Involuntary Resettlement as an Opportunity for Development: The Case of Urban Resettlers of the New Tehri Town

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Abstract

The rebuilding of livelihoods in the involuntary resettlement is commonly based on providing compensation to those who are displaced along with the creation of employment and income opportunities to sustain their livelihoods. Unlike rural resettlement, urban resettlement is very complex as it involves providing business opportunities, urban-based employment and income. The article examined the resettlement of displaced families affected by Tehri Hydro Power Project by constructing an entirely new town 'New Tehri Town' (NTT) by using impoverishment risks and reconstruction (IRR) framework developed by Cernea (1997, *World Development*, 25(10), 1569–1587). The result shows that project-affected families (PAFs) are better off in NTT in terms of community amenities, income and employment opportunities and in terms of increase in value of houses, but traditional employment opportunities have been lost, they have to search for new jobs and livelihoods. The R&R policies in urban areas should focus on improving skill sets of the people along with increased income and employment opportunities through the development of market and business opportunities.

Keywords

Rehabilitation and Resettlement, India, urban resettlement, socio-economic assessment, impact

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Introduction

Involuntary resettlement caused by development programmes requires policy-guided solutions. Cernea (1997) identified the key risks of resettled population as joblessness, homelessness, marginalisation, food insecurity, loss of access to common property resources, increased morbidity and community disarticulation. Improving the livelihood of those displaced require risk-reversals through explicit strategies backed up by adequate financing. This article examined the impact of involuntary resettlement to urban locations resulting from dam-building, which has been ignored. Rehabilitation and resettlement in India has a long history, often of misery and hardship for those displaced. Relocates affected by the Sardhar Sarovar dam in India (Dwivedi, 1999) and Tehri-dam Three Gorges Project in China (Heming, Waley, & Rees, 2001) face a similar situation. In India priority has been given to building the dam to provide electricity, flood control and navigation. Less attention has been paid to the problems of the people affected by the reservoir inundation (Heming et al., 2001). Bui, Schreinemachers and Berger (2013) show that resettled households lost income mainly because of a loss in crop output. The distribution of their income became less equal after resettlement although land had been distributed equally to all households. The host households had a greater number of opportunities to adapt as a result their incomes increased. The livelihood adaptation of both the host and resettled households was strongly conditioned by a lack of available livelihood assets in remote mountain locations. Webber and McDonald (2004) found that since resettlement, incomes in the poorer habitations have risen, but in the richer habitations have fallen. The people now have access to less land than formerly but many now work in new construction and transport activities, building the dam and the village infrastructure. In both villages, when construction ceases, incomes are expected to fall.

In India, The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 (also Land Acquisition Act, 2013) lays down the procedure and rules for granting compensation, rehabilitation and resettlement to the PAFs. The Act has provisions to provide fair compensation to those whose land is taken away, brings transparency to the process of acquisition of land to set up factories or buildings, infrastructural projects and assures rehabilitation of those affected. The Act establishes regulations for land acquisition as a part of India's massive industrialisation drive driven by public-private partnership. The Act replaced the Land Acquisition Act, 1894, a nearly 120-year-old law enacted during British rule. However, its implementation varies across states, most of the states are following their own compensation methods (Kapoor, 2015; Nielsen & Nilsen, 2015; Smitha & Pal, 2018; Sud, 2014; Yenneti, Day, & Golubchikov, 2016). Most of the PAFs are preferring urban rehabilitation rather than rural as the former provide good opportunities for education for children, employment in non-agricultural sectors, and better social and community infrastructure (Carmon, 1999; Hassan & Lee, 2015; Richards & Thomson, 2017).

Objectives of the Study and Analytical Framework

There are many studies which have addressed the rehabilitation and resettlement problems in rural and village settings (Neef & Singer, 2015; Patil, Ghosh, & Kathuria, 2017), very few are available in urban settings. Given this lack of literature in urban rehabilitation and resettlement, this article examined the impact of rehabilitation and resettlement in Tehri-hydro-power project in the rehabilitated site of NTT.

The Tehri Hydro Power Project was constructed on Bhagirathi River (a tributary of Ganges) and completed in 2006–2007. Under this ‘Old Tehri Town (OTT)’ with 100 per cent urban population was completely submerged. The PAFs were mostly engaged in petty business and other non-farm activities like services hence preferred urban resettlement. Tehri Hydro Power Development Corporation (THDC) undertaken a massive rehabilitation and resettlement of all 5,291 PAFs of OTT by constructing a completely new town ‘NTT’ (Reddy, 2016). This article examined experience of urban resettlement by taking NTT as a case study. Studying the rehabilitation in NTT will help in identifying lessons, good practices and also pitfalls in implementation of urban-based rehabilitation and resettlement. The study used the impoverishment risks and reconstruction (IRR) framework developed by Cernea (1997) for impact evaluation by conducting field survey in NTT in the year 2009.

Our field survey was designed based on IRR model which assesses the intrinsic risks that cause impoverishment through displacement, as well as the effectiveness of rehabilitation policy to counteract—eliminate or mitigate—these risks through rehabilitation and resettlement. The model basically probes (a) what happens during massive displacements through risk assessment and (b) impact of safeguarding measures to mitigate the risks due to displacement during rehabilitation and resettlement. By adopting IRR model, this article studies reconstruction strategies implemented and its operational performance based on the following parameters.

- a) From homelessness to house reconstruction;
- b) From joblessness to re-employment;
- c) From food insecurity to food security;
- d) From high morbidity to improved health care;
- e) From loss of access to community assets to restoration of community assets and services;
- f) From marginalisation to social inclusion;
- g) From social disarticulation to networks and community rebuilding.

Data Collection

Tehri dam has created a large reservoir that inundated the town of OTT, along with approximately 125 villages, displacing between 50,000 and 100,000 people (Vandana, 2012). The rehabilitation work was divided into two parts: (a) urban rehabilitation and (b) rural rehabilitation (THDC, 1998). We examined only urban rehabilitation from OTT to NTT. Under urban rehabilitation, all the 5,291 families

Table 1: Status of Rehabilitation of PAFs of OTT in NTT

Description	Required	Constructed/ Developed	Allotted	Percentage Allotted (Progress)
1. Residences:				
(a) Plots	2,438	2,438	2,438	100
(b) Flats	2,853	2,853	2,728	100
Total (a) and (b)	5,291	5,291	5,166	100
2. Commercial:				
Shops	784	787	787	100

Source: Reddy (2016).

of OTT (as on cut-off date of 6 June 1985), categorised as fully affected, were completely rehabilitated and the OTT was vacated in January 2004 (Table 1). Field survey was conducted in the year 2009. The sample of the households was drawn using two stage sampling procedure. In the first stage, the five clusters (sites) in NTT were selected based on probability proportion of distance from the centre of the city and also to cover low, middle and high income families, in consultation with the officials of the THDC engaged in rehabilitation of affected families. At the second stage, 150 households were selected for intensive study from NTT, which includes Mooldhar and Baurari. In addition to the aforementioned PAFs, data were collected from a sample of 20 institutions including schools, banks, temples and government offices.

Provisions Under Rehabilitation Package

Definition of Project-affected Families

In case of urban population of OTT, all 5,291 families living in the town as on the cut-off date of 6 June 1985 are treated as PAFs. For the purposes of entitlement of rehabilitation benefits, family is represented by the head of the family, in whose name the house is entered in revenue records as on date of notification by government (2004), and includes all members dependent on him. In case of death of head of family take place prior to the notification, all legal heirs become eligible to receive rehabilitation benefits. All major sons and unmarried daughters of entitled fully affected family who has attained the age of 21 years and dependent parent (mother/father) are eligible for ex-gratia payment.

Urban Package

- Land owners are given residential plot of various size (60, 100, 150, 200, 250 and 300 sq m) in proportion to their holdings at very nominal cost

(ranging from ₹5 per sq. m for plot up to 150 sq. m to ₹150 per sq. m for plots of size 300 sq. m) at locations as per choice, in addition to compensation of house property (average compensation rate of developed plot is in the range of ₹1,000 per sq. m at 1,989 prices).

- House construction assistance, as grant to the land owners at following rates less compensation already paid;
 - 60–100 sq.m plot holders—₹2.50 lacks
 - 150–200 sq. m plot holders—₹3.50 lacks
 - 250–300 sq. m plot holders—₹4.50 lacks
- Ready to built houses/flats to entitled tenant, on subsidised cost at pre-1989 rates.
- Benap house owners who constructed house before 6 June 1985 are allotted either house/flats or plots (if available).
- Allotment of shop at subsidised cost (₹1,600 per sq. m) in NTT/Dehradun/Rishikesh to those running shops at OTT.
- Compensation for shopkeepers.
- One shop allotted to shop owner who were not running shop(s) themselves in OTT.
- Cash grant of ₹3,000 to ₹4,000 for transportation of household goods and ₹1,500 to ₹2,000 for commercial goods. In addition, entitled families who hand over their acquired properties and shift to new allotted sites within a period of 6 months from the date of allotment of plot/flat, an incentive grant of ₹12,000 per family is payable.
- One room flat to economically weaker section families free of cost, up to a maximum of 100 families.
- All additional eligible family members of entitled landowner families, get ex-gratia amount equivalent to 750 days of minimum agricultural wage per member.
- Cash option allowed *in lieu* of allotment of plots (₹1.10 lack to ₹3.00 lacks), flat (1.00 lack) and shop (₹0.25 lack to ₹0.60 lack).
- Government of Uttaranchal paid cash grant to shop keepers of OTT ranging from ₹1.00 lack to ₹3.00 lacks depending upon category of shop.
- Government of Uttaranchal paid cash grant of ₹1.50 lack each to advocates of OTT who were practising before 6 June 1985.

Provision of Social Amenities

The urban families are resettled at NTT or at Rishikesh and Dehradun as per their option. It can be seen that land allotted at resettlement site is approximately four times the land acquired. The NTT is at a height of 1,350 to 1,850 m, overlooking the lake, with a panoramic view of the Himalayas. The new township has all the modern facilities for education (including professional colleges and a university), 75 bedded hospital, financial institutions, district administration offices, markets, bus stand and places of worship, etc.

Additional Benefits Agreed After Hanumantha Rao Committee

Government appointed Hanumantha Rao Committee (1997) to examine the rehabilitation and resettlement package and recommend its suggestions. It submitted its report in 1997 and government implemented its provisions in 2001.

- Amount of house construction assistance revised, varying from ₹2.5 lacks to ₹4.5 lacks depending on plot size.
- Cost of flats and shops allotted to the entitled oustees recovered at pre-1989 construction cost; development cost not to be charged.
- Government of Uttaranchal allowed in July 2001 payment of cash grant to shopkeepers of OTT, ranging from ₹1.00 lack to ₹3.00 lacks, depending on category of shop, subject to handing over possession of their shop.
- Government of Uttaranchal, in December 2001 allowed payment of cash grant of ₹1.5 lacks each to the advocates of OTT who were practising before the year 1985.

Additional Measures Agreed by Gol for Public Facilities and Infrastructure Development—2005

- Enhancement of compensation for rural shopkeepers from existing ₹40,000 to ₹80,000 for shopkeepers at other roads and ₹60,000 to ₹120,000 for shopkeepers at national/other highways.

Results

Identification of Project-affected Families

All 5,291 households living in the OTT on the cut-off date of 6 June 1985 (population about 20,000 numbers) which include landowners, tenants, shopkeepers, labours, hawkers and unauthorised families, etc. have been declared as PAFs and given property compensation, plots/flats, shops and rehabilitation grants, etc. All the eligible persons have been given rehabilitation benefits.

New Tehri Town

NTT is developed by the THDC on the top of the hill exclusively to rehabilitate the Tehri dam-affected urban PAFs. The total number of households in NTT was 5,476. The total population was 25,423 in the year 2009. The literacy rate is 86 per cent. The facilities provided by the THDC for this rehabilitated colony are safe drinking (water distribution system), well-connected black top road network, comprehensive sewerage system, 75-bedded hospital, educational institutions including university campus, shopping complexes/shops, good electric lines with consistent power supply, street lighting, religious places, bus stand, stadium, multipurpose hall, veterinary hospital, good communications systems including

posts and telegraphs, financial institutions, parks, police station, public distribution system(PDS)/ration shops, fuel like gas, kerosene, petrol, diesels and other necessary infrastructure.

From Homelessness to House Reconstruction

All the PAFs were got either plots or flats and about 800 families got shops in the NTT (Table 1). Some of the PAFs constructed houses with good furnishing on their allotted plots with the compensation received from the THDC and the rest were constructed by the THDC. The construction was not uniform. Some constructed their houses in a modern way and some are in old fashion. Overall, houses in NTT were better than the OTT. Tenants of OTT were also got houses in the NTT. Most of the households depended on petty business, government employment and informal employment in small industries and shops.

The THDC has given a one room flat to the economically weaker homeless oustees at free of cost in the rehabilitated area. The households with cement/pukka houses increased from 65 per cent to 94 per cent. Value of houses in NTT was much higher than the OTT, as THDC provided/helped the PAFs to construct pukka houses (Table 2). Many of the households have constructed modern houses near the urban centres whose value increased significantly. About 81 per cent in NTT are Hindus and majority is Brahmins and Rajputs. For most of the urban resettlers, the distance between previous residence and resettlement sites is between 11 km to 30 km, who shifted from OTT to NTT. The average size of households is 5.3.

PAFs also got adequately compensated for land, house, shops, trees and assets based on market rates prevailing at the time of rehabilitation. Some PAFs have got up to ₹1,000,000 for land and for house construction as compensation (Table 3). On the same lines, allowance/grant was given as incentive for timely shifting to resettlement areas, building construction allowance, decoration allowance,

Table 2: Distribution of Nature of the House of Household

Status	Kutcha House	Cement/Pukka House
Before	35	65
After	6	94

Source: Field survey results conducted by the author.

Table 3: Distribution of PAFs (%) by Amount Received as Compensation Range (₹)

Item	Less than ₹25,000	₹25,000 to ₹50,000	₹50,000 to ₹100,000	₹100,000 to ₹500,000	All
Land	41	12	16	23	100
House	7	23	23	47	100
Shop	17	22	22	39	100

Source: Field survey results conducted by the author.

Table 4: Distribution of PAFs (%) by Amount Received as Allowance Range (₹)

Allowance	Less than ₹25,000	₹25,000 to ₹50,000	₹50,000 to ₹100,000	₹100,000 to ₹500,000	All
Incentive for timely shifting	45.8	20.8	8.3	25.0	100
Building construction	7.7	4.6	15.4	72.3	100
Decoration	48.0	4.0	12.0	36.0	100
Replacement	92.7	7.0	0.0	0.0	100
Food, fertiliser and seed	29.6	66.7	3.7	0.0	100

Source: Field survey results conducted by the author.

Table 5: Per cent of Households Own Household Appliances

	Before Displacement	After Displacement
Radio or TV	72.8	85.0
Vehicles (two or four wheelers)	20.0	48.2

Source: Field survey results conducted by the author.

replacement allowance, food, fertiliser and seed allowance. Among all allowances constructing house was major item (Table 4).

Way of communication is an important indicator of changes in living standards. Table 4 reveals that after rehabilitation households owned many household appliances like radio/TV and vehicles. This indicates that after rehabilitation, households are better off and more comfortably living with all necessary facilities both for day-to-day communication and also for doing household activities. Not only this, the value of household appliances as indicated by households is very high after rehabilitation when compared to before rehabilitation (Table 5).

Jobless to Re-employment

Education is the key for skill-oriented employment. In this section, the article examined the change in the level of education of households followed by changes in employment and incomes. Overall the percentage of persons who are educated high school and above have marginally increased from 78 per cent to 80 per cent after rehabilitation compared to before rehabilitation (Table 6). Percentage of 10+2, graduates and postgraduates increased significantly from 52 per cent to 59 per cent. This indicates that the facilities for higher education were more in NTT compared to OTT.

Distribution of households according to main occupation is given in Table 7. After rehabilitation the number of households who engaged in family business,

Table 6: Distribution of Education of Households—Before and After Displacement

Education Level	Before Displacement	After Displacement
Illiterate	3.8	6.5
Primary	12.7	9.3
Secondary	5.6	4.1
High school	26.3	20.8
College education (10+2)	13.8	17.2
Graduation	18.5	21.5
Post-graduation	14.0	16.5
Professional	5.4	4.1
Total	100	100

Source: Field survey results conducted by the author.

Table 7: Distribution (% of households) of Main Occupation of the Households

Occupation	Before Displacement	After Displacement
Family business	53.1	59.8
Construction activities	23.0	24.2
Retired employees	5.3	4.6
Govt. service	10.6	6.8
Agricultural labourer	3.5	1.5
Transport	0.0	1.5
THDC employment	1.8	1.5
Agriculture	2.7	0.0
Total	100	100

Source: Field survey results conducted by the author.

transport and government service has increased. In NTT, share of PAFs engaged in family business has increased by 6.7 per cent compared to before rehabilitation. Interestingly, housewives who engaged in household chores before rehabilitation got engaged themselves in some economic activity and earning incomes after rehabilitation. Employment in transportation, construction and government service was increased significantly due to new construction activities and increased road networks.

Number of days of employment increased significantly after rehabilitation. Persons who worked for more than 300 days per annum increased from 88 per cent before rehabilitation to 95 per cent after rehabilitation. THDC has given jobs like workmen and supervisors, ordered the contractors of the THDC to recruit unskilled workers, clerical staff and supervisors. THDC has awarded small size

contracts for some of the PAFs and gave special preference in local developmental works. The state government also initiated various self-employment/income-generating schemes for the benefit of PAFs like poultry farming, floriculture, pisciculture, animal husbandry, handicrafts and khadi work, etc.

The PAFs rehabilitated closed to urban areas are benefited by construction and opening of shops at their allotted land, cultivating vegetables, fruits, sweet corn, etc. in their half acre land which was allotted by THDC. In addition to that they had a chance to get work in industries, service, transport and other sectors, which were developed in NTT.

After rehabilitation income and consumption levels have increased, PAFs have moved from low-income status to high-income status (Figure 1). Income distribution of households in urban areas (Table 8) shows that the share of households with income more than ₹10,000 per annum was increased after rehabilitation. The government employees moved from middle-income group to high-income group after rehabilitation. While households depended on dairy, goat/sheep rearing moved from middle-income to low-income groups. Households whose occupation was cottage industries maintained same income status after rehabilitation. Traders and construction-related workers improved their income status after rehabilitation. Overall participatory appraisal showed that there was less scope for traditional employment in the resettled sites; on the other hand, there was greater scope and emerging need for skill-based employment in construction, electricity, petty business, trade and tourism for youth in resettled sites. Proper training for youth and women in these emerging activities and business opportunities through ongoing skill-India under Mudra programme can be given high priority (Vandana, 2012).

Figure 1: Income and Expenditure Groups Before and After Rehabilitation

Source: Field survey results conducted by the author.

Table 8: Distribution of PAFs (%) by Occupation and Income Group (₹/year/household)

Major Occupation	Before Displacement							After Displacement						
	Up to 5,000	5,001– 7,500	7,501– 10,000	10,001– 15,000	15,001– 20,000	20,001– 25,000	Above 25,000	Up to 5,000	5,001– 7,500	7,501– 10,000	10,001– 15,000	15,001– 20,000	20,001– 25,000	Above 25,000
Dairy	1.7	11.1	7.7	0.0	0.0	0.0	0.0	0.0	0.0	6.3	0.0	0.0	0.0	0.0
Goat/sheep rearing	1.7	0.0	0.0	8.3	0.0	0.0	0.0	0.0	7.1	6.3	0.0	0.0	0.0	0.0
Non-agri. employment	5.0	0.0	0.0	0.0	0.0	0.0	0.0	12.3	0.0	0.0	0.0	6.7	0.0	0.0
Skilled worker	6.7	0.0	0.0	0.0	0.0	0.0	0.0	4.6	7.1	0.0	10.0	0.0	0.0	0.0
Govt. employees	31.7	66.7	30.8	58.3	0.0	100.0	10.7	23.1	64.3	37.5	40.0	26.7	0.0	16.7
Cottage ind./self-employees (shop, etc.)	26.7	11.1	15.4	25.0	25.0	0.0	7.1	26.2	0.0	6.3	10.0	13.3	0.0	0.0
Other trades (electrician, plumber, etc.)	26.7	11.1	46.2	8.3	75.0	0.0	82.1	33.8	21.4	43.8	40.0	53.3	100.0	83.3
All	100 (80)	100 (17)	100 (17)	100 (11)	100 (5)	100 (1)	100 (19)	100 (50)	100 (12)	100 (15)	100 (14)	100 (16)	100 (10)	100 (33)

Source: Field survey results conducted by the author.

Moving from Food Insecurity to Food Security and Morbidity to Improved Health

The annual expenditures of PAFs on various consumption items in 2007 constant prices are given in Table 9. Share of total expenditure on food was decreased with rise in income (consumption) both before and after, which is confirming to the Eulers theorem (Hamilton, 2001; Timmer, 2000). Share of expenditure on food varies from 53 per cent to 30 per cent before displacement, whereas it was 42 per cent to 24 per cent after displacement. On housing expenditure share varies from 3 per cent to 8 per cent after displacement, on education it varies from 11 per cent to 15 per cent, and on health varies from 3 per cent to 14 per cent. Expenditure share on education and health increased after rehabilitation. There was decrease in the number of households whose expenditures was below ₹5,000, at the same time the number of households whose expenditure was above ₹5,000 increased after rehabilitation. Now many of the households have their own transport. On the whole with the increase in incomes after rehabilitation they could spend more (in absolute terms) on most of the items including food, clothing, education and transport. Expenses on food increased in absolute term, there is diversified consumption pattern towards fruits, vegetables and milk and ready to cook foods having increased their share in food basket after rehabilitation.

Marginalisation to Social Inclusion

To assess the marginalisation and social inclusion, we have surveyed women in the NTT what is the change in the status of women within house and in the community. About 94 per cent to 97 per cent of the women in NTTs expressed that there was no discrimination, no violence and there was no restrictions imposed on women (Table 10). Generally they participate in social, cultural and economic activities at their newly developed rehabilitated colonies/locations mostly in temple or mosque or churches.

About 45 per cent of the women reported that their status at home and in the community was increased, but only about 30 per cent reported that their income status increased and less than 21 per cent mentioned that their employment status increased. Even though source of income and employment in traditional activities (like agriculture and livestock based) decreased for a significant number of women, other employment opportunities like stitching, embroidery, beauty parlour, designing, teaching and nursing, etc. were marginally increased. After rehabilitation most of the women also going to schools and colleges as educational institutions were well connected with roads and also due to good law and order maintained by the district authorities (Table 11).

Table 9: Share of Expenditure on Different Items in Total Expenditure by Expenditure Group of the Households (in constant prices of 2007)

		₹/year/HH)															
Expenditure Items		Before Displacement								After Displacement							
		Up to 5,000	5,001– 7,500	7,501– 10,000	10,001– 15,000	15,001– 20,000	20,001– 25,000	Above 25,000		Up to 5,000	5,001– 7,500	7,501– 10,000	10,001– 15,000	15,001– 20,000	20,001– 25,000	Above 25,000	
Food		53.0	51.0	45.0	40.0	35.0	32.0	30.0		42.4	40.8	36.0	32.0	28.0	25.6	24.0	
Housing		4.0	4.0	5.0	24.0	3.0	7.0	8.0		4.4	4.4	5.5	9.0	3.3	7.7	8.8	
Education		10.0	12.0	12.0	14.0	10.0	13.0	12.0		11.0	13.2	13.2	15.4	11.0	14.3	13.2	
Clothing		10.0	12.0	12.0	14.0	12.0	10.0	13.0		9.0	10.8	10.8	12.6	10.8	9.0	11.7	
Health		17.7	4.0	7.0	3.0	13.0	10.0	12.0		12.0	4.4	7.7	3.3	14.3	11.0	13.2	
Vehicles/transport		7.5	6.0	5.0	6.0	13.0	6.0	16.0		8.3	6.6	5.5	6.6	9.0	6.6	7.0	
Entertainment		6.7	14.3	14.0	4.0	7.0	10.0	10.0		8.0	9.0	10.0	4.8	8.4	12.0	12.0	
Others		0.0	0.0	5.0	0.0	2.0	10.0	8.0		4.9	10.8	11.3	16.3	15.2	13.8	10.1	
All		100	100	100	100	100	100	100		100	100	100	100	100	100	100	
		(115)	(17)	(10)	(2)	(2)	(3)	(1)		(90)	(8)	(7)	(10)	(7)	(13)	(15)	

Source: Field survey results conducted by the author.

Note: Figures in parentheses are number of PAFs.

Table 10: Discrimination Against Women in NTT

Items	Discrimination Exists	No Discrimination
Discrimination against women in new location	5.4	94.6
Violence against women	4.7	95.3
Restrictions in new location	3.3	96.7

Source: Field survey results conducted by the author.

Table 11: Changes in the Socio-economic Profile of the Women After Displacement

	Status in the Village	Status at Home	Income	Employment
Increased	45.5	46.2	29.7	20.8
Decreased	32.4	29	42.1	45.1
No change	22.1	24.8	28.3	34

Source: Field survey results conducted by the author.

Loss of Community Assets to Restoration

Reachability to community amenities like educational institutes, hospitals, market, potable water source, road, office, post-office, bank, retail shops, PDS shop, etc. are important for easy of living and to enhance living standards. This section of the article tries to assess the reachability of these public amenities and their satisfaction levels before and after the rehabilitation. Table 12 provides the distribution of PAFs by distance to the community amenities. In this section, we discuss the average distance of educational institutions from the house. More or less similar trends were observed in other facilities. Three fourths of the sample families were resided less than 1 km distance from the primary school before rehabilitation in OTT. This proportion has come down to half after rehabilitation in NTT (Table 12). This was because OTT being a compact area, all the facilities were available within that area. Whereas NTT was built in a larger area, the facilities were scattered a little more. However, most the families are more satisfied after rehabilitation than before.

The study assessed the satisfactory levels of PAFs for select fifteen public amenities and presented in Table 13. The study asked three questions for each amenity: (a) more satisfied, (b) moderately satisfied and (c) not satisfied. On average 'more satisfied' peoples share increased from 17.2 per cent to 19.1 per cent, 'moderately satisfied' share also increased from 40.1 per cent to 44.6 per cent. On the other hand, share of people 'not satisfied' was decreased from 40 per cent to 36 per cent. Satisfaction levels of PAFs were highest in public call office (PCO) followed by PDS/ration shop, bank, neighbouring shop, road connectivity, inner road, sanitation, electricity, office-complex, post office, market-complex, primary education school, drinking water taps, middle-level school and hospital. It is interesting to see that satisfactory levels are higher in public provisions like PDs, bank, road and electricity.

Table 12: Distance from the Residence to Various Community Amenities (km) (% of PAFs)

Amenities	Before Displacement						After Displacement					
	£ 0.1 km	1.1–3 km	3.1–5.0 km	5.1–10.0 km	> 10.0	All	£ 0.1	1.1–3.0 km	3.1–5.0 km	5.1–10.0	> 10.0	All
Hospital	70	21.3	1.3	5	2.5	100	47.7	34.1	11.4	2.3	4.5	100
Primary education	75	17.5	2.5	3.8	1.3	100	53	33.7	8.4	3.6	1.2	100
Middle school education	72.2	21.5	1.3	2.5	2.5	100	58.4	28.6	7.8	5.2	0	100
Drinking water	87.1	9.7	0	0	3.2	100	72.7	21.2	6.1	0	0	100
Market	78	15.3	0	5.1	1.7	100	66.2	28.2	4.2	1.4	0	100
Road connectivity	90.3	6.5	1.6	0	1.6	100	77.8	15.9	4.8	0	1.6	100
Inner road	93.4	3.3	0	0	3.3	100	81	10.3	5.2	0	3.4	100
Workplace	87.5	9.4	0	0	3.1	100	61.8	17.6	5.9	5.9	8.8	100
Post office	66.7	23.6	1.4	2.8	5.6	100	44.2	42.9	11.7	0	1.3	100
Bank/micro finance	70.4	21.1	2.8	1.4	4.2	100	58.9	26	11	1.4	2.7	100
Neighbouring shop	85.9	12.5	0	0	1.6	100	68.9	24.6	4.9	0	1.6	100
Shop for agri. inputs	84.8	12.1	0	1.5	1.5	100	73.8	20	4.6	0	1.5	100
PDS/ration shop	83.6	11.5	1.6	1.6	1.6	100	77.8	15.9	4.8	1.6	0	100
PCO	85.5	10.9	0	1.8	1.8	100	72.5	15.7	9.8	0	2	100

Source: Field survey results conducted by the author.

Table 13: Satisfactory Levels of PAFs about the Community Amenities Before and After Rehabilitation (% of the households)

Sl. No.	Public Amenities	Before Rehabilitation				After Rehabilitation			
		More Satisfied	Moderately Satisfied	Not Satisfied	All	More Satisfied	Moderately Satisfied	Not Satisfied	All
1	PCO	14.8	53.1	27.1	100	16.4	59.0	24.6	100
2	PDS/ration shop	14.8	50.1	30.7	100	16.4	55.7	27.9	100
3	Bank/micro finance	17.1	47.2	31.5	100	19.0	52.4	28.6	100
4	Neighbouring shop	15.9	46.4	33.7	100	17.7	51.6	30.6	100
5	Road connectivity	20.5	41.0	34.8	100	22.8	45.6	31.6	100
6	Inner road	22.1	39.1	35.3	100	24.5	43.4	32.1	100
7	Sanitation	15.8	45.0	35.8	100	17.5	50.0	32.5	100
8	Electricity	18.4	41.7	36.6	100	20.4	46.3	33.3	100
9	Workplace	21.0	37.7	38.4	100	23.3	41.9	34.9	100
10	Post office	17.6	40.1	39.3	100	19.6	44.6	35.7	100
11	Market	17.7	36.8	43.3	100	19.7	40.9	39.4	100
12	Primary education	13.4	36.3	49.3	100	14.9	40.3	44.8	100
13	Drinking water	19.4	27.7	52.5	100	21.5	30.8	47.7	100
14	Middle school	21.1	25.3	53.2	100	23.4	28.1	48.4	100
15	Hospital	9.1	33.9	57.4	100	10.1	37.7	52.2	100
16	Average	17.2	40.1	39.9	100	19.1	44.6	36.3	100

Source: Field survey results conducted by the author.

Educational Institutions, Hospital and Post-office

About 55 per cent of the PAFs were satisfied with the primary education facilities available after rehabilitation. Fifteen per cent of them are more satisfied, 40 per cent are moderately satisfied and 45 per cent are not satisfied in NTT.

The quality of education in terms of infrastructure like building, playground, other facilities like sanitation, drinking water, ventilation, furniture, etc. has improved a lot in the newly constructed schools in NTT. The accessibility to the school from their houses is also made easy with the road network developed by the THDC where that was absent in the previous locations even though distance was little higher, they are now able to reach school in less time than earlier.

Three fourths of PAFs were residing in less than 1 km from the middle school before rehabilitation in OTT. The proportion has come down to three fifths after rehabilitation in NTT. About half of the PAFs were satisfied with

the middle-school education available in the rehabilitation sites. About 23 per cent of the PAFs were highly satisfied, 28 per cent were moderately satisfied and 48 per cent were not satisfied.

The distance to hospital from house is less than 1 km for about 70 per cent of the PAFs, less than 3 km for about 21 per cent of PAFs before rehabilitation. Whereas after rehabilitation, the distance between house and hospital was below 1 km for about 48 per cent of the PAFs, up to 3 km for about 34 per cent of PAFs and above 3 km radius for 18 per cent of PAFs. Due to improved transport facilities and good roads, most of the resettlers feel that the time consumed in travelling between house and hospital has been reduced significantly. About half of the sample is satisfied with the medical facilities, with 10 per cent were highly satisfied, 38 per cent were moderately satisfied and 52 per cent were not satisfied after rehabilitation. In NTT, quality medical care is made available as the THDC constructed hospitals/primary health centres within their rehabilitated colonies.

About 90 per cent of the PAFs have the access to post office within a radius of 3 km before and after displacement. About two third of the PAFs were satisfied with access to the post office facilities. About 20 per cent were highly satisfied, 45 per cent were moderately satisfied and 35 per cent were not satisfied.

Electricity and Sanitation

From Table 13, it was observed that about two thirds of the PAFs were satisfied with the electricity connections and uninterrupted power supply. On an average, the number of hours of power supply has increased from 13 hours a day to 18 hours a day. About two third of the PAFs were satisfied with the sanitation facilities in the resettlement locations.

Roads, Drinking Water, Markets and Work Space

The network of inner roads as well as the main roads is well laid and maintained in rehabilitated locations when compared with old habitation. Two thirds of the urban PAFs are satisfied with the roads laid by the THDC after rehabilitation. Most of the sample households in urban colonies were provided with safe drinking water within a radius of 1 km during before and after replacement. About half of the urban rehabilitated sample households are satisfied with the safe drinking water facility provided by the THDC. Among the urban PAFs, three fourth were residing in less than 1 km distance from the market before rehabilitation, whereas the proportion has come down to two thirds after rehabilitation. However, many respondents informed us that after rehabilitation improvement in transport facilities has reduced travel time to reach markets. Around three fifths of the PAFs were satisfied with the market facilities available in urban areas. Among PAFs, about 88 per cent were residing within 1 km distance from the workplace before rehabilitation, whereas the proportion has come down to two thirds after

rehabilitation. These figures indicate that distance for market, work place and other economic activity centres has come down after rehabilitation, in addition to the better roads and transport facilities.

Banks, Neighbourhood Shops and Ration Shop

Among the urban sample, around 70 per cent were residing less than 1 km from banks/micro finance institutions before rehabilitation, whereas the proportion has come down to 60 per cent after rehabilitation. Around two thirds of the sample households were satisfied with the availability of credit and facilities provided by banks/micro finance institutions. Around 86 per cent were residing within 1 km from their neighbourhood shop before rehabilitation, whereas the proportion has come down to 69 per cent after rehabilitation. Around two thirds of the sample households were satisfied with the neighbourhood shop after rehabilitation. About four fifth were residing within 1 km from the PDS/ration shop before and after rehabilitation. About three fourths of the sample households were satisfied with the PDS/ration shop.

Social Disarticulation to Networks and Community Rebuilding

In this section, the article examined the social harmony, general satisfaction levels of the resettlers in the new habitation, law and order, friendliness of host population, reasons for less satisfaction, reasons for unwillingness to shift to new location and suggestions for improvement. About 83 per cent of households informed that the religious places like temples/mosques/gurudwara in the colonies are convenient to reach and well-constructed as per their religious feelings. There were no religious conflicts among resettlers. However, some opine that large sums have been spent on religious places for construction of huge structures and many of the temples are with very few footfalls.

PAFs were to a large extent cooperated with the government in identifying residential locations, locations for shops and other amenities. However, many are also not aware of the components of rehabilitation and resettlement package for different categories of households. Hence while planning the R&R policies implementation, it is important to sensitise the PAFs the benefits of the project to the country at macro-level and the compensation they get in return through awareness programmes. As expected most of the PAFs do not like the new place, when compared to the previous place as for generations together they are attached to the old places. Only 36 per cent of rehabilitated PAFs in urban settlements reported that they like the new resettlement sites compared to their earlier place of living and only about 26 per cent of PAFs mentioned that they were satisfied with the facilities available at the new places (Table 14).

It is interesting that about 84 per cent of the PAFs done several visits to new habitations and negotiated with local inhabitants regarding the livelihoods. About

Table 14: Overall Opinion of PAFs about NTT

Opinion	Whether the Household Liked the New Place	Households Satisfied with Facilities
Yes	35.9	25.5
No	64.1	74.5

Source: Field survey results conducted by the author.

Table 15: Procedures Followed in Transfer of Assets

Opinion	Household Negotiated with Old Habitants Before Shifting	Attitude of the Habitants on the New Area Is Positive	New Habitation Friendly	After Completion of Necessary Legal Formalities the Corporation Has Possessed Your Old Assets	After Legal Formalities, the Household Handed over Your Assets to THDC	THDC Has Transferred the Assets Legally on Your Family Name
Yes	83.8	89.4	41.8	93.3	74.7	68.0
No	16.2	10.6	58.2	6.7	25.3	32.0

Source: Field survey results conducted by the author.

89 per cent of the households have positive opinion about the new habitation. About 42 per cent of PAFs mentioned that the new habitations are friendly for living. About the timeliness of handing over properties and compensation by THDC/state government after completion of necessary legal formalities, 93 per cent of households responded positively. However, about 25 per cent of households did not handover their assets to THDC. This led to delays in transfer of the new assets legally to the resettlers name. About 68 per cent of households got legally transferred assets before cut-off date (Table 15). In some cases there was delay up to ten years in transferring the assets to PAFs name from the THDC, due to many formalities and government procedures.

As a policy of rehabilitation, THDC offered employment in the corporation/ government irrigation department. About 17 per cent of PAFs reported that their family members are working either in THDC or irrigation department (Table 16). Rehabilitation policy was uniform among all the oustees, irrespective of their skills, occupation, etc. Hence many of the PAFs were of the opinion that assistance provided was not based on the households requirements, skills and the needs.

Only 42 per cent of the PAFs were of the opinion that assistance provided was based on the skills and needs of households and the remaining 58 per cent of PAFs opinioned otherwise. Most of the PAFs were of the opinion that more emphasis would have been given in creation of employment opportunities. Majority of the PAFs (69%) were of the opinion that they were consulted before the rehabilitation by the authorities. About half of the PAFs also expressed their unwillingness to shift to new resettlement areas due to lack of employment and business opportunities in new settlements, lack of supporting services and amenities. However, about

Table 16: Grievance Redressal Machinery

Opinion	Family Members Are Working in THDC	Assistance Provided Based on Skills and Needs of Households	Before Replacement the Consultation Has Been Taken Place by the Authorities	Household Satisfied with the Assistance Given by THDC	Households' Preparedness to Shift to the New Place	Grievances Redressal Machinery Is Helpful in Solving the Problem and Replacement
Yes	17.1	41.8	69.4	29.1	49.5	65
No	82.9	58.2	30.6	70.0	50.5	35

Source: Field survey results conducted by the author.

Table 17: If Not Satisfied with THDC, What Are the Reasons?

Reason	% of PAFs
Less compensation	26.7
Market opportunities are not good	9.3
Business opportunities are not good	7.3
No employment opportunities	4.7
Facilities are not good	4.7
Transport is not good	2.7

Source: Field survey results conducted by the author.

Table 18: Reasons for Unwillingness to Shift to the New Place

Reason	% of PAFs
Lack of community amenities	49.0
Lack of employment opportunities	25.5
Lack of business opportunities	25.5
Total	100.0

Source: Field survey results conducted by the author.

65 per cent of resettlers expressed that grievance redressal machinery is helpful in solving the problems in replacement. The PAFs were expecting huge rehabilitation packages. Though the R&R package was attractive when compared to other similar projects, about 27 per cent of PAFs consider the package offered by THDC was less (Table 17). The main reasons for dissatisfaction were less compensation; less market and business opportunities in new location. The PAFs who did not shift immediately to relocated sites mentioned that they are not shifted due to lack of community amenities (49%), lack of employment (25%) and business opportunities (25%) (Table 18).

Suggestions of PAFs for Improvement in Rehabilitation Package

When enquired about the suggestions/comments, the households expressed improvements in facilities are required. General problems faced at rehabilitated sites and suggestions for the problems have been given in Table 19. The common problems faced in urban resettlement areas are drinking water (37%), unemployment (27%), less and delayed compensation (24%), public transport (17%), lack of business and market opportunities (15%), not connected to other places and lack of transport facilities. In NTT, most of the PAFs reported no disputes with the other people and there is a consultation mechanism exists for dispute resolution.

Summary and Conclusion

Given the importance of increasing urban rehabilitation, the article examined the past experience in the urban rehabilitation by taking example of 'NTT'. The completion of multipurpose Tehri dam project was a landmark achievement in the history of river valley projects in India. The rehabilitation and resettlement works carried out in Tehri project have been on a massive scale. Under R&R package,

Table 19: Suggestions/Comments Made by the Respondents (% of PAFs)

Suggestions	Urban Respondents
Drinking water facilities to be improved	37.3
Employment opportunities declined to be improved	27.3
Compensation low and delayed payments	24.0
Public transport to be strengthened	17.3
Business declined in current location	14.7
Hospital/medical facilities are far away	11.3
Electricity to be uninterrupted	11.3
Education facilities to be improved	8.7
Metallic inner roads to be repaired	7.3
Drainage facilities to be improved in flood-affected areas	5.3
Parks for children are not maintained	4.0
Sanitation facilities to be improved	3.3
Post office is far away	3.3
Function hall is far away	2.7
Bank facilities to be improved	2.0
Recreation facilities like cinema halls are far away	2.0

Source: Field survey results conducted by the author.

completely a new town 'NTT' was constructed to resettle the habitants of the 'OTT' which was submerged under the reservoir. This article examined the R&R policies and its impacts on resettlers in NTT.

The field survey has been designed based on IRR model, which assesses the intrinsic risks that cause impoverishment through displacement, as well as the effectiveness of rehabilitation policy to counteract-eliminate or mitigate—these risks through rehabilitation and resettlement. The sample of the households was drawn using two-stage sampling procedure. In the first stage, the wards in NTT were selected and at the second stage households were selected. A total of 150 households were along with 20 institutional respondents in NTT.

The level of education of persons increased marginally among all project-affected persons (PAPs) after rehabilitation because most of the resettlement sites in NTT and also THDC/GoUK taken initiatives in establishing schools within reach for all households. The quality of education in terms of infrastructure like building, playground, other facilities like sanitation, drinking water, ventilation, furniture, etc. has improved a lot in the newly constructed rehabilitated colonies.

The number of land owners having land up to 0.5 acres was increased significantly after rehabilitation and the current market price of their land is significantly higher when compared with the old land. Employment and income levels have been increased significantly due to the PAPs rehabilitated closed to urban areas are benefited by constructed shops, cultivating vegetables, fruits, flowers, etc. in their allotted land. In addition to that they had a chance to get work in industries, service, transport and other sectors, which are available in cities only. The THDC has given a one-room flat to the economically weaker landless oustees at free of cost in the rehabilitated area. Most of the PAPs were constructed their houses in a modern way with sophisticated furnishings. The number of households staying in the cement/pukka houses was increased significantly after rehabilitation. The household appliances like radio, TV and vehicles have increased a lot after rehabilitation. PAFs got compensated for land, house, shops, trees and assets based on market rates prevailing at the time of rehabilitation. Apart from this, they have received various allowances/incentives for shifting, for construction of house, for decoration of house, for food, for fertiliser and seeds, etc.

Expenditure on food has increased significantly. There is diversified consumption pattern evolved with fruits, vegetables, milk and ready to cook foods having increased their share in food basket both in rural and urban areas. The THDC gave much importance to the health care by constructing hospitals, primary health care centres and dispensaries wherever necessary. The road network of the rehabilitated colonies is also helped in reaching the patients to the health care centres in time, which leads in decrease the rate of mortality and morbidity. The share of income spends on health increased significantly in overall expenditure across all income groups both in urban and rural PAFs.

The other civic amenities like safe drinking water, sanitation and the other community infrastructure developed by the THDC created healthy atmosphere in the rehabilitated sites leads to improvement in the living conditions of the PAPs when compared with the areas where they have stayed earlier.

The expenditure incurred on vehicles, transport and entertainment has increased significantly. These expenditure categories are at the higher hierarchy of human needs, which indicates most the PAPs are at higher hierarchy of human needs and socio-economic development.

Majority of the sample households were satisfied with the uninterrupted power supply and the number of hours of power supply has been increased tremendously the after rehabilitation.

Most of the respondents expressed that there is no discrimination, no violence, no restrictions against women and they are participating actively in social and economic life at their newly developed rehabilitated locations. The socio-economic profile of the women after displacement in terms of status in town and at home has been increased significantly. Source of income and employment of women in traditional activities has been decreased marginally, but other employment opportunities and educational facilities for women increased significantly as they moved to sub-urban and urban areas when compared to their previous locations which are mostly remote and lack any employment opportunities for women.

Major Areas of Dissatisfaction of the People

- Ownership of allotted houses in tin-shed should be transferred to the people. Tin-shed colonies to be improved with basic amenities, schools and children park.
- Employment opportunities to be increased by encouraging local resource-based small-scale industries.
- The cost of living has been increased and there is a need for effective PDS.
- Tax incentives to be given for shop owners/small industrial units.
- Poor grievance redressal system.
- Very long and cumbersome procedures for compensation allotment.
- Cases are still pending in THDC.
- Business opportunities are low when compared to OTT.
- Major government offices are scattered very far away.
- Tehri Dam reservoir to be used in many ways to reduce drinking water scarcity, employment through large-scale fishing, boating tourism, etc.
- Provided shops in unsuitable locality/place and so creating hurdle in business.

Recommendations

- The PAPs especially educated youth and women should be provided training on entrepreneurship other development activities in the areas like dairy, poultry, goat rearing, bee keeping, sericulture, aquaculture, mushroom cultivation, food processing, establishment of nurseries, seed storage, fodder plantation, vermiculture, medicinal plants and cottage industries which leads to employment generation and sustainable economic development of the region.

- Provide training and counselling on maximum utilisation of the existing available local resources with minimum expenditure.
- The youth of NTT can be trained as tourist guides because the dam has more potential to grow as tourist place.
- The NTT has more potential to grow as tourist place. So the THDC can establish linkages with various tourism development corporations/agencies to develop tourism in the area. This can lead to the creation of more employment in sectors like business, transport and other services for youth of NTT.
- Some of the PAPs are facing the problem with the safe drinking water. It would be ideal if the THDC can do alternative arrangements like digging tube wells, construct overhead water tanks with pipelines wherever necessary to overcome the problem.
- Existing grievance redressal mechanism is functioning need to be further strengthened by including independent experts for periodical review.

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