CHAPTER VII

SUMMARY, FINDINGS, RECOMMENDATIONS
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At the close of the study, an attempt is made to piece together the findings of the study to form a coherent picture of the various aspects of Rehabilitation programme and its impact on the socio-economic condition of the people in Angul sector of NALCO.

Orissa is a land of contrast. On the one hand, it has vast natural resources, while on the other hand, the standard of living of the people is one of the lowest in India. It is therefore, necessary that the vast resources be utilised through the growth of large, medium and small scale industries so that the miseries of the poor can be removed to some extent. In the initial years of planning Orissa's industrial growth particularly in the large scale sector was not given sufficient attention. It is in late seventies that special emphasis was laid on the development of large scale industries along with small scale industries to improve the economic condition of the people of the state.

Though industrial development particularly in the large scale sector is necessary, for the upliftment of the economy, there is a bad side of it as well.

Growth of large scale industries gives rise to the problem of acquisition of land and displacement of families for the purpose of construction of the project. The people whose lands are taken for construction of the project and people whose homestead as well as land are taken for the project work usually have no choice in the matter. The project authority therefore should take maximum care to rehabilitate them by providing with dwelling place, land for cultivation, employment, compensation and other civic amenities like, schooling facilities, medical facilities etc. so that the affected peoples loss can be adequately compensated.
NALCO which is a large scale industry started its construction work at Damajodi and Angul sector for producing Alumina and Aluminium respectively. Though the said industry is of National importance and is making profit, at the same time it has acquired huge acres of lands of many villages both at Damajodi and Angul and in the process many families have been affected. Some studies have been done on its Rehabilitation work at Damajodi sector, but not much study is done on Angul sector. The present work is an attempt at finding out the socio economic implication of the Rehabilitation package of NALCO at Angul sector.

The disruptive effects of development projects which entail involuntary resettlement and loss of livelihood are not all unanticipated. In fact, they are fully predictable and hence controllable, if not wholly preventable. What comes as a surprise in most of the projects is not that adverse effects result from drastic change processes, but that they continue to be overlooked in the planners agenda and that measures to avoid them are not thought in advance. In this context an in-depth study covering different aspects of Rehabilitation package implemented by NALCO at Angul sector and its implication for the people of affected villages is undertaken.

[B] Objectives and Methodology

Specific objectives of the study are:

i. To find out the extent and nature of displacement caused by NALCO at Angul.

ii. To review the type of Rehabilitation offered by NALCO and its effect on the people.
iii. To find out the socio-economic change in the life of the people after rehabilitation.

iv. To assess the impact of NALCO on environment and effectiveness of Rehabilitation programme in meeting environmental hazards.

v. To make a comparative analysis of Rehabilitation policy of Orissa in respect of NALCO vis-a-vis other states.

Methodology

The affected families of NALCO project are officially divided into three groups as Locally Displaced Person (LDPs), Substantially Affected Persons (SAPs), and Less Affected Persons (LAPs). The number of LDPs whose land as well as homestead has been acquired by NALCO is 34 and they are spread over 7 villages out of 39 villages affected by establishment of NALCO. As such these seven villages have been selected for in-depth study. The number of substantially affected persons (SAPs) who have lost more than one third of their cultivable land and the number of Less Affected Persons (LAPs) losing less than one third of their cultivable land in these 7 villages are 841 and 1294 respectively. Five percent of SAPs and LAPs have been selected randomly for the purpose of analysis while covering all the LDPs under the study. Thus the total number of sample families covered under the study stands at 140 (34 LDPs + 42 SAPs + 64 LAPs)

All the sample villages are within 10km. radius from Smelter plant and Captive Power Plant. Since the focus of the study is on socio-economic implication of the Rehabilitation package of NALCO, different types of interview schedules are used to collect socio-economic data and behavioural data from the sample families of the villages covered under the study.
Findings:

[1] **Socio-Economic background of the respondents**

(a) The affected families are not evenly distributed over the sample villages and while maximum number of LDPs are found in village Gotamara, maximum number of SAPs and LAPs are found in Balramprasad village.

(b) Majority of the family members belong to the productive age group of 15 to 60 years (54.04 per cent) and 22.38 per cent of the family members in the sample villages are found to be below 14 years of age.

(c) 47.43 per cent of the family members are illiterate. However, a good percentage of sample family members are found capable of reading and writing even though they do not have any formal education.

(d) The number of affected persons in the general caste category is more (553) than the number of schedule caste and schedule Tribes (189).

(e) 36.43 per cent of sample families had no land, 58.57 per cent owned land between 1 to 5 hectares and 5 per cent of the families had land more than 5 hectares, prior to the establishment of NALCO.

(f) 32.14 per cent of families had irrigated land and 31.42 had unirrigated land.

(g) 35.18 per cent of the family members were working prior to the establishment of NALCO and 64.82 had no work to do and were remaining idle throughout the year with the result that the average standard of living was very low in the affected villages.

(h) Out of the total working population, 19.93 per cent of family members were engaged in the household industry, 56.71 per cent were engaged in cultivation, 18.00 per cent were engaged in doing pettibusiness and 5.36 per cent were in different type of services.
Thus prior to the establishment of NALCO the people of the affected villages were mainly dependent on agriculture for their livelihood despite the fact that irrigation facility was not available in most part of the affected area and many were without any land of their own.

2. Facilities provided under the Rehabilitation Programme and Consequent changes.

a.a) Civic amenities:

Facilities like health, education, supply of electricity, drinking water, construction of road inside and outside the villages, construction of houses etc. are provided by the NALCO authority in the affected villages.

While there were no Primary Health Centres (P.H.C.) or Homeopathy dispensary in the sample villages in the pre-rehabilitation period, 8 PHCs and Six Homeopathy dispensary are now functioning in these sample villages. The NALCO hospital along with the Primary Health Centres in the affected villages are organised on modern lines and the benefits accrue to the oustees among others. Maximum care is taken for health check up of women and children.

Similarly in the field of education, the total number of schools in the sample villages has increased from 31 to 52 recording a growth of 40.38 per cent during 1983 to 1994., and enrollment of students has increased by 44.21 per cent during this period.

a.b) Peripheral development:

Along with the provision of many civic amenities, NALCO authority also took maximum care to improve the periphery under its Rehabilitation package. Development of the Angul area, provision of recreational facilities, encouragement to local sports, provision of training facilities, improvement and repair of road communication, lift irrigation etc. are some of the periphery development programmes offered by NALCO under the rehabilitation package.
a.c) Development of Trade and other Small Scale Industries:
  
  Because of the Aluminium plant, many types of small scale industries have grown near Angul. Prior to the establishment of NALCO, the villagers were primarily cultivators having no knowledge of trade or industry. With the launching of the project and implementation of Rehabilitation package, trade in the surrounding area has taken momentum. Many small scale and cottage industries have started in the nearby areas providing a source of livelihood for the affected families.

a.d) Compensation and its utilisation by different categories of oustees:
  
  The compensation paid in kind and money is considered adequate by all the three categories of affected families and a major part of compensation money in observed to have been utilised for construction and repair of houses followed by investment in further production. Instances of unproductive use of compensation money are rather few.

a.e) Employment generation:
  
  In the field of providing employment to the member of affected families, NALCO seems to have by and large adhered to the objective of providing employment to the displaced persons of a project. All the 34 Locally Displaced Persons have been provided with direct employment in NALCO in different capacities. 67 per cent of the substantially affected samples and 45 per cent of the less affected persons have got direct employment in the NALCO plant.

a.f) Change in occupation, income and savings:
  
  The major change in the sample villages during the post-displacement period is the shift from near total dependence on Agricultural activities to non-farm activities particularly employment in NALCO, NALCO related jobs, small scale and cottage industries, pettibusiness and other services in government sector.
In case of all the three categories of oustees, as far as the annual income is concerned, there has been a significant change over the period covered under the study. When involuntary displacement takes place, the income of the affected people is disturbed. But at Angul sector, employment of all LDPs, most of the SAPs and LAPs, in NALCO and NALCO related activities, has increased their income and livelihood to a reasonable extent. While in LAP category the annual income of the family has increased by about 53 per cent, in SAP and LDP category it has increased by about 60 per cent and 240 per cent respectively.

Similarly there is a change in the pattern as well as quantum of savings of the affected families. While saving through insurance and purchase of shares were unheard of in the villages, in the post rehabilitation period such form of savings has entered the family budget. The increase in savings has been the highest in case of LDP category.

a.g) Change in asset position:

Besides income, asset held by a family is an indicator of standard of living. In case of NALCO affected families the rehabilitation policy has not only brought a change in their income flow, but also has added to their asset. As in case of income, maximum increase is found in case of LDP category and minimum change in LAP category of oustees with regard to their asset position. While the number of families in the asset category of 50,001 to 1,00000 has remained constant with LAPs, it has increased from 1 to 4 with LDPs and from 3 to 4 with SAPs. Similarly three families in LDP category and two families in SAP category have entered in to the asset group of 1,00001 and above, while none in the LAP category has entered this group.
Reaction of the oustees towards the Rehabilitation programme:

Based on observation, discussion and facts reported during the field survey it is found that the altitude of the affected oustees towards NALCO as an organisation, and the services and facilities provided to them is quite favorable with only a few exceptions.

The oustees reaction towards the amount of compensation is quite satisfactory. They are also happy with the change of occupation from Agriculture to new occupation in and around NALCO. However a few families express their displeasure about the project because of a terrible hike in the prices of daily consumer goods, loss of ancestral property and because of apprehension about their children getting jobs in NALCO.

As there are now better facilities of education, technical training, trade facilities and other socio-economic infrastructural facilities around NALCO, more and more of oustees are gradually showing interest in making full utilisation of these facilities provided by NALCO.

About 60 per cent of the oustees (SAP and LAP) have favorable reaction towards changing from traditional to new occupation in the post rehabilitation period. As far as the LDP's are concerned, there in 100% favorable attitude towards this.

Regarding the present life style, 65 per cent of the respondents mentioned that they are leading a comfortable life which in mainly due to regular source of income through NALCO. They are in a position to provide better education, training, recreation etc. to their children.
Though most of the oustees (77.97 per cent) want their children to work in NALCO and NALCO related activities when they grow up, they are simultaneously providing education and technical training to their children so that in future they can arrange some engagement for themselves either in NALCO or in other industrial activities surrounding NALCO.

A major complain of the affected villagers is with regard to scarcity of water during summer. The field study reveals that, water problem existed in the area prior to the establishment of NALCO. NALCO under its rehabilitation package has installed 25 tubewells in different sample villages by 1994; and 125 domestic pumpsets. Despite this provisions, water problem continues during summer months and this has been a major complain by the villagers to the establishment of NALCO. A great problem that has emerged with establishment of NALCO is rather the incidence of water pollution and flurosis disease which continues despite of the measures taken by NALCO to control pollution in the surrounding area.

[EFF] NALCO's Policy of Rehabilitation Vis-a-Vis policy of other states including Orissa.

A comparative analysis of rehabilitation policy followed in same state like Madhya Pradesh, Gujrat, Maharashtra or even in Orissa with regard to other major projects and policy followed by NALCO reveals some special and positive features of NALCO's rehabilitation policy.

Acquisition of land, payment of compensation along with some civic amenities are the common rehabilitation policy measures undertaken in many states of our country and Orissa is not an exception to it. But in case of NALCO project it is found that besides provision of alternative land, cash compensation
and civic amenities, care has also been taken to bring peripheral development of the area and for providing employment to one member of each displaced family.

Meticulous care has been taken to avoid acquisition of homestead land and houses in the establishment of the project at Angul. As a result of this only 34 families are displaced, while the number of substantially affected persons and less affected persons are 841 and 1294 respectively.

A system was evolved to enumerate these affected persons and provide one person from each family with job. All the LDP's (34) and 57 from the SAP and LAP category families have been given jobs. Some SAP and LAP are directly employed in NALCO whereas others are given employment with the contractors. Besides some handicapped persons from affected families have also been provided with employment.

This unique experiment of employing local people in a high tech plant has few parallels in Indian industry.

Another important aspect of Rehabilitation policy of NALCO is pollution control measures to check health hazards and maintenance of a pollution free environment in the area. Rehabilitation policy of NALCO also provides for massive plantation programme in the Angul sector to maintain the eco-balance of the area. The environmental management system of NALCO at its mines and Alumina Refinery have received the ISO 14001 certification. Steps for peripheral development and measures for pollution control undertaken by NALCO in its rehabilitation package can be considered as unique compared to rehabilitation policy followed in respect of other projects.
Testing of Hypothesis:

The hypotheses that are framed in chapter III are tested here to draw meaningful conclusions.

a) A large number of people have been dispossessed of their landed property consequent upon establishment of NALCO.

The study reveals that total numbers of 2169 families are affected by establishment of NALCO at Anugul. Out of 2169 families, 34 families have lost their homestead and land, 841 families have lost more than one third of land possessed by them, while 1294 families have lost less than one third of their cultivable land. Thus all the 2169 families have lost some part of their land in possession.

Therefore the hypothesis framed at the beginning can be said as correct. While few families have lost their homestead, many families have lost their landed property because of NALCO project at Angul.

b) Financial support provided by NALCO to affected families is not satisfactory.

The study reveals that NALCO has paid compensation to each affected family. The average compensation paid to LDP category families who are maximum affected because of the project has bear the highest followed by SAP and LAP.

The analysis of compensation shows that the money paid has helped in settlement of oustees past debt.
While a major part of the compensation is utilised for construction and repair of homes followed by investment in further production, a very small portion of the money is actually spent on consumption.

There is no grievance of affected families about the quantum of compensation, rather a sense of satisfaction prevails among them as revealed from their reaction towards compensation. By using ANOVA it has also been found out that the compensation paid to the oustees of different sample villages are at par statistically.

Thus, the hypothesis framed at the beginning of the study, that, the financial support provided by NALCO for the loss of land is not sufficient is found to be incorrect.

c) Educational opportunities have developed in the affected area with the rehabilitation measures undertaken.

Number of schools in the sample villages has increased by 40 per cent and enrollment of students by 44 per cent during the period 1983 to 1994. Thus the hypothesis framed about the increase in educational opportunities in the affected area because of rehabilitation measures in found to be correct.

d) All families affected by NALCO are not provided with employment opportunity through the Rehabilitation package offered.

Out of 140 sample families one member each from 91 families constituting 65 per cent are absorbed directly in NALCO. Maximum absorption (100%) has taken place in LDP category and minimum (45%) in LAP category. Besides, the number of working member in different occupation related to NALCO has increased by 39 per cent and pettybussiness which has a linkage with NALCO has increased by 19 per cent.
To find out the statistical significance of variation between the different categories in different villages in respect of direct employment, ANOVA has been used. The analysis reveals that though NALCO has provided direct employment to the oustees, it varies from villages to village. The families in the villages Gotamara and Balaramprasad has been benefited maximum by getting direct employment in NALCO, in comparison to other villages.

Therefore the hypothesis framed that all families affected by the project are not provided with employment opportunities through rehabilitation, can not be said to be correct. The families who are not provided with direct employment in the plant, has some how got employment opportunities in NALCO related activities and other employment opportunities surrounding NALCO because of the rehabilitation package offered by NALCO.

e) Families who have lost both their cultivable land and homestead are worse affected than the families who have lost a part of their land.

Comparison of income of different categories of oustees reveals that while income of LDP category has increased by about 240 per cent that of SAP and LAP category has increased by 61 per cent and 53 per cent respectively in the post rehabilitation period.

Similarly, the maximum increase is observed in the saving position of LDP category in the post rehabilitation period. While the average savings in the SAP category has increased from Rs. 77 to Rs. 546 and in case of LAP category from Rs. 98 to Rs. 671, in case of the LDP's the increase in average saving is from Rs. 88 to Rs. 1206.
Further the asset position of the LDP category has recorded a better improvement than that of SAP and LAP category in the post rehabilitation period.

To test this hypothesis statistically, ANOVA has been used. It is found that there is significant difference between the categories with CD value of 0.148 but no significant difference between the villages. The ANOVA table reveals that the annual income of the families under LDP category has increased to 239.658 per cent while in case of SAP and LAP category families it is 60.973 and 53.340 respectively.

Therefore the rehabilitation package can be said to have improved the economic condition of LDP category more than that of SAP and LAP.

Thus contrary to the hypothesis, it is found that people who have lost both their land and houses have benefited most from Rehabilitation package than those who have lost only a part of their land.

The hypothesis is therefore incorrect.

The following strategic interventions may be suggested to make the rehabilitation package offered by the major projects more fruitful.

[G] **Suggested Recommendations:**

Construction of large project brings in its wake, a major problem for the area and its residents. Acquisition of land and houses, displacement of the people and their rehabilitation, payment of compensation in different ways not only creates enormous problem for the administration and the project authority, but also causes serious dislocation, harassment and frustration among the displaced persons. The socio-cultural life is disturbed and in most cases the chief source of livelihood is also snatchèd away for the purpose of the project.
It is therefore necessary to handle such problem with much care and sensitivity. It is necessary to lay down a set of guidelines by way of a policy resolution of the Government of India to be followed by all states and all projects where displacement of people and acquisition of land takes place in the wake of setting up of the project.

1. Prior to commencement of the project, a detailed study of the area to be affected is to be made for getting data on demographic, educational and socio-psychological aspects. This will help the authorities to identify persons claiming rehabilitation benefits, and the type of support needed by them. Along with the provisions for economic, social and cultural needs of the affected persons, the project authorities should always give attention to peripheral development, education and health facilities in the area and pollution control measures to ensure co-operation of the local people in the establishment and functioning of the project.

2. In the construction phase, large number of labourers are employed by contractors appointed by the project. It should be obligatory on the part of the contractors to give priority in employment to labour displaced. Appropriate safeguards should be evolved and built in to the agreement between the project authority and the contractors to ensure employment for the displaced people. The district administration should ensure payment of minimum wages to these displaced labourers.

3. All state sponsored employment guarantee schemes should be applicable to the people of affected villages as any other village. District administration authority have equal responsibility in the affected areas of the project as in other areas and should consider creation of employment opportunities as the sole responsibility of project authorities.
4. An important aspect of employment creation for the affected persons is development of their skill. It is not as the first generation affected by the project who demand alternative source of employment for them when their cultivable land is acquired by the project, but as has happened in case of NALCO, the affected people expect their children also to be employed subsequently in the project. It is therefore essential that adequate provision for training to develop skill of local people is made by project authorities, so that there is gradual shift of people from the primary sector to the secondary sector which has a scope for expansion with establishment of big projects.

5. In payment of compensation due care has to be taken to ensure that money is spent for creation of income yielding assets and not just wasted on consumption or social function as is likely to happen among the poor and needy.

6. Some kind of special statutory reservation can be thought of for unskilled labourers to guarantee employment to them. Not only the project but also other departments in the project as well as in the district administration should also ensure certain minimum recruitment of displaced and affected persons.

7. In most of the project, the period of gestation is about 10 to 15 years. During the period, an entire new generation comes to the employment market. It is therefore essential that Project authorities cater not only to the originally affected persons who have lost their chief source of livelihood i.e. land, but also persons who are in the age group of below 15 years at the
time of commencement of the project. It was found from the field study that most of the unemployed families as well as those who are directly employed in NALCO, have developed strong expectations that NALCO must provide employment opportunities for their children also. It is for consideration whether NALCO can take the responsibility of providing jobs to the second and third generation oustees. the National guidelines do not contemplate such an agreement. Only the first generation oustees could be given employment. Various developmental programmes implemented, training facilities provided, development of the small unit in the surrounding area can take care of the second and third generation people including women through various self employment or paid employment schemes.

What is important in this context is that the district administration should come forward to solve these problems and should not keep itself aloof from the oustees thinking that they are the exclusive responsibility of NALCO as they have been ousted by it. Such consideration should apply not only to the people who are already ousted and settled in NALCO colony but also to those who are partially affected or yet to be shifted.

Similarly the State Government and District administration must also extend the benefit of current development schemes like IRDP, JRY, TRYSEM and Animal Breeding Programmes and Poultry and Fisheries to these people and provide necessary support for them through the block extension staff and village development works. These recommendation should be stressed and implemented as early as possible.
8. In the implementation of a project sometimes there is a communication gap between the project authorities and the affected persons and vested interest take advantage of such gap. It is essential that there is absolute transparency about the project plan and the people are convinced about the rehabilitation measures offered by the project authorities. Constant link between the authorities and people through some sort of community organiser appointed by the project may help in redressing the grievances of the people at the grass root level and not allowing them to grow into big issues.

9. Pollution is a natural outcome of industrialization. Industrialization near Angul gave rise to many type of pollution as observed from field investigation.

The oustees complain of air pollution, water pollution and also land pollution. It is therefore recommended that, the NALCO authority should take sufficient care to reduce and control pollution in the peripheral villages. The NALCO authority may work closely with governmental and local authorities to help prevent and minimise adverse consequence of the industrial activities on the environment.

However, as compared to other large scale industries, NALCO in the state of Orissa, has taken sufficient care to minimize pollution and maximise the safety of its environment for which it has already received the ISO 14001 certification.
CONCLUSION

In as much as development projects make positive contribution to national well being but also have unavoidable negative impact on certain groups, some means of reconciling the conflicting interests must be found. Firm measures must be taken to protect the lives, productive systems, culture and human rights of those displaced and affected partially by such projects. Land expropriation takes away the foundation upon which social and economic production systems are constructed. Unless that foundation is reconstructed elsewhere or replaced by steady income generating employment, landlessness set in, social and economic productivity can not be re-established and the affected families are impoverished.

As noted earlier, development projects have been designed and appraised in the past which made no provision for resettlement and rehabilitation. Fortunately the situation has begun changing. Planners are now getting attuned to the idea that a carefully planned approach will be necessary to address the complex problems associated with resettlement and rehabilitation. In fact, the process of development must produce an improvement in the living standard of those who make sacrifices but not lead to their impoverishment. Though many development projects have failed to achieve the goal of rehabilitating the affected groups, so far as providing employment and raising their standard of living is concerned, in case of National Aluminium Company (NALCO) at Angul sector Rehabilitating the oustees is a successful story. This is due to a carefully handled Rehabilitation policy, participation of the district administration and the project authority.