

## **Socio economic impact of subarnarekha irrigation project on women in Mayurbhanj district of Odisha**

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**Abstract:** *Displacement existed from the ancient times but has become a human rights issue today because of alarming proportions it assumed in the colonial era. The number of displaced person is big and their rehabilitation is poor. General perception is that development raises the standard of living through economic growth and improved services but several studies and experience in recent decade shows that benefits don't reach every class. On the contrary some classes pay the price of the benefit that other class get. One of its reasons is that development projects require a huge land area. Many of these areas are inhabited by tribals and other rural poor classes whom the project forces to sacrifice their subsistence in the name of national development. In this transition women pay a highest price of development especially among the disadvantage. The present study attempts to assess the socio- economic and other human impacts of Subarnarekha irrigation Project on women in Mayurbhanj district of Odisha. The paper highlights that displacement deprives the women from the land and forest. Her social and economic status deteriorates with the loss of the resources on which her social status depended. As a result, the nutritional and health status of women in particular deteriorated and beside it their hygienic did not address by the project authorises. The study also reveals that the patta is made in the name of the head of the family and they are deprived of the resource and are rendered powerless. The paper also argue that the policy makers are meticulous in planning the financial and technical aspects of the project but little effort to get a clear idea of the people affected by it or to plan their resettlement. When resettlement is planned, the specificity of the problems faced by the women is ignored.*

**Keywords:** Rehabilitation & Resettlement, Gender impact, Irrigation Project, Person displaced and Sustainable livelihood.

### **Introduction**

Displacement existed from the ancient times but has become a human rights issue today because of alarming proportions it assumed in the colonial era. The number of displaced person is big and their rehabilitation is poor. Development as increasing wealth and income, a higher standard of living, improved technology and industrial progress by creating incentives for investments. Its creation is the GNP and economic growth. It realise heavily on capital investment and advance technology to harness existing natural and human resources. Land is the basic to these projects and usually the state provide it to the executing agencies through compulsory acquisition. Such acquisition displaced people from their habitats and subsistence. General perception is that development raises the standard of living through economic growth and improved services but

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several studies and experience in recent decade shows that benefits don't reach every class. On the contrary some classes pay the price of the benefit that other class get. One of its reasons is that development projects require a huge land area. Many of these areas are inhabited by tribal and other rural poor classes whom the project forces to sacrifice their subsistence in the name of national development. In this transition women pay a highest price of development especially among the disadvantage.

The impact of alienation on the DP (Person displaced) and PAP (Project affected person) in the form of cumulative inequality. The impact of most of them has declined but by and large the situation of tribal's and women is worse than that of others. Unlike in some other states Odisha does not show signs of a bias against them in resettlement because very few projects have resettled their DP. However, their educational and social status is witness to discrimination in access to these and other services. Their deprivation intensifies the social bias against them. In every case women suffer the most. They experienced more problems than men of their community did. The problem continued after the livelihood alienation. It is found that very few women get permanent jobs. The study also shows that very few women get permanent jobs. Women suffer more than men do because of the poor quality of facility like drinking water and poor transport. Some women spoke of overwork but most of them complained about lack of work. With no alternative to the land lost they have to depend on unskilled daily wage work but are discriminated against even in this. Many of them mentioned the financial issues of low wages as the main problem women face but very few spoke of problems like fuel wood and water shortage that belong to women's domain. Many women complained of physical assault. Besides because of low income and malnutrition in health emergency girls tends to be neglected more than boys. While building rehabilitation colonies the project authorities do not attend to women's hygienic and other needs. Since Indian culture demands greater privacy of women than of men, they are forced to use common spaces in the neighbourhood that the villagers often reserve for purpose such as grazing. Many men resort to drinking as coping mechanism for dealing with the trauma of forced displacement or of the encounter with the new society.

### **Review of Literature**

In India alone, the development projects have displaced roughly 60 million people in the last 60 years. Out of the 60 million people displaced, 75% are *adivasis* and 25% are *Dalits* (Fernandes, 2008). Displacement deprives people from many things. It robs them from their lives and livelihoods such as lands, homes and productive assets to which their skills and practices are accustomed, community networks and a sense of local belonging. While displacement affects all, it is more severe for women than men, irrespective of caste, class, religion and region. Everywhere women bear the brunt of the forced move a lot more than their male counterparts (Mehta, 2009). While there is an overall negative impact on the poor, women and female children, they are more affected due to intra-household inequalities that already exist in the levels of literacy, health, nutrition etc. These disparities are accentuated at the times of economic stress (Sen, 1981).

The gender inequalities that endured before displacement get accentuated in some form or the other, among various social inequalities created by developmental processes (Kabeer, 1994). Moreover, the loss of forests and common property resources leads to the scarcity of minor forest produce and fuel wood, and destabilises women's income and relative social status. Mechanization, an inseparable part of industrial development projects, also has an impact on women. It has only intensified women's unemployment [Lahiri-Dutt, 2001; Fernandes, 2007].

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Moreover, the employments generated by the projects have hazardous working conditions, provide low wages, and are without job security. Hence they push more and more women into the informal sector (Lahiri-Dutt, 2001). Along with economic loss, it has directly and indirectly affected women's health, their food security and status in society.

### **Methodology**

#### **Objectives of the Study**

Looking various aspects of socio-economic impact of Subarnarekha Irrigation Project on women, a study was required to understand the present scenario i.e. how far and to what extent it affect the women and the government interventions on rehabilitation and resettlement for displaced person. In addition to it, the study also tries to understand the status of women before and after the project. There are various explicit and implicit factors related to this issue. With this backdrop, the objectives of the study had been stated more precisely as follows:

1. To understand the socio-economic and other human impacts of Subarnarekha Irrigation Project on affected women.
2. To know the steps taken by the government on rehabilitation and resettlement towards the displaced community especially women.
3. To study the status of women before and after the project and their expectation.

#### **Data Collection Process and Sources**

The study involves both formal and informal interaction with the individual displaced community, focused group discussion with the affected women and interview schedule were used for data collection. Both qualitative and quantitative data were obtained from different section of tribal community. Informal interactions with the staff of Subarnarekha Irrigation Project staff, village people, three village sarpanch and member of women SHG helped us to understand the extent of impact in their livelihood and their day to day life due to the project and getting further information regarding government compensation policy for displaced community especially women.

#### **Sampling Method and Sample Size**

To calculate socio economic impact of Subarnarekha Irrigation Project on women, 150 households were chosen out of 339 household from Nagasole and Rangamatia villages of Suliapada block in Mayurbhanj district. Again from 150 household 300 samples has been taken from two villages. Suliapada block is situated 25 km from district headquarter and the study villages are nearly 18 km and 22 km far from the district headquarter. For this stratified and random sampling methods were used. First, all the study families in the two villages were stratified into two category based on fully affected and partly affected has been taken as the basis for the stratification. Then samples were randomly taken from each of the divisions.

Sample size was based upon the proportion of the stratum in the two villages. From each sample, data related to quality of work, compensation in terms of money and kind, employment availability, other amenities for women from various sources was taken. For informal interactions and focused group discussions, no sampling techniques were applied. They were done with the available people at that time. The data collected were tabulated and used to draw inferences. No significance test was conducted. However, more importantly the intensive interview provided deep insights and these were used as reinforcements to conclusions.

### Background of the Study Area

Mayurbhanj is the largest district of Orissa in terms of area and area under forest. The district is coming under schedule fifth area dominated by different tribal community. The study block Suliapada is one of the most backward tribal blocks in the district having 45% of the total population are schedule tribe. The block receives least rainfall in the district. So the agriculture farmers are practicing single crop (Paddy) in a year. Illiteracy, inadequate health facility and alcoholism are the prominent development issue in the block. Malaria is one of the fatal diseases which are taking many lives in this block. Villagers in the project area are mainly marginal farmers or land less people engaged in marginal farming, wage labour, Sal leaf collection and sabai rope making work which fetch them a minimum earning for their life. As per the socio economic survey conducted by OUAT, Bhubaneswar there are 207 household in Nagasole and 132 household in Rangamatia village (Table 1). The village Rangamatia is dominated by ST community and mostly belongs to Santali, Bhumija and Mohanta. The people are very simple and innocent. 65% of the total population live at the interior villages. Their way of living and daily life style is quite amazing for the outsider. Small and thatched house is the peculiar features of the poor community.

**Table 1: Social Stratification of the Study Village**

Sl. No	Name of Village	ST	SC	Others	Total
1	Nagasole	0	0	207	207
2	Rangamatia	128	0	4	132
	<b>Total</b>	<b>128</b>	<b>0</b>	<b>211</b>	<b>339</b>

**Source:** Field study

### Subarnarekha Irrigation Project: An overview

The Subarnarekha Irrigation Project is the outcome of a tripartite agreement among the co-basin states of erstwhile Jharkhand, Odisha and West Bengal in the year 1978 to utilize the Odisha's share of Subarnarekha water to the extent of 1409 Mcum allocated under the agreement to irrigate 1,09,627 ha of agricultural land in the district of Mayurbhanj and Balasore.

It was established with a mission to take necessary action to increase the extent of irrigation area in the Districts of Mayurbhanj, Keonjhar, Balasore and Bhadrak by construction of Major & Medium Irrigation Projects Utilisation of various external assistance and loan for execution of new Projects renovation of old canal system in order to stabilize the existing ayacut & creation of additional ayacut in the completed Projects to provide technical & financial sanction and quick disposal of official matters to achieve the target of Government. But, as per subsequent decision of Government, this organization is now assigned to execute Subarnarekha Irrigation Project, Deo Medium Irrigation Project and maintenance of all medium Irrigation Projects in Mayurbhanj districts.

### Submergence in Subarnarekha Irrigation Project

The submergence in Subarnarekha Irrigation Project in Odisha is due to three number of command area storage reservoirs namely Haladia, Jambhira, Baura and Iccha reservoir in Jharkhand state. A total of 109 numbers of Villages get affected with submergence area of 8596 Ha on account of construction of the command area reservoirs in Odisha and Jharkhand. For resettlement of displaced families of 3 reservoirs namely Haladia, Jambhira and Baura, Rehabilitation Advisory Committee (R.A.C) had been constituted by irrigation and Power

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Department. Previously 74 relocation sites were identified for accommodation of 5527 oustees of affected villages. The Rehabilitation Advisory committee has been redesignated as Rehabilitation and periphery Development Advisory committee (RPDAC) with an objective of giving more important to the post resettlement status of the oustees and ensure better living in the resettled houses than their old habitat. The following is the project wise details position of affected families under different reservoirs.

**Table 2: Details of Villages and Families Affected Due to Project Area As Given Below**

Sl. No	Features	Haladia	Jambhira	Baura	Iccha in (Odisha)	Total
1	Fully	1	14	6	3	24
2	Partly	9	11	16	4	40
3	Agriculture land only	6	10	0	29	45
	<b>Total</b>	<b>16</b>	<b>35</b>	<b>22</b>	<b>36</b>	<b>109</b>

**Source:** Subarnarekha Irrigation Project office, Laxmiposi, Baripada

**Table 3: Details of Villages, Families and Population affected due to Project**

Sl.No	Description	Haladia	Jambhira	Baura	Iccha in (Odisha)	Total
1	No of Villages	16	35	22	36	109
2	No of Families	615	2567	2032	2830	8044
	<b>Population</b>	<b>1629</b>	<b>6672</b>	<b>5474</b>	<b>9653</b>	<b>23428</b>

**Source:** Subarnarekha Irrigation Project office, Laxmiposi, Baripada

The project will affect about 16 villages inside Haladia Reservoir, 35 villages in Jambhira Reservoir, 22 villages in Baura and 36 in Iccha Reservoir (Table 2). The socio economic survey is a pre condition for making the Resettlement and rehabilitation plan. In order to know the quantum of loss of the people in the submerging area, human lives, cattle stock, household belongings and community centres in the village, it is essential that SES should be done with utmost care and caution. Accordingly, the agriculture Consultancy Support service Cell, OUAT, Bhubaneswar, a non government organisation conducted the socio economic survey of 14 villages under Jambhira reservoir, 16 villages under Haladia Reservoir, 10 villages under Iccha Reservoir and 11 village under Subarnarekha main canal and identified 1532 displaced families. Further the agency has conducted survey of affected families having land loss above 75% and below 75% in the reservoir and SMC area. 57 cases have been identified as encroached, 29 in Jambhira reservoirs and 28 in Haladia reservoirs area. After socio economic survey 830 families have been finalised as DF 118 under Jambhira Reservoir, 480 under Haladia reservoirs, 128 under Iccha reservoirs and 104 under Subarnarekha Main Canal. Out of the above 830 cases, 118 cases under Jambhira reservoirs for Dhadipada village, 112 cases under Haladia reservoirs cases under SMC are being placed before the 3<sup>rd</sup> RPDAC for approval.

### **Some Major Finding: Socio Economic Impact of the project on Women**

The study finds that there is negative impact of the project where women and children feel it more than the others do. The lower the social stratum they belong to, the greater the impact. It takes the form of higher joblessness, greater malnutrition and deterioration in their social status. Its first impact is seen in children's lower access to schools since most affected community are subalterns.

### The Gender Impact on the Occupation

Sal leaf collection and rope making is the traditional livelihood of the people in the study area. Apart from that agriculture plays a crucial role in their daily life and still another source of livelihood for them but most of them are landless or land having no patta. Those who have no land either taking lease from other. The payment for the lease of land sometimes in terms of money or share from production. So the agriculture farmers prefer to work in his/her land by the help of their family. Livestock holding is an important indicator for savings and coping up mechanism. Large livestock holdings represent a substantial status of the people, while the small stock (poultry birds and goat) population indicates an important role in the cash economy of the village. 90 percent of the people having domestic animals such as bullock, goat and hens. They keep bullock especially for agriculture purpose.

The occupation after the displacement has changed drastically. From the forest based livelihood to wage labour make their life more miserable. Women are suffering most as they are unskilled and not habituated with manual labour. In addition to that the wage rate is comparatively low in relation with male worker. It study found that after displacement the village people diverse their occupation without getting alternative. Nearly 43 percent continued to depend on agriculture and 32 percent depends on daily wage labour (Table 4). Agriculture and daily wage are the priority occupation in case of women also.

**Table 4: Gender Wise Occupation Details in the Study Village**

Village	Nagasole		Rangamatia		Total	Percentage
	M	F	M	F		
Agriculture	25	67	12	27	131	43.67
Home Based Workers	0	6	1	1	8	2.67
Daily Wage Earners	30	35	11	20	96	32.00
Domestic Workers	1	7	0	13	21	7.00
Business	3	0	0	0	3	1.00
Salaried Government	2	0	0	0	2	0.67
Salaried Private	9	0	2	2	13	4.33
Unemployed	6	5	4	3	18	6.00
Others	4	0	0	4	8	2.67
<b>Total</b>	<b>80</b>	<b>120</b>	<b>30</b>	<b>70</b>	<b>300</b>	<b>100</b>

Source: Field Survey

### The Gender Impact on the Employment

The study shows that changes have by and large resolute in their reduced access to work. Many land losers have become unskilled daily wage earners. Their situation is worse than that of the landless agriculture labours who are exploited but have regular work on land belonging to someone else. But daily wage earners have to search for work every day, so they live in greater insecurity. That often forces men to be away from the family for days on end. So women have to do also their share in running the family. From the table it clearly shows that availability of employment before the project is better. 68% of the sample from Nagasole village expressed that scope of employment is much higher whereas 80% of the displaced people from village Rangamatia are facing problem to get job after the project (Table-5).

**Table 5: Employment Availability Before and After Project**

Village Name	Before Project		After Project	
	Yes	%	Yes	%
Nagasole	136	68	64	32
Rangamatia	80	80	20	20

**Source:** Field Survey

There is a time lag between displacement and resettlement. Most projects do not have a rehabilitation package, so their DP-PAPs experience permanent alienation of their livelihood without alternatives. Article-29 on every citizen's right to a life with dignity would put on the project the obligation of ensuring that DP-PAP access to a good life style. That may demand then they get project benefit, particularly in the form of permanent jobs.

### Quality of work

Displaced community perception on the quality of work, type and the working condition before and after the deprivation. Table 2 shows that out of 300 responds 212 (71.67) said that its quality had deteriorated. 28 (9%) express that it had improved and 60 (19.33) felt that it had remain unchanged. 60 of those who thinks that it has remain same (Table 6).

**Table 6: Quality of Work after Deprivation of Livelihood**

Village name	Better	%	Worse	%	Same	%	Sample	%
Nagasole	20	10	137	68.66	43	21.34	200	100
Rangamatia	8	8	75	74.66	17	17.34	100	100
<b>Total</b>	<b>28</b>	<b>9</b>	<b>212</b>	<b>71.67</b>	<b>60</b>	<b>19.33</b>	<b>300</b>	<b>100</b>

**Source:** Field Survey

That a very high proportion of the DP/PAP think that their situation is worse than in the past is not surprising. It shows a large number of the DP/PAP have shifted from cultivation or occupation as artisan or other services to daily wages.

### The Gender Impact on the Facility from the Project

Many projects are justified in the name of improvement of facility required for national development. That makes sense if those who pay their price get their benefit like jobs and other services. So the DP/PAP was asked about the existence and quality of facility like electricity, market, health care and irrigation. Women feel the negative impact more than adults do. One see it in higher incidence of some disease among girls and women that boys and men. The section will look at the overall impact of displacement and deprivation on women and children.

Women suffer negative impact more than men do. Their literacy level and access to employment are low. Rural women work on their land and generate an income from the CPR. With land loss they lose also the source of their work, income and status. However their role of maintaining their family does not change. So they have to continue this role with the low income. Tribal women suffer more after losing their forest. From the study it reveals that 71 percent express that they have to migrate for job to other state or district Table 7. There is a huge gap in ensuring the basic facility like drinking water and toilet for displaced community. In case of firewood collection women face more hardship as they have to go fare place to collect and 54

percent of the total sample women are not get enough food for survival and are underfeed Table 7.

**Table 7: Impact on women by sex of respondents**

S.No	Impact	Better	%	Worse	%	Same	%	Sample	%
1	Have to work outside	36	12	213	71	51	17	300	100
2	Not enough fire wood	87	29	197	65.66	16	5.34	300	100
3	Lack of toilet facility	22	7.33	260	86.67	18	6	300	100
4	Drinking water Problem	82	27.34	175	58.34	43	14.32	300	100
5	Less food for women	98	32.66	162	54	40	13.34	300	100

**Source:** Field survey

### **Compensation of the Family**

Once the livelihood is lost the project has to replace it. Compensation is one of its steps. Resettlement and other steps required for rehabilitation have to follow it. The study finds there are three components in compensation. First is the mode of using compensation. Since its quantum is inadequate and is often delayed, they have to look after themselves till they receive it. Decisions making on spending it has implications from the caste, class and gender perspective.

The commonest problem faced is financial and the debt burden resulting from it. Another common problem is food shortage since they have to buy food from the little money received as compensation. The delay in paying the compensation and in rehabilitating them makes it difficult for them to attend to these needs with no income. As the DPs are mostly from the unorganised sector agricultural labour, coolie, daily labours and small stall owners, eviction affected their lives and livelihood. Children lost out because they were evicted in the middle of the school examination that many of them had to give up. Some feared that they would have to stop their education as well and begin to think of becoming child labours to augment their family income. The condition of new born babies and of the mothers was the most pathetic.

### **Coping Mechanisms**

The study finds that there is a traumatic experience after displacement among women. A mode of coping with it is drunkenness. One of its results is rise in domestic violence. Both drinking and domestic violence existed before displacement but they increase enormously after displacement as a coping mechanism meant to deal with the trauma. It becomes a coping mechanism even of many women. Since they have no work, many of them spend their time gossiping or drinking as I had noticed even in the study village.

A second coping mechanism is internalisation of the dominant ideology. For example, influenced by the consumerist values that enter their area with the outsiders coming to the township, men spend much of their income on clothes and entertainment. Hence, even those who earn a higher monetary income than in the past leave women with a relatively little share of their salary to attend to their role in the family. Thus, women have to find economic alternatives in order to deal with the reality of catering to family needs with reduced resources. No doubt the project changes the economy of a village drastically. Village women who were used to a barter economy in which they played an important role have now to compete with the salaried class to buy food in the market with no control over its price. This combination of landlessness, joblessness and lack of exposure to the market economy reduces their access to food. Already before displacement, women did not have full rights over land and forests. But as long as they

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were community resources, they had some control over it. Displacement deprives them of this control and leaves them with very few resources to take its place. Malnutrition is one of its consequences.

Women too often internalise the dominant ideology as a coping mechanism. Most women are forced to take up unskilled daily wage jobs since they do not have other alternatives. Some men whom the project employs as maintenance staff in their offices do not want their wives to do domestic or other unskilled work because “it is against an office worker’s dignity to have his wife doing menial work”. Many women internalise the ideology of their place being in the kitchen and of not being intelligent enough for skilled work. It closes the vicious circle against them.

### **Recommendation on the Study**

The recommendations, which the study proposes, are based on the suggestions made by the respondents. Some of them are common to all the displaced community and others are specific to one. A point that stands out is the need for a process of reflection in each displaced communities in order to internalise the issue of gender justice. During interaction with the individual and group, it was reveal that

- Women should be given equal inheritance rights with men.
- The village council needs to be democratised by giving equal membership to women and giving legitimate rights of women.
- Education for Using One’s Power: Child labour and emigration of girl children as domestic helps has to be stopped by improving educational and income generation opportunities. On one side the project deprives of them of the possibility of finding alternatives and on the other the State run school deprives them of continuing education by denying them readmission in mid of the session.

Furthermore, it is not only necessary to identify, avoid and mitigate risks in each development project that entails displacement, but also to focus on benefits over and above compensation and rehabilitation for damages as well as benefit sharing arrangement. A prudent approach demands long term commitments, financial and institutional guarantees and the use of professional approach in dealing with the issues of social development of indigenous people. Constant monitoring by technically competent independent observers can go a long way in ensuring more effective resettlement and rehabilitation arrangements in case of the displaced families which can end up in not only restoring the pre-displaced living condition of the millions of displaced families but also in substantially bringing in improvement in their socio-economic condition in the post-project period.

### **Conclusion**

Through this study I had made an attempt to interface the socio economic impact of the Subarnarekha Irrigation project on woman. The interface has affected them at various levels and has facilitated changes in their lifestyle, some of them positive, others negative from women’s perspective. Most of the displaced women in the study area suffer its negative consequences more than others do. Even among them women pay a higher price than men do. This situation can be better understood when one realises that displacement and rehabilitation are not a one-time event but are a process that begins long before land is acquired and continues much after physical resettlement. Most of these problems begin from the first announcement of the project and continue for many years after resettlement.

These problems impinge more on the woman's sphere than on that of the man. It is an attack on the natural resources on which she depends to play her role as the family caretaker. The man can carry on for some more time, with his work in the social sphere. But restrictions are put on shifting cultivation and other sources of livelihood. These and other cultural changes that are introduced at this stage in the form of cutting trees and stealing result in insecurity that is felt primarily around this resource. It affects the woman's sphere more than that of men. This situation continues throughout the process of land take over and compensation and for many years after resettlement. Economically often it leads to impoverishment. Socially the woman's status deteriorates more than that of men.

To go into some details, compensation cannot be calculated according to the market principles. The people lose their whole livelihood, not merely individual assets. One has to move away from the principle of eminent domain that takes all the CPRs as State property. One has to recognise that the CPRs are the livelihood of poor displaced communities. As such they have a right to their replacement. The people have to be involved in the decision concerning the project and not merely in rehabilitation. Finally rehabilitation has to be total. Their CPRs have to be replaced, so also their community systems and cultural structures they need for survival. What is called rehabilitation today is in reality resettlement. It is physical relocation with or without other economic, social and cultural components. Rehabilitation is re-establishing the livelihood, culture and the remaining social inputs.

These issues are of importance to the displaced communities in general but of much greater relevance to women who have traditionally had a higher socio-economic status than their high caste sisters did. It depended on the partial control they exercised over the natural resources. That requires much investment to prepare them for the encounter with a different society. The cost of preparing them for it has to be built into the cost of the project. Some think that it may make the project economically nonviable. The current studies on rehabilitation show that it is not the case. Even if it were true, that would be no reason to exclude these costs because development is for the people, not merely for the profit of a few. An important part of such social investment has to be to help women in the transition from their informal to the formal economy. If this cost makes the project economically nonviable, then it is reason enough not to ignore it but to search for alternatives to the project.

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