INNOVATIVE ENERGY TECHNOLOGY SYSTEMS AND ENVIRONMENTAL CONCERNS: A SUSTAINABLE APPROACH
ISBN: 978-93-84144-81-4

Housing and Settlement Rehabilitation and Reconstruction

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Abstract

It is observed that relocation and rehabilitation is carried out either due to natural calamities or for development purpose. Relocation and rehabilitation are two completely different terms, Relocation can be defined as transportation of people as a family or colony to a new settlement, whereas rehabilitation is a part of relocation where the life style of the people in terms of jobs, economy and all other contexts is restored to its original state. The objective of the paper is to focus on the factors which influence rural settlement and its rehabilitation. It emphasis on the issues faced by a settlement after relocation. In India alone 21 million to 42 million people have been displaced by dams and reservoirs only. Therefore the study focuses on 5 villages namely Nakargundi, Veerapur, Salgundi, Sindagi and Kesanur of Karnataka, India which got completely submerged in the backwaters of reservoirs of Almatti Dam under Upper Krishna Irrigation project and was relocated together in same place. Hence from the study it was observed that for relocating a settlement successfully following factors must be taken care of (i) Physical Factor which includes relief, altitude, soil capability, climate, drainage, ground water level, etc (ii) Ethnic And Cultural Factor these include aspects like caste, community, ethnicity and religion of that settlement (iii) Historical or Defence Factor here the aspects like border issues and regular conflicts between the states etc (iv) Economic Self Sustainability Factor in terms of employment is important for better living conditions of the people.

1. Introduction

The introductory chapter is the key to understand of the context, aims, objectives, and scope of the work. This chapter also presents the description of the case study area and the limitations of the work. First of all let us know what the scenario of relocation and resettlement in India when did it started and what is its state till date.

2. Relocation and Resettlement In Case of India

Displacement or the involuntary and forced relocation of people has come to be acknowledged as among the most significant negative impacts of large mining, hydral power projects and water resources development projects such as dams. Alone in India it was estimated that some 21 million to 42 million people have been displaced by dams and reservoirs (India country study 2000)

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The factor causing displacement are numerous, sometimes its demographic pressure on land, economic compulsions, natural disasters or governmental – planned development projects like irrigation, mining, hydro-power, industry, thermal power plants etc. The factor can be one or more together to cause a displacement of affected population. A very less number of displaced persons get proper resettlement while other has to seek for place to live under constant insecurity, vulnerability and exploitation of all kinds.

People Displaced Due to Development Projects		
Sl No	Type of Development Induced Displacement	No of People Displaced
1	Dams	16.4 million
2	mines	2.55 million
3	Industrial Development	1.25 million
4	Wild Life Sanctuaries & National Parks	0.6 million

Fig. 1: People Displaced Due to Development Projects.

3. Objective

The objective of the paper is to focus on the factors which influence rural settlement and its rehabilitation. It emphasis on the issues faced by a settlement after relocation.

4. Issues and Potentials

Here in this level the issues, problems and potentials identifies from the case studies have been identified and these were done in Physical aspects pertaining to resettlement, Location and design aspects of resettlement, Socio economic aspects, Institutional aspects.

5. RESETTLEMENT and Rehabilitation Concepts

This chapter primary deals with various types of displacements. Also the impacts of development projects due to which people need to be displaced are discussed briefly. Sometimes there are deliberate effects and sometimes there results some unforeseen adverse effects which also results in need for displacement of human habitation for their safety and livelihood.

5.1 Defining Resettlement and Rehabilitation

A review of literature suggests that resettlement and rehabilitation are two closely related social processes that are essential fallout of infrastructure projects resulting in population displacement. “Resettlement “primarily involves relocation of the displaced people of a project known as “project affected persons”.

According to Cernea (1996) “Displacement primarily concerns how land and other major assets are expropriated and people are removed to allow a project intended for the overall social good proceed. In real life, this is not just an expropriation, but also a simple transfer of property in exchange for compensation. In sociological terms, it is a process of unravelling the existing patterns of social organization and functioning of ongoing production systems and settlement units. Forced displacement of people always creates social crisis” (Cernea, 1996:1516).

On the other hand, rehabilitation process seeks to mitigate the negative impact of resettlement by reconstruction of the "patterns of socio-economic organization of resettlement and rehabilitation have to therefore, operate in continuum in order to "assist the adversely affected in their incomes and living standards" (World bank,2000:1).However, in practice "the first does not automatically being the second" (Cemea, 1996:1516).

5.2 Different Types of Relocation and Resettlement

5.2.1 Rural resettlement

Displacement of people in rural areas typically results from a project's acquisition of farm land, pasture, or grazing land or the obstruction of access to natural resources on which affected populations rely for livelihoods (for example, forest products, wildlife, and fisheries). Major challenges associated with rural resettlement include: requirements for restoring income based on land or resources; and the need to avoid compromising the social and cultural continuity of affected communities, including those host communities to which displaced populations may be resettled.

5.2.2 Urban resettlement

Resettlement in urban or peri urban settings typically results in both physical and economic displacement affecting housing, employment, and enterprises. A major challenge associated with urban resettlement involves restoration of wage-based or enterprise-based livelihoods that are often tied to location (such as proximity to jobs, customers, and markets). Resettlement sites should be selected to maintain the proximity of affected people to established sources of employment and income and to maintain neighborhood networks. In some cases, the mobility of urban populations and the consequent weakening of social safety nets that are characteristic of rural communities require that resettlement planners be especially attentive to the needs of vulnerable groups.

5.2.3 Linear resettlement

Linear resettlement describes projects having linear patterns of land acquisition (highways, railways, canals, and power transmission lines). In sparsely populated rural areas, a linear project such as an electric transmission line may have minimal impact on any single landholder. Compensation is characterized by a large number of small payments for the temporary loss of assets such as standing crops. If well designed, linear projects can easily avoid or minimize the demolition of permanent structures. Conversely, in a densely populated urban area, a linear project such as a road upgrading may require the demolition of structures along the project right-of-way, thereby significantly affecting large numbers of people. Linear resettlement contrasts with site specific resettlement because of the problems that frequently arise when resettlement actions have to be coordinated across multiple administrative jurisdictions and/or different cultural and linguistic areas.

5.2.4 Site-specific Resettlement

Site-specific resettlement is associated with discrete, nonlinear projects such as factories, ports, highway interchanges, hotels, commercial plantations, etc., where land acquisition encompasses a fixed area. However, site-specific resettlement associated with mining and other extractive industries such as oil and gas may require progressive land acquisition over long periods. As a result, displacement of communities may occur in phases over a number of

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years, even decades. Communities threatened with displacement at some future date often prefer to remain in place until resettlement is absolutely necessary. The major challenge in such incremental resettlements.

6. Development and Displacement

Forced population displacement has become a continuous issue in the recent decades. This is especially so because large-scale projects are being implemented worldwide. Such large scale projects aimed to improve the lives of millions of people seriously hamper the lives of many others. This has fostered the debate of development v/s displacement. Both planners and administrators have largely ignored the aspect of displacement due to development projects. An overwhelming majority of planners invariably see people who happen to live at or around the siting of a development project as impediments to progress, as those who "must make sacrifices for the development of the nation" (as quoted in kothari1996:1478). But now the scenario is changing. Various academicians, scholars and non-government organizations have raised the questions of equity and social justice.

This has questioned the very ethics of development. However, development also cannot be neglected. Large scale infrastructure projects are regarded as a necessity for development. Therefore, the number of project that entails acquisition of land is certain to go up. In such a scenario, where development cannot be compromised, it is necessary to address the problems of the displaced people in a sensitive and cautious manner.Planning for their development and welfare therefore, becomes a responsibility of the concerned project authority.

6.1 Displacement and its Consequences

Displacement does not merely mean the loss of residential, commercial and agricultural property. It signifies the loss of a sequence of things that ultimately lead to impoverishment and poverty. "It leads to the unraveling of the existing pattern of social organization, which occurs at, many levels:

1. When people are forcibly moved, production systems are dismantled.
2. Long established residential communities and settlements are disorganized/ while kinship groups and family systems are often scattered.
3. Life-sustaining informal social networks that provided mutual help are rendered nonfunctional.
4. Trade linkages between producers and their customer base are interrupted.
5. Local labor markets are disrupted.
6. Formal and informal associations and self-organized services are wiped out by the sudden scattering of their membership.

The ultimate result of the disruption of such patterns is improvement distinguishes it from passive words as poverty and poor. It is a dynamic process of public decision making in which it is considered just fair and right that some people may become or stay impoverished. It is a feature of the process of impoverishment process occurs along the following eight crucial dimensions; landlessness; homelessness; joblessness; marginalization; food insecurity; loss of access to common property assets; increased morbidity and mortality and social disarticulation (Cernea 1996). Each of these dimensions has been described in detail below.

ISBN: 978-93-84144-81-4

1. Landlessness
Land expropriation lakes away the foundation upon which social and economic production systems are constructed (Asthana 1996:1469). Loss of such systems and resulting landlessness creates impoverishment and poverty.

2. Joblessness
Loss of job and income not only reduces the existing standards of living of the affected families but also curtails their future jobs opportunities.

3. Homelessness
In projects where proper resettlement and relocation measures are not undertaken, the affected families might be rendered permanently homeless.

4. Marginalization
Marginalization occurs when families cannot fully restore economic strength (Asthana 1996:1470). Families previously in precarious balance above the poverty line may fall blow it and never recover (Asthana, 1996:1470).

5. Food insecurity
Undernourishment is both a cause and symptom of inadequate resettlement. Force uprooting increases the risk that people will fall into chronic food insecurity (Asthana, 1996:1470).

6. Loss of access to common property
Common property resources imply resources such as forests, fruits bearing trees, lakes/pond, village land etc. loss of access to these resources reduces the support system on which rural and tribal people are dependent.

7. Morality
Forced relocation also leads to adverse health consequences leading to high levels of morbidity amongst the affected people.

8. Social disarticulation:
The disintegration of social support systems has far reaching consequences. It compounds individual losses with a loss of social capital: dismantled patterns of social organization that are hard to rebuild. (Asthana, 1996:1470)

7. Simikeri Rehabilitation Centre-A case Study under Upper Krishna Project

7.2 Reason for Relocation of Villages

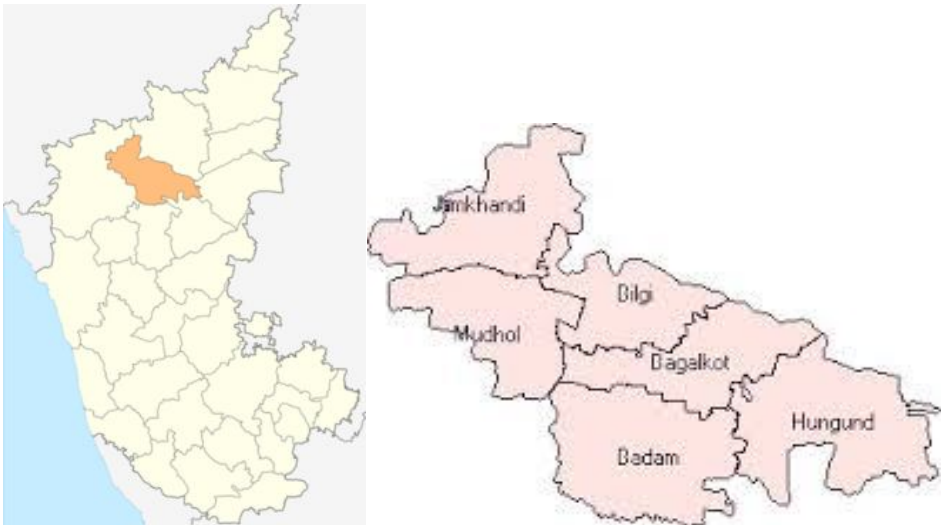
The Upper Krishna Project is primarily conceived as a Multipurpose Major Irrigation Project for Irrigation, generation of Power and Drinking Water .The Command Area is spread over Bijapur, Bagalkot, Gulbarga and Raichur Districts of Northern Karnataka. This region experiences low rain fall and are known for perennial drought situation.

By the implementation of Upper Krishna Project Stage-I Phase-I & II 176 villages have been submerged, the details of submerged villages are as under:

ISBN: 978-93-84144-81-4

Totally 176 villages have been submerged under Stage-I, Phase-I & II of Upper Krishna Project, accordingly 136 RC centers are formed for the Rehabilitation of the affected families. From the back waters of Narayanpur Reservoir 11,744 families (58,720 Population) have been affected and 58,432 families (2, 92,160 Population) have been affected from back waters of Almatti reservoir upto FRL 519.60 mtr.

7.2 Location



Location of Simikeri Rehabilitation Center

The entire RC is planned for the total population of 6520 people. The area for the amenities was provided according to the area lost in the old village. And additional amenities such as teacher's quarters, dhobi ghat and others were given considering the total population of the 5 villages and its necessity.

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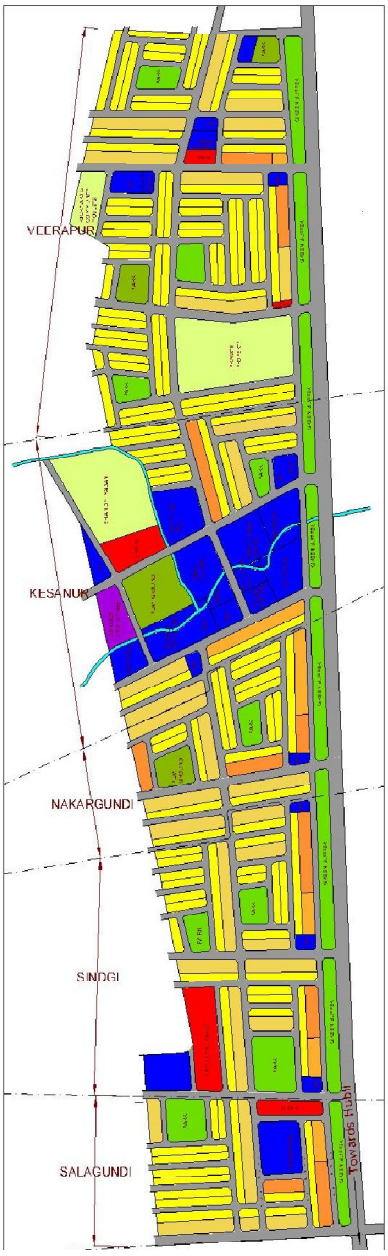

Plan showing land use of Simikeri Rehabilitation Center

ISBN: 978-93-84144-81-4

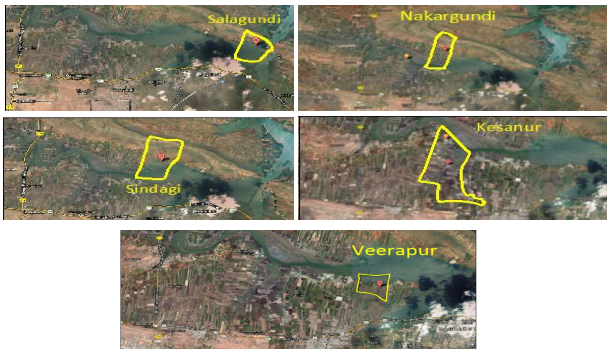

Fig. 1: Satellite images showing the 5 villages that have submerged under dam reservoir water

7.3 Process of relocation in case of Simikeri rehabilitation center

Fig. 2: Flow Chart Showing Process of Relocation.

First of all the village that will be submerged and affected due to the project is identified then a detailed discussion with all the affected families of villages is done and a suitable site for relocation is selected. Once the land is finalises then 4(1) notification for the acquisition of

ISBN: 978-93-84144-81-4

land is made as per land acquisition act 1854 to for the land on which the new village will be developed. After this final 6(1) notification is made, compensation to land owners is paid and land is acquired.

Then 4(1) notification for the houses of which the village has to relocate is made. Each house of the village is surveyed valued and numbered and only after this the final notification for the acquisition of the village is made. Then the family whose property has been acquired is given compensation and all other grants permitted as per the policy.

Then the plotting and necessary infrastructure is laid such as roads, water supply, electricity and others. Once the infrastructure is laid the beneficiaries are allotted housing plots as per the agricultural land holding. Transportation cost is paid or transportation of family, household and building materials is arranged by the authority from acquired village to new village.

7.3 Major findings

The people say that they are not happy since relocation changes their entire life pattern. Their primary occupation is lost, and they have to search of alternative source of income in which they are neither trained, experience nor interested. They say that the feeling of belonging to the village is lost as soon as they shift to the new village. The people in the village are satisfied with the level of infrastructure that has been provided. The main problem that they are facing after relocation is of unemployment, since their primary occupation was agriculture and all their land was acquired. They face problem in day to activities such grazing cattle, buying things from market. Earlier all these things were easily available since their fields were at walk able distance. But at the same time people are happy since now their new village has good schools with good infrastructure, proper water supply, roads. They say that now their plots and houses have higher resale value, compared to that of before.

Form the entire case it was observed that the people were happy with the package that was given to them and appreciate the government for doing their best, but were also unhappy since they have lost their livelihood. It was also observed that the people have become greedy over the years and still ask for more benefits.

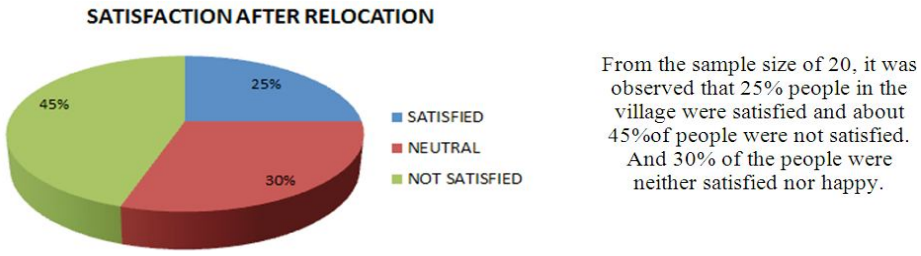

Fig. 3: Pie chart showing the level of satisfaction after relocation in RC

From the case study it was observed that there are four major factors that make a relocating rural settlement better and the feeling of belonging is developed as it is their earlier place. These factors are

(i) Physical
(ii) Ethnic or cultural and
(iii) Historical or defense
(iv) Economic Self Sustainability Factor.

Now let us discuss these factors one by one.

ISBN: 978-93-84144-81-4

(i) Physical Factors:

These include relief, altitude, soil capability, climate, drainage, groundwater level, etc. These factors influence the type and spacing of dwelling or instance, in dry regions of Rajasthan, water is a crucial factor and, therefore, houses are situated along a pond or well which guides the compactness of the settlement.

(ii) Ethnic and Cultural Factors:

These include aspects like caste, community, ethnicity and religion. In India it is commonly found that the main land owning caste resides at the centre of the village and the other service providing castes on the periphery. This leads to social segregation and fragmentation of a settlement into several units

(iii) Historical or Defense Factors:

In the past, mostly border areas of northwestern plains were conquered or attacked frequently by outsiders. For a long time, apart from attack from outsiders, there had been continuous fight between princely states and kingdom within the country therefore; security concerns favored the evolution of nucleated settlements.

(iv) Economic Self Sustainability Factor:

In any settlement employment is important for better living conditions of the people. Hence the relocating settlement must be placed preferably near urban agglomeration.

Hence can be concluded saying that if all these factors were followed or if followed before planning a relocating settlement then the level of satisfaction of the would have increased.

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