be prevented, by and large.

Health professionals have recommended several measures to deal with the medical problems of the Jarawas. These include (a) prophylactic, (b) promotive and (c) curative aspects. Among the prophylactic measures are included immunization of the Jarawa children from 0–6 years of age group against vaccine preventable diseases as per UIP Schedule, supply of iron folic acid tablets with routine vaccination to correct anaemia and Hepatitis-B vaccination and immuno globulin to all new born babies to prevent vertical transmission of Hepatitis-B. For certain diseases like the community acquired pneumonia, preventive measures regarding maintenance of sanitation and hygiene and avoidance of overcrowding in the hut have been recommended. In the case of Malaria, anti-larva measures in their habitat and mass drug administration to all Jarawas with anti-malarials has been suggested to eradicate hepatic stage of plasmodious vivax. With regard to the other common diseases like respiratory tract infection,

skin related problems, stomach disorders, doctors recommend the same drug regimen which they use for similar complaints in persons of other social groups.

The medical intervention in the case of the Jarawas has also raised several questions. The more fundamental among them relates to the impact of modern medicine.

There is an imperative need for studying the impact of modern medicine on the Jarawa body since their life style and consumption pattern do not present the same physiological manifestations and clinical symptoms as they do in case of the non-Jarawas. Anthropologists believe that culture, life style and intensive interaction with physical environment over very long periods induce distinct changes in human body and therefore human physiology itself can get transformed and mutated under their impact. The Jarawas represent a classic case of this physiology-culture-environment interface. It is, therefore, argued by them that the experts of medicine should deliberate very deeply on how and to what extent and under what situations modern drugs should be administered to the Jarawas and with what precautions and safeguards. In this process, assistance may also be sought from international experts, if any, who may have had experience of dealing with communities placed in similar situations to whom the modern medicine was introduced. Medical experts with whom we have interacted, however, do not share this view as they feel that the human physiology is the same everywhere and no separate clinical approach is called for in the case of the Jarawas. They need to be treated in the same way as any other person with similar symptoms in the 'civilized' world. This issue remains unresolved. There are, however, many areas where the physiology of the Jarawas presents features different from those of the rest of the society as per the knowledge derived from the medical science and this is entirely on account of the impact of ecology life style. These have been brought out in the Nutrition, Diet and Health chapters of the Report and are briefly referred to here.

- The Jarawas have exceptionally high fat content in their diet with no cereal, leafy vegetables, milk, sugar, or spices. Therefore, the standard norms of the balanced diet do not apply to the Jarawas. However, they are acclimatized to it and do not show any clinical symptoms of this imbalance.
- The animal fat consumption in the Jarawas is very high but the fat related serum indicators are within normal limits. This signifies better fat metabolizing capacity than what is observed in normal persons.

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- Morbidity factors which tell upon nutritional status and are also confounders of anaemia are generally absent. Fundamental and life style factors may have tempered them
- Energy intake of less than 50% RDA in 10% of the cases does not throw up morbidity problems
- Low calcium intake could have led to osteoporosis. But there are no such symptoms in the Jarawas. Perhaps animal fat, rich in Vitamin-D and phosphorous, may be compensating for it.

It is therefore strongly suggested that the issue may be studied in depth by the experts of two sciences, i.e. Medicine and Anthropology, with a view to evolving an approach to diagnosis and treatment of various diseases of the Jarawas which does not do any damage to their immunity system and enables them to strengthen their resistance to various diseases.

The other specific issues thrown up in this regard are:

1. A major issue relates to the diagnostic approach, the methods of treatment, the drug regimen in respect of the common diseases the Jarawas suffer from. The Jarawas are actively seeking medical intervention and the doctors are one community they welcome to their habitat. A large number of the doctors and the paramedics are coming in contact with the Jarawas at different locations, some in the dispensaries and the hospitals while others on mobile visits. In the course of their clinical examination and interface with the Jarawas they draw their conclusions about the nature of the disease and consequently prescribe drugs for curative treatment. There is no standardization in respect of clinical understanding of their illness or regimen of drugs prescribed for their curative treatment although the Jarawas, by and large, present remarkably similar kinds of health related complaints. This problem is further compounded because of the difficulty experienced in communicating with the Jarawas since the Jarawas do not understand our language and the medical professionals do not know their language. Medical practitioners are, therefore, not able to obtain sufficient details from them about their diseases for forming an accurate view of their dimensions which have a bearing on the treatment to be prescribed. They usually go by visible physical symptoms or use simple instruments which they carry during the field visits. The experience in this regard indicates that there has been indiscriminate and irrational administration of drugs, including second generation and third generation antibiotics in the case of the Jarawas' relatively simple complaints. This

has been confirmed by some senior doctors during informal discussions though they would decline to admit it openly. This, it is feared, could end up by causing greater harm to the Jarawas than the disease/diseases they suffer from. There is also an additional difficulty. Other than those cases which are under the hospital care, the rest of the patients can neither be examined at periodic intervals nor can the treatment be followed up. The result is that what effect the medicine has produced is not known. This type of situation has resulted in the differing clinical assessments of the diseases and the administration of the drugs to the Jarawas in situations of virtually similar symptoms. There is no patient record management during mobile visits. There is also no rigorous supervision of the dosages, particularly in case of syrups and liquid formulations. Further, many doctors who treat the Jarawas are young and relatively inexperienced and their diagnosis of the diseases may suffer from errors of judgement. Since doctors keep changing on rotational visits, this can cause tremendous confusion in the line of treatment. This has happened in respect of the respiratory complaints since necessary clinical investigations like sputum test, microscopy or X-ray cannot be carried out in such situations. Therefore, different drug regimen is prescribed by different doctors and when the complaint persists, stronger versions of the drugs are given. There has been as yet no attempt at standardization of diagnostic methods and the prescription of the drugs. This apprehension has been expressed in the Expert Committee meetings and it has been pointed out that the situation may be leading to both the drug addiction as well as drug resistance among the Jarawas which would enormously complicate their relatively simpler complaints and the capability of the medicinal systems to treat them. **It was suggested in this context, that this problem could be tackled on priority by calling over the experts and having intensive discussion with them on available case records and thereafter evolving standardization of the diagnostic methods and the drug prescription. It is also necessary for this purpose to mandatorily prepare case records of all the Jarawas treated during the mobile visits and in the dispensaries since their number is small. This will help the doctors treating them at any time to know the diagnosis made and the drugs administered earlier. The photograph of the patient may be attached to the case record to facilitate identification. This suggestion had been agreed to by the Expert Committee but has not yet been implemented. This needs to be done without any further delay.**

2) The endemic health related complaints of the Jarawas are not serious ones. They usually relate to the respiratory infections, skin irritations and eruptions, stomach disorders, fever, pains

in certain parts of body, etc. Considering the unique situation of the Jarawas where communicating with them is difficult, follow up of the case is virtually impossible, identification of the Jarawas is not easy to establish and access to the treating doctor by the Jarawas always on the move cannot be ensured, the complexities involved in the administration of modern drugs are huge. The Jarawas are themselves not in a position to choose the treatment they would prefer from the available options. They also cannot rationally regulate the dosages and follow other directions of the doctor and convey to the Doctor the effect of the drugs administered to them. **A multi-therapy approach needs to be adopted in their situation as a matter of policy. Other systems of medicine should be tried in the case of the Jarawas by determining through extensive experimentation under expert supervision which system would be suitable for which complaint and would also be reasonably safer and convenient to administer.** As the core report indicates, this strategy was actually tried out and with good results. However, there is no inclination on the part of modern/western system of medicine (Allopathy) to accept this type of inter-system cooperation in the therapeutical approach as they have serious reservations about the scientific validity of the other systems of medicine like the Homeopathy and the Ayurveda. **The alternative in such a situation is that some very senior administrative functionary should coordinate the efforts of the different systems of medicine to treat the Jarawas. For relatively simpler complaints if the remedies of the systems other than the Allopathy are found to work effectively with no attendant risks and the regulation of dosages is easier, these may be administered while serious and complex cases may be reserved for the modern system of medicine. This arrangement needs to be firmed up and operationalised.**

3) The medical professionals are very vociferously advocating vaccination of the Jarawas for vaccine preventable diseases. These include the six vaccine preventable diseases in respect of children of 0-6 years and mass vaccination in respect of Hepatitis-B for all others. Some members of the Committee have reservations about this suggestion in the case of the Jarawas as it is not very clear what adverse impact this vaccination would have on their physiology. It is true that the Jarawas are not likely to be immune to the diseases which are quite alien to them and their environment and, therefore, can get infected with such diseases easily through contact with outsiders. They would certainly need appropriate curative treatment in such cases. This in any case is being done. **However, it needs to be examined whether prophylactic vaccines or other measures would cause any damage to their existing immunity system and weaken**

their natural resistance to fight the diseases of their own environment and those of lesser gravity. The answer to this problem needs to be obtained through appropriate long-term research. But, there is serious reservation in this context about the proposal of mass vaccination in respect of Hepatitis-B. This is because the Jarawas are reported to be healthy carriers of this disease and do not throw up any clinical symptoms which other people display with similar diagnostic profile. In such a situation, vaccination of Hepatitis-B is difficult to justify and its rationale needs to be debated by the experts. Similarly, it needs to be deliberated in depth by medical experts and anthropologists whether other prophylactic vaccinations are so routinely needed in their case, more so when we are recommending steps to drastically reduce the possibility of outside contact and promoting their return to their environment and traditional life.

4) The Jarawas are getting affected by the new health hazards the most important being tobacco consumption, which has assumed alarming proportion. 'Sukha' [dry tobacco leaves] is the only item which the Jarawa males demand from outsiders they come in contact with. They even search pockets of friendly visitors to get this intoxicant and get angry if they do not find it. They have been induced by the settlers, poachers and traders to exchange the forest produce and even their coveted food items for tobacco. This item has even appeared in their meagre belongings in the habitat. They have also been introduced to the alcohol. We already know the damage which the alcohol consumption has caused to the Onges and we have some idea of the tobacco addiction among the Shompens. But the tobacco addiction among the Jarawas has far exceeded that of the Shompens because the bulk of the Shompen habitat has, as yet, not been penetrated by the outsiders due to their continued hostility towards them. Information regarding the tobacco consumption among the Shompens is confined only to those who have come in contact with the Nicobarees, officials located in the complex and others in the market. About other Shompens no accurate information is available. The tobacco addiction has taken such an acute form among the Jarawas in such a short time that it is difficult to wean them away now unless a multi-pronged strategy is adopted. The first step should be to take them away from the environment on the ATR where they come in contact with the non-Jarawas who have induced the paan and tobacco habit on this scale and are the source of its supply to them. The role of the police personnel who come in contact with the Jarawas in having introduced the tobacco consumption initially is also not underestimated. **A sensitization programme focused on the police personnel posted near the Jarawa area against the tobacco consumption may in any**

case be launched for their own benefit. It should, in fact, be extended to all the police personnel at the lower level and participation of their families may also be sought in this campaign. This will create continuing domestic pressure on them. It is also necessary to explore simpler methods of de-addiction and persuade the Jarawas to take that treatment. It is likely that the Jarawas may resist accepting such a treatment. In that situation a more workable strategy of de-addiction may be adopted. It also needs to be researched if there are any plant resources in the Jarawa Reserve having de-addiction properties and which may be more convenient to use for this purpose. Separately, efforts would have to be made to convey to the Jarawas the harmful effects of the tobacco consumption. The help of anthropologists and communication experts would be necessary to design messages and working out methods for conveying them. This should cover the alcohol consumption also.

5) There is an urgent need for carrying out longitudinal researches in respect of the Health related problems of the Jarawas, such as their immunity system, prominent endemic diseases, the differential way in which their metabolism functions and specifically how they continue to be healthy carriers of endemic infection of Hepatitis-B, why their physiology does not manifest the adverse clinical symptoms and consequent proneness to various diseases as a result of heavy fat consumption, etc. The chapter on the Diet and Nutrition has suggested some areas of research such as exceptionally effective fat metabolisation capacity of the Jarawas, developing standards for the Jarawa population to assess and monitor their nutritional status which could cover anthropomatric data, nutritional value of food eaten by the Jarawas, recommended dietary allowance unique to the Jarawas which should constitute a balanced diet, longitudinal study covering food intake pattern, food availability and nutritional status of the Jarawas, etc. These researches would increase our knowledge on the physiology, culture and environment interface in the context of the Jarawas. A long-term programme of research in all three systems of medicine needs to be charted out.

6) During the deliberations of the Expert Committee a reference was made to a study having been carried out by the Centre for Cellular and Molecular Biology, Hyderabad on the DNA sequences of the Jarawas[∅]. Ethical and administrative issues concerning it were raised. It

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[∅] Current Biology (2002)

was suggested that it should be investigated how the blood samples of the Jarawas were transmitted to the concerned research organizations and with whose approval. It was also brought out that there were enormous commercial interests of multi-national companies engaged in pharmaceutical research for developing drugs for the developed world based on unique genetic profile of the Jarawas. **It is, therefore, imperative that a strong and effective mechanism should be put in place which ensures that the Jarawas are not used as objects for the benefit of others and the confidentiality of their genetic profile is maintained. The norms of scientific and medical research, both in public and private sectors, need to be redefined and reformulated and regulatory regime made more stringent in the context of this situation.**

7) While raising the issues as above, there is no disagreement on the appropriate treatment being given to the Jarawas whenever they are faced with any life threatening situation or afflicted with serious diseases which their system is alien to. Also, if it is necessary to hospitalise them for carrying out proper treatment, this may be so done. The protection of life anywhere is paramount and it is more so in the case of the Jarawas, who are so small in number and are faced with multiple threats to their survival. However, the directions of the High Court in this connection need to be kept in mind. **These guidelines lay down that, by and large, for various diseases the Jarawas suffer from, the treatment should be given in their habitat itself and they should not be encouraged or facilitated to come to the dispensaries or to the doctors to seek it. Further, only the few known doctors should be involved in treating the Jarawas so that they can understand and follow up individual cases as well as develop a comprehensive understanding about the health related problems of the community itself. Whenever the Jarawas need to be hospitalized, effective arrangements need to be made to segregate them in a separate ward and they need to be protected not merely from the non-Jarawas in the premises but also from the hospital staff so that situations exploiting the Jarawas do not arise. During the hospital stay their cultural practices should be respected with only such deviation which is absolutely warranted by the demands of the treatment itself. This is particularly being suggested in the matter of food, use of the garments, inter-personal relations, etc. Special care should be taken to ensure that the Jarawa ward or segregated arrangements for the Jarawas within hospital/dispensaries are as clean and well provided for as the other wards and there is no cultural discrimination or bias in the arrangements and the care.**

8) The Public Health professionals have recommended anti-larvae measures in mosquito breeding places in the Jarawa areas as a preventive action for Malaria. This is difficult to implement as the Jarawas do not have any fixed habitat or place where they erect their huts. They also move from place to place for their foraging activities. **Anti-larvae measures also pose serious problems in the case of the Jarawas. Their water sources and habitat may be polluted by these chemicals. In their present state of knowledge and comprehension they may not be able to protect themselves from the adverse effects of such pollution or take precautionary measures to avoid them.** Therefore, while recommending preventive measures for combating any possible malarial infection, authorities must be cognizant of the Jarawa situation and work out measures which are in harmony with their life style, culture and environment. **Similarly, there are reservations about the mass drug administration to all the Jarawas with anti-malarials recommended by the medical professionals. Such a step should be resorted to when there is threat of Malaria epidemic and only after in-depth consultation between the concerned medical experts and the anthropologists. For dealing with the likely attack of Malaria, primary importance should be given to eliminate contact with outsiders, which is what is being suggested elsewhere in the report.** This is relevant because the Jarawas caught the first ever infection from an immigrant labourer rather than from the conditions internal to their living area.

9) The Jarawas have tremendous knowledge about the available flora and other resources in the forest which have medicinal properties. **This knowledge needs to be documented, preserved, scientifically tested and validated and further augmented/ strengthened by research and experimentation. In fact, there are a number of plants in the Jarawa forest area having medicinal properties which the Jarawas have never used for their benefit.** At their stage of technological evolution, the Jarawas probably had no occasion to explore and garner their medicinal potential since their morbidity profile was confined to only a small number of diseases. There are also medicinal plants in the Andaman forest which are used by other tribes, such as the Onges and the Shompens but are not used by the Jarawas. The status of knowledge about the Sentinalese is not known at all. Perhaps, the lack of contact between the Jarawas and the Onges and the Jarawas and the Great Andamanese may have been responsible for this situation. **In any case, the entire gamut of tribal knowledge about flora and other sources of medicine needs to be deeply studied and validated in terms of their potential so**

that this could be used as the first stage of promotive as well as curative treatment for their diseases. The Jarawas should be allowed to become as much self-reliant as possible through this system of medicine and should go in for curative treatment of other systems when this system of treatment fails to respond. The current practice shows that the Jarawas are becoming too dependent on the alien system of medicine even for trivial complaints which they could manage themselves earlier. This needs to be effectively discouraged. In this connection, it has been mentioned that the Jarawas have, by and large, no history of ingesting the plant material for curative purposes. They use medicinal plants or other resources having medicinal properties only as outer applications over the body. The state of their knowledge convinces them that application or contact of the plant material with the affected part of the body itself produces the requisite curative effect. Therefore, a huge new area is thrown open for medicinal research. **This may involve scientifically testing the impact of materials from the plants through ingestion for their curative value. If this gets established, the Jarawas then could be encouraged to ingest them instead of, or in addition to, applying them over the body which itself may enlarge the curative potential of resources available within their habitat and also within the ambit of their existing knowledge.**

10) Reference has been made by Capriani, the Italian Anthropologist, to the traditional knowledge possessed by the Onges about a plant the juice of which is used by them to cure the stinging bites of the bees while they are climbing trees to access the honeycomb. The same technology and source material is probably also used by the Jarawas though perhaps they have a different name for such plants in their language. The details of these plants are included in the chapter on 'Resources'. The Jarawas also possess knowledge about certain medicinal plants which are used to control fertility. The report indicates that the unmarried girls, widows and even married women use them as contraceptive. It is well known that all hunter and food gatherer tribes try to restrict their population in order to ensure their survival within the resource availability of their territory. **This community knowledge needs to be documented and appropriately registered with the competent authority as an intellectual property so that it is not pirated and patented by any commercial organization, national or international[α].** In Kerala, one NGO was able to document such a knowledge possessed by a tribe and also got it

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[α] Zarine Cooper (2002) has pointed out that the threat of bio piracy seems to loom large over the discovery that certain plants known to the Onges contain anti-fever properties which are effective in curing Malaria (Page 100)

patented and, in this manner, earned considerable royalty from the pharmaceutical company which exploited it commercially. The money so received is being used for the benefit of the tribe. **In the present global economic regime of trade and intellectual property rights, it is a priority area on which anthropologists, administrators and medical professionals should work jointly. This is a task which should be taken up before interested agencies pirate knowledge of the Jarawas and other tribes and patent it in their name.**

11) **It has already been mentioned elsewhere that a communication system needs to be developed to convey certain messages to the Jarawas particularly in relation to the new threats to their health from the polluting agents which could enter into their environment as a result of the contact with the outside world or through the use of its products and commodities. This is particularly so in respect of the use of garments, aluminium vessels, alien food, etc. The contours of this health education, methods of conveying it and assessing its impact need to be taken up most urgently.** It has been brought out by the Health Survey team that the traditional housing pattern of the community living and the design of the community hut of the Jarawas is a potential source of spreading infection, particularly if even one member is already afflicted with it. **While the suggestion that the Jarawas should be persuaded to change their cultural pattern of community living or the construction of community huts cannot even be remotely entertained as it would disintegrate their social organization completely, anthropologists and public health professionals should come together and suggest what kind of precautions the Jarawas could take consistent with their mode of living which will help in checking spread of the infection in such a situation.**

12) The report has brought out the likely adverse effects which pet dogs can create for the Jarawas. There is agreement on the point that the Jarawas should be persuaded to drive out the pet dogs from their habitat. **Appropriate messages should be conveyed to the Jarawas through the Welfare/Health agencies who come in contact with them. In addition, the Administration could also collect these dogs and drop them in a remote place from where they cannot come back. As an immediate step these pet dogs should be sterilized in consultation with veterinary professionals.**

13) It has been observed that during their stay in the hospitals the Jarawas are being persuaded to wear clothes and are being supplied synthetic garments by the hospital staff for this

purpose. No such decision has been taken by the experts and no directive to this effect has been conveyed by the Administration to the hospital staff. The hospital authorities are acting in this matter on their own sense of propriety and judgement and in terms of their own cultural norms. It is also possible that the step may have been taken to ward off the prying eyes of other hospital inmates from the Jarawa ward. This is obviously a manifestation of latent ethnocentric cultural biases of the hospital staff. **It is important that such major decisions in respect of the Jarawas, which impose alien norms of living and interfere with their cultural life, should not be allowed to be taken by the hospital administration or any other sectoral administrative authority without a directive from the highest level. Whether the Jarawas should be culturally persuaded or encouraged to wear garments warrants a detailed debate by the anthropologists by taking all its implications into account. Such a step is certainly not recommend. It is for the Jarawas to decide such issues concerning them and even the remotest pressure on them from the Health/Welfare functionaries is wholly disapproved. The best way to deal with the Jarawas in the hospitals is to isolate them appropriately and keep them away from the prying eyes of the non-tribals visiting the hospital or admitted to it and allow only medical and paramedical personnel duly sensitized to deal with them as they are.**

14) Information was gathered that the Jarawas during their hospital stay are given the same food which is supplied to the other inmates. Some health professionals have also assumed that the Jarawas have got accustomed to it. This food is not part of the Jarawa diet and can cause immense harm to them. Since such food is also consumed by the attendants accompanying the Jarawa patients, the resultant health hazards for the Jarawas are enormous. This decision too was taken by the hospital administration without any expert advice or directive from higher-level authorities. Such a practice should be stopped forthwith. **The Tribal Welfare Agency of the A&N Administration should ensure that during their hospital stay the Jarawas are given food which they traditionally eat, whatever the cost and their cultural values and practices are not interfered with. As already advised by the Administration, in a separate portion in the dispensary building fire place should be arranged so that the Jarawas could get warmth as they do in their chaddas and do not suffer any harmful effect from cold of a**

confined and closed place which a dispensary usually is[8]**.** This is particularly desirable for the accompanying kins of the patient who do not even get a bed and a blanket.

15) For providing medical treatment, the Jarawas are often shifted from their habitat to the dispensary. This is against the anthropological advice as well as the High Court's order. The treatment to the Jarawas, by and large, be given in their habitat and by known doctors so that some standardized treatment can be followed. **The decision to shift the Jarawa patients to the dispensary should be taken by the doctor or the pharmacist on the spot and only when the situation is serious enough to warrant it. If the police or civil personnel come across cases which need medical attention in the hospital, they should immediately pass on the information to the local medical staff who on receipt of such information may visit the camp and decide whether the patient can be treated in-situ or needs to be shifted. These guidelines should be followed strictly.**

16) The Health team during the survey carried out for this report has found that some Jarawa children are showing mild cases of malnutrition and there were also 2/3 cases of anaemia among the women. They have accordingly recommended prophylactic drugs to meet the deficiency. In the case of the Jarawas this approach is not favoured at all. This is also the recommendation of the team on Diet and Nutrition. The nutritional deficiency among them should be corrected by way of augmenting or supplementing their food consumption. Appropriate items of food from their environment may be identified which the concerned Jarawas suffering from nutritional deficiency may access. The information and knowledge about it may be given to the Jarawas by the visiting health team. If such a food material is not available in their environment, it may be supplied by the administration like medicine for a specific period. **The consumption of drugs, as a means of dealing with nutrition related problems should be wholly avoided and the route of food consumption should be adopted for this purpose as a standard practice.**

17) **With a view to following various instructions on how to deal with medical problems of the Jarawas, the Administration may decide at which places the dispensaries/ wards, exclusively catering to the Jarawas, should be maintained so that serious cases of hospitalization could be attended to. It may be ensured that a culturally safe and friendly environment is available in such dispensaries/wards which does not seriously disturb their**

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[8] Tour Note of Shri S.A. Awaradi dated 3.9.2001, para 18f

pattern of living. The Administration may also decide about the composition of mobile teams, the periodicity with which these mobile teams should be sent to different locations and the doctors who should be manning these teams. Through innovative communication methods the Jarawas should be conveyed about the days and time when these mobile teams would visit their habitat. The teams should visit the Jarawa habitat at a time when the Jarawas are available and have returned from their hunting expedition to facilitate consultation. The composition of such dispensary and mobile teams should include a worker of Tribal Welfare Department acquainted with cultural pattern and social organization of the Jarawas. The number of personnel in teams should, however, be the most minimum and should not change periodically.

18. A suggestion has come from the Administration[6] that a helicopter service should be introduced to evacuate the Jarawa patients from the three zonal areas to a base hospital to be established for this purpose. The helicopter service could also be utilized for transporting medical specialists to the base hospital. It might also be used for dropping doctors in specific locations in the Jarawa territory. It is evident that a helicopter at the disposal of the Andaman Administration is being envisaged for attending to the health needs of the Jarawas. Obviously, the reintroduction of regular helicopter services to different islands of the Union Territory cannot cover this type of contingencies. They would only operate scheduled flights from one island to another on fixed days and timings. Therefore, exclusive helicopter would have to be maintained for this purpose. **The least that can be said in this context is that the proposal is most inappropriate for use in the situation as health care problems of the Jarawas do not warrant such hi-tech, high cost emergency arrangements akin to a war theatre. The cost benefit profile of this arrangement would be totally unsustainable. A helicopter at the disposal of the Administration, apparently for providing services to the Jarawas, would be used by VIPs as transport for visits to various locations in the islands and only encourage more 'Jarawa Tourism'.** The officials would be the chief beneficiaries of this facility. In any case, the measure would greatly overawe the simple Jarawas and could also be psychologically destabilizing to them. The Jarawas could certainly do without this luxury.

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[6] The note of Shri S.A. Awaradi on Remedial Measures