Cost Benefit Analysis of Participatory Natural Resource Management: A study of watershed development initiative in Indian village

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Abstract

Following the Hanumanth Rao committee report Government of India initiated Watershed Development Programmes (WDPs) to improve and sustain productivity of the semiarid regions of the country at higher level. The aim of such initiatives are also to fulfill the needs of rural communities for food, fuel, fodder, and timber as majority of rural people are depending on the natural resource for their livelihood. WDPs are being given importance in the development plans for India and by donor agencies as they promote sustainable use of natural resources and improve the rural economy of India. This paper presents a social cost-benefit appraisal of a watershed development project in Rajasthan, India. The analysis has been done by the primary data collected from the *Bichhiwada* village and using Net Present Value (NPV), Benefit-Cost Ratio (BCR) and sensitivity analyses. The results show that if expected full benefits are realized, the benefits derived from the watershed project are quite high. The findings of this study suggest that watershed development projects initiated to improve the economy and ecology of India's dry and semiarid regions are economically viable and socially desirable.

Key words: Watershed Development, Net Present Value, Cost Benefit Analysis, Sensitivity Analysis

JEL classification: Q15, Q24, Q25, Q38

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1   Introduction

The under-productive use of natural resources is one of the major contributors to poverty in India. A vast majority of the rural poor depend on these natural resources for their livelihood. These areas are characterized by a large human and cattle population, which are continuously putting heavy pressure on the already fragile natural resource base for food, fodder, and fuel. Following the recommendation of the Hanumantha Rao committee, a watershed approach was adopted from April 1995 in India to implement all area development programmes (DPAP, DDP, and IWDP) and allowing utilization of 50 % of the Employment Assurance Scheme (EAS) fund for the development of the watershed. This watershed approach aims at a participatory process to improve the natural resource base and the living standard of the people who are depending on these resources. The watershed management approach includes an elaborate institutional mechanism to ensure people's participation consisting of formation of watershed association (WA) comprising of all adults residing with in watershed project area, involving formation of a watershed committee (WC) an executive body, consisting of 10- 12 nominated members by the WA from among the user groups, self-help groups (SHGs), Gram-Panchayat, Watershed Development Team (WDT), Women, Schedule Caste and Schedule Tribes. It also stipulates selection of Project Implementing Agency (PIA), which could be either DRDA/ZP or other department, voluntary organization, autonomous organization etc. The Watershed Development Team (WDT) assists the PIA in providing technical assistance to the Watershed Committee.

Management of macro watersheds for ecological reasons such as reduction of siltation in reservoirs has been there in India since long in the form of river valley projects. However, management of micro watersheds for ecological reasons and livelihood reasons has been of recent origin. In a sense, the later is more challenging because it is not only about soil, water and vegetation but is also about increasing the productivity of resources that is sustainable from the view points of ecology and institutions (Farrington, *et. al* 1999). Watershed management involves harnessing rainfall for improvement of barren hill slopes, privately owned lands, commonly owned lands and water recourses in rain fed areas. It begins with two most important resources i.e. water and land.

Given the magnitude and spread of the WDPs, a number of research studies were undertaken to examine the ecological and economic impact of these programmes.

Cohen and Uphoff (1980) pointed out "Participation is often endorsed unambiguously on normative ground even if the empirical basis is not as clear". This suggests that participation can be a goal/principle on its own, or it can be valued as a prerequisite for successful watershed development or, for that matter any developmental effort. Reddy *et al.* (2004) reviewed the agro-forestry, silvi-agriculture, silvi-pastural works of the projects of Andhra Pradesh. The benefit cost ratio works out to be 1.45, 1.30, and 2.25 respectively.

In an analysis of the state level Comprehensive Watershed Development Programme (COWDEP) of Maharashtra (Deshpande and Reddy, 1991), significant changes in the household economy were noted. The study covers 30 blocks in the state and indicated concentration of certain specific components and overall good results of the technology. It was noted that employment generated in each of the watersheds was 30,000 man-days depending on the agro-climatic zone. The crop pattern, crop intensity, proportion of wasteland and yield per hectare changed substantially. The yield level of paddy, ragi, pulses, bajra, wheat, sunflower rose by 18 per cent, 34 per cent, 7 per cent, 46 per cent, 11 per cent and 64 per cent respectively, whereas the yield level for jowar decreases by 2 per cent. Moisture availability has increased in the watershed regions. The study also made a comparative analysis of the cases of active beneficiary participation against passive participation. On the basis of group interaction with farmers' in Karnataka, Ramanna (1991) contended that the farmers have received the double benefit of the programme both on arable and non-arable lands in the form of a rise in the water table level in wells and reduced siltation of tanks. Establishment of micro watershed Sanghas in Karnataka has demonstrated how an NGO can involve people in watershed development. The yield of groundnut increases from 8.95q/ha to 12.75q/ha in Chitravati watershed area in 1987-88.

Singh (1991) reported that due to the implementation of WDP in Karnataka, the net income from all crops increased to Rs.1970/ha area. Singh *et al.* (1991) reviewed various activities i.e., forestry, animal husbandry, soil conservation, horticultural activities of Punjab. The B/C ratio of the above worked out to be 2.74, 1.14, and 7.05

respectively. The B/C ratio for all components of the project is 0.95. Due to horticultural activities the net income rose within the rage of Rs.825/- to Rs.2780/-

Based on the above studies and literatures it has been clearly understood that the watershed development programmes has been successful in village level which gives direct and indirect benefit to the rural and undeveloped regions of the country. In order to find out the performance of such watershed development programme in *Bichhiwada*[1] village of Udaipur District of Rajasthan state a cost benefit analysis has been carried out. The basic objective of the study is to find out the visible benefits at the village level due to the intervention of the watershed development project as well as to find out the cost- benefit of the project at the village level.

However the study has few limitations, since the work involves performances of WDP, larger number of sample villages and sample household would have given greater statistical credibility to the findings. The survey instrument did not comprehensively cover ecological/ environmental dimensions during the PRA and pilot visit. The socio-political and civic dimensions of watershed development project have nor been adequately processed. The qualitative nature of such data did not fit well into quantitative and monetary evaluation involved through the CBA. Not with standing these limitations, attempts have been made not to compromise with the rigour of analysis and quality of research output.

2   Methodology

The study is based on both primary and secondary data collected form various sources. The *Bichhiwada* watershed is implemented in the village after 1995-96, following the new guidelines reported by the Government of India. The PIA of this project is an N.G.O. named *Sevamandir*[2]. The village belongs to drought prone area. The inhabitants of the study village are tribes and they are economically and socially backward. The villagers are mostly depended on land based activities for their livelihood. The income from migration[3] is at the second place in the economic activities in this area.

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[1] This village is nearly 60 kms from the district head quarter Udaipur in Rajasthan.
[2] A non government organization at Udaipur working since last two decades on various issues in the village Bichhiwada, Rajasthan.
[3] Based on the field study and discussions with the villagers it was found that, at least one adult member of the household supports the household income from income generated from wage labour from the near by town.

The secondary materials were collected from the *Sevamandir library[4]*. Primary data collection involves hundred households randomly selected form the village. For the primary data collection three different questionnaires were used, such as the Household Questionnaire[5], Village Questionnaire[6] and an Adult Questionnaire[7]. The data were collected during December 2005 to February 2006. The head of the households[8] were interviewed for the household questionnaire. Memory recall method was adopted to record the past experience of the respondents about their cultivation practices, income, expenditure etc. Participatory Rural Appraisal (PRA) was conducted to observe the level of awareness of the people in the village.

2.1 Assumptions

A: *Cost of the project*

The secondary sources provide cost of the project from 1998-2000 for *Bichhiwada* watershed project. Here we assume that the maintenance and other cost of the project will be the mean cost of the project for the relative years.

B**:** *Benefit of the project*

In the identification of the project impact we have highlighted the possible benefit of the project to the village economy. However here we assume that the sustainability of the project will be for a minimum of 30 years.

D: *The Discount Rate*

We assume the discount rate to be of 0.05 per year.

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[4] The project reports on different interventions in the villages, village economy, history of the villages, cost of the project etc. were collected from the library.

[5] It includes general information on the household in the pre and post watershed period such as Income, Expenditure, Saving, Agriculture Production, Land holdings etc.

[6] It includes questions on the production of crops, area under cultivation, non-arable land and arable land, availability of water for irrigation, number of well, pond and bore well, fodder availability in the pre and post watershed period.

[7] In this questionnaire quantitative data on the experience of the elders of the village (more than 40), on the implementation of the project etc. were enquired.

[8] The head of the household is the person who is having the decision power in all respect of the household.

3   The structure of CBA

a.   Definition of the project

Bichiwara watershed development project, funded by CAPART, is being implemented in the village. The delineated watershed area is about 700ha. Apart from *Bichiwada* village, it also includes a part of the land of *Kesapuura* and *Karji* revenue villages. It's is the inhabitants of the *Bichiwada* village who own the land of the watershed area falling in *Kesarpura* and *Karji*. That means the watershed community comprises only of the inhabitants of *Bichiwada* village and here they are the major beneficiaries due to the intervention.

b.   Economically relevant impacts

From the discussion with the villagers on their experiences, and from the outcome of the PRA we assume the following possible major impacts of the project.

- The Watershed Development Programme at *Bichhiwada* is cost beneficial,
- There are changes in income level of land owning families,
- Changes in cropping pattern due to watershed programme
- Employment generation due to the programme

In order to carry out a CBA of the project the variables undertaken must be economically relevant. We found number of social and institutional impacts at the village level, which are complex in nature and difficult to quantify economically. Only economically relevant impacts, such as increase in the yield rate and increase in income are counted on the benefit side of the CBA.

4   Physical quantification of relevant impacts

Change in Agricultural output

The primary data and the discussion with the villagers give a clear picture on the increase in agricultural output in the post watershed period. The basic change that has taken place in both of the study area is there has been noticeable development on the waste land. In case of the *Bichhiwada* village the number of crops rose to 16 compared to 14 crops per year. Even significant change in case of yield rate is also visible. The mean production of Sorghum was

34.40 kilograms and rose to 47.40 kilograms in the post watershed period. The mean production of Maize has recorded 76.40 kilograms compared to 38.40 kilograms in the pre watershed period. Such increase is observed from almost all the agricultural outputs in the post watershed period. A compared picture of the post watershed period is given in Table 1.1. From the table we can see that Tomato and Radish are the new crops those are cultivated in the period. The productions of all most all the crops are doubled in the post watershed period. Now they are able to generate income from selling the vegetables as the production of these commercial crops has also increased in the due course of time.

(Table-1.1)

Change in Income

The village mostly depend on agriculture, labour, income from migration[9] (Daily based wage labour) for their livelihood. The intervention has put a positive impact on the agricultural production. So now the villagers have the opportunity to get in to the local nearby market to sell their agricultural output. This intervention has also generated lot of man days where the local people were engaged. However the data focuses that there has been decrease in the share income from the migration. In general it was noticed that the mean income of a household was calculated to be rupees 1024.00 before the project implementation which has increased to rupees 1683.50 per month[10] in the post implementation period.

Change in animal husbandry

The increase in the agricultural output has increased the agricultural waste. The villagers reported that the increase in the agricultural waste and the availability of fodder has positively influenced the health conditions of the animal husbandry. However the villagers are not adding their income by selling the animals or poultry. But there has been a positive change occurred in the health status of the animal husbandry in the village.

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[9] Generally the male member from each family work outside the village as non agricultural wage labour in near by town.

[10] This includes the income from agriculture, labour, pity business and all the relevant sources.

Availability of water

Due to the construction of check dam, dam, nullahs[11] and plantation on the barrel lands the villagers are now able to get water whole the year. As reported by them they were able to get water for drinking purpose for only 7-8 months earlier but now the availability of water has increased and they are able to get it for the entire year.

Awareness and Participation at Village level

The watershed intervention has yielded number of meetings and discussions with in the villagers, the watershed associations and the PIA. Here the data are gathered from both the villagers and the PIA. The result is quite interesting with respective to the number of people attending in the meeting and participating in discussions. In case of the PIA it was quite difficult to invite and gather people for such activities at the entry level. Specifically the presence of the women was almost zero at the beginning. Initially the educated and the influenced people in the village were used to attend the meeting. But the formation of women SHG, training given to the villagers and the awareness campaign resulted increase in the number of people both man and women.

However in this study we are not giving more attention to the qualitative benefits gained from the intervention rather focusing on the qualitative benefits, which can be converted to the monetary benefit.

5   Monetary valuation of the benefits

The benefit of the project is the increase in post project output in comparison to its pre project scenario. In this study, 20 different indicators have been identified for asserting the total benefits, which is calculated as:

Total benefit of the project

$$= \left(x_1 t_{post} - x_1 t_{pre} \right) + (x_2 t_{post} - x_2 t_{pre}) \dots\dots\dots + (x_{20} t_{post} - x_{20} t_{pre}) \tag{1.1}$$

$$= Bx_1 + Bx_2 + \dots + Bx_{20} \tag{1.2}$$

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[11] These are streams which are not as big as the river. They are generated from the dam and connect the agricultural fields.

$x_1 t_{post}$ is the variable (crop/item) x_1 at the post-project period, and $x_1 t_{pre}$ represents the corresponding variable of x_1 at the pre-project period. Thus the benefit from the project i.e. Bx_1 is $\left(x_1 t_{post} - x_1 t_{pre}\right)$.

Now, the benefits in real terms are to be converted in values, by multiplying their respective prices which can be written as

$$\left(Bx_1 \times Px_1\right) + \left(Bx_2 \times Px_2\right) + ... + \left(Bx_{20} \times Px_{20}\right) = Vx_1 + Vx_2 ... + Vx_{20} \tag{1.3}$$

Where, Px is the price of x and Vx is the value of the benefit.

From Equation 1.3 we can calculate the value of the benefit for one household (R). The total benefit for hundred sample households in monetary term will be:

$$\left(Vx_1 + Vx_2 ... + Vx_{20}\right) R_1 + \left(Vx_1 + Vx_2 ... + Vx_{20}\right) R_2 + ... \left(Vx_1 + Vx_2 ... + Vx_{20}\right) R_{100} = VB \tag{1.4}$$

Where, VB is the total value of the benefit.

The estimated economic values of the benefits of the project are presented in Tables 1.2

(Table-1.2)

The sum of the benefits in monetary terms for the hundred household of the Bichhiwada watershed project for 2005 is Rs. 552872 (Table 1.2). The mean benefit per family will be (Rs.552873/100) = Rs. 5528.73. So the assumed total benefit of the project to the village (211 households) will be (Rs. 5528.72 X 211) =Rs. 1166560.00

5.1   Discounting of cost and benefit flows and applying the Net Present Value.

The CBA is presented here with the assumption that the benefit out of the project will remain same for the next 30 years. Now the monetary values of the benefits and costs are to be calculated for next 30 years. The benefit-cost ratio will be derived assuming a discount rate of 0.05 (Table 1.3).

(Table-1.3)

6.   The cost of the project

The cost of the project is derived from secondary source[12]. The present values (PV) of costs are estimated by discounting these costs, which is calculated from the following formula:

$$TPVC = \left[C_{2005} \right] + \left[C_{2004} \times \left(1 + \delta \right)^1 \right] + \left[C_{2003} \times \left(1 + \delta \right)^2 \right] ... \left[C_{1998} \times \left(1 + \delta \right)^7 \right] \qquad (1.5)$$

Where TPVC= total present value of cost, and C_{Year} is the cost of the project during a particular year.

The cost of the project in different heads for the *Bichhiwada* watershed project is given in Table 1.4.

(Table-1.4)

Treatment of public land and the drainage line have claimed the maximum share of funds. As evident from Table 1.3, the available cost figures are for the years 1998 to 2000. However the benefit is calculated for 2005, the cost of the relevant remaining years (2001 to 2005) are taken as the mean cost of all previous years, i.e. 1998-2000. The costs of the projects are converted to the present value (equation 1.5) and are tabulated in Table 1.5.

(Table-1.5)

7.   Benefit of the Project:

The net present value of the benefit for the next 30 years can be obtained from the formula

$$TPVB = \sum VB_1 + VB_2 \left(\frac{1}{1+\delta} \right)^2 + VB_3 \left(\frac{1}{1+\delta} \right)^3 ... + VB_{30} \left(\frac{1}{1+\delta} \right)^{30} \qquad (1.6)$$

Where TPVB= Total present value of benefit, $\delta = discount\ rate$

The value of the benefit of both the projects is presented in Table 1.3 and 1.4. Converting the values in present value by applying equation 1.6 we have the results in Table 1.9 where we assume the discount rate as δ=0.05, and the time period as t=30. From the Table above it is

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[12] For Bichhiwasa watershed project the cost of the project was gathered from the project report prepared by the *Sevamandir*

revealed that the total value of the benefit is of the *Bichhiwada* watershed project is Rs. 17988436.90 over 30 years.

8. The benefit-cost ratio

The present value of the benefit for thirty years in *Bichhiwada* watershed project is calculated to be Rs. 17988436.9. The present value of the cost in 2005 of the project of Rajasthan watershed is Rs. 8379549.70.

Now calculating the benefit cost ratio by applying the formulae

$$BC\ Ratio = \frac{TPVB}{TPVC} \tag{1.7}$$

The B/C ratio for Rajasthan project is presented in Table 1.6

Table-1.6   Benefit Cost Ratio of Bichhiwada Watershed

(1)	(2)	(3)
Sl. No.	Present value of the benefit (Rs.)	17988436.90
1.	Present value of the cost (Rs.)	8379549.70
2.	B/C ratio	2.14

Source: Household Survey 2006 & Secondary data

From the Table we can observe that the B/C ratio of the project is more than one, 2.14 for Rajasthan. Hence here we can ascertain that that the project is cost-beneficial.

9. Sensitivity Analysis

The NPV test described above tells us about the relative efficiency of the project, given the data input to the calculations. A sensitivity analysis is attempted to ascertain the sensitivity of the B/C ratio to the three assumed parameters of the CBA, such as the discount rate, lifetime of the projects and the set of prices. For this neither the cost data nor the benefits scenario is tempered. Only the parameters are modified. All the parameters are raised in one set and lowered in another. The precise modifications are as follows:

- The discount rate is 0.05 in the CBA analysis and it is changed to 0.07 in case one and 0.03 in case two.

- The lifetime of the project is taken as 30 years in the original analysis, in the first case it is assumed to be 35 years and in the second case it is modified to 25 years.
- The prices of the commodities in the study are added with 10 per cent in one case and a deduction of 10 per cent is done in the second case.

Hence the new parameters for the sensitivity analysis are

1. Prices of the indicators are raised by 10 per cent, discount rate is taken as 0.07 and lifetime of the project is 35 years.
2. Prices of the sources of benefits are lowered by 10 per cent, discount rate is 0.03 and lifetime of the project is 25 years.

The results of the sensitivity analysis are given in the following tables.

Table-1.7   B/C ratio under different scenarios of parameters

Sl. No	Indicators	Case	Rajasthan
(1)	(2)	(3)	(4)
1	$\delta= 0.05$ T=30 P= Actuals	Base case	2.14
2	$\delta= 0.07$ T=35 P= 10% above base case	Raised case	1.97
3	$\delta= 0.03$ T=25 P= 10% below base case	Lowered case	2.34

Source: Household Survey 2006

The out put of the sensitivity analysis given in Table 1.7 shows that the values of benefit cost ratio of base case is in between the raised case and lowered case.

10   Summary and Discussion

In this study CBA of the selected project has been done using the procedures and standard described on environmental economics literature as reported in earlier. The benefits are visible, both from agricultural crops and wage labour. This means that such projects are beneficial at the village level to promote sustainable land use and thus improving the standard of living of the villagers particularly those who are depended on the land based and allied activities.

Here it can be said that the intervention of the watershed development project has yielded good result. Even from the cost side of the project it is visible that major part of the cost are on the training and related issues. This study doesn't count the qualitative aspects of such investments, but at the village level the out put are quite visible. The participation in different meetings in general and women's participation in particular is definitely a long term benefit which can't be quantified in short assessment of the project. The awareness among the villagers and understanding the benefit of participation in various issues has benefited the villagers at a higher level. Such benefits are difficult in order to quantify and convert to monetary benefits however the benefit will be noticeable in long time frame. To conclude the Watershed Development Project at *Bichhiwada* has turned out to be cost beneficial project which helped the village in different dimensions of development, and since the project is environmental friendly it definitely promotes sustainable development.

Table-1.1: Change in Production in Rajasthan Study Village (n=100)

Sl. No	Indicators	Mean Pre*	Mean Post*
(1)	(2)	(3)	(4)
1.	Sorghum	34.40	47.40
2.	Maize	38.40	76.40
3.	Hill gram	4.10	4.40
4.	Rice	33.60	86.20
5.	Gram	4.40	14.30
6.	Wheat	42.40	118.00
7.	Green gram	29.70	43.40
8.	Lucerne	29.80	53.50
9.	Lady finger	8.56	23.10
10.	Gwar	4.10	10.25
11.	Brinjal	8.20	81.80
12.	Chilly	1.67	4.17
13.	Tomato	0	0.95
14.	Radish	0	3.33
15.	Onion	4.10	13.00
16.	Potato	1.10	4.10

Source: Household Survey, 2006
*Note: * Mean pre: Mean of pre-watershed*
*   * Mean post: Mean of post-watershed*

Table-1.2: Value of benefits from Rajasthan watershed

Sl no.	Source of benefit	Benefit (kg)	Price per kg (Rs.)	Value of the Benefit (Rs.)
(1)	(2)	(3)	(4)	(5)
1	Sorgum	1300	18.00	23400.00
2	Maize	3820	12.00	45840.00
3	Hill gram	30	14.00	420.00
4	Horse gram	-270	15.00	-4050.00
5	Rice	5260	20.00	105200.00
6	Wheat	7560	10.00	75600.00
7	Gram	990	18.00	17820.00
8	Green gram	1370	12.00	16440.00
9	Lucrene	2370	8.00	18960.00
10	Lady finger	1454	16.00	23264.00
11	Gwar	615	11.00	6765.00
12	Brinjal	7360	14.00	103040.00
13	Chilly	250	9.00	2250.00
14	Tomato	95	17.00	1615.00
15	Carrot	333	6.00	1998.00
16	Onion	890	14.00	12460.00
17	Potato	300	10.00	3000.00
18	Income from livestock			22900.00
19	S.H.G. saving			10000.00
20	Wage employment of 1268 days@ Rs.52.00/day			65936.00
Total				552872.00

Source: Household Survey 2006
Note- The prices of the items are as of the year 2005

Table-1.3   Present Values of Benefits of Bichhiwada Watershed

Sl. No.	Year	Discount rate	Present value of benefit (Rs.)
(1)	(2)	(3)	(4)
1.	1st	1.00	1166560.00
2.	2nd	0.907	1058104.31
3.	3rd	0.864	1007718.39
4.	4th	0.823	959731.79
5.	5th	0.784	914030.28
6.	6th	0.746	870505.03
7.	7th	0.711	829052.41
8.	8th	0.677	789573.72
9.	9th	0.645	751974.97
10.	10th	0.614	716166.64
11.	11th	0.585	682063.47
12.	12th	0.557	649584.26
13.	13th	0.530	618651.67
14.	14th	0.505	589192.07
15.	15th	0.481	561135.30
16.	16th	0.458	534414.58
17.	17th	0.436	508966.26
18.	18th	0.416	484729.77
19.	19th	0.396	461647.40
20.	20th	0.377	439664.19
21.	21st	0.359	418727.80
22.	22nd	0.342	398788.39
23.	23rd	0.326	379798.46
24.	24th	0.310	361712.82
25.	25th	0.295	344488.40
26.	26th	0.281	328084.19
27.	27th	0.268	312461.13
28.	28th	0.255	297582.03
29.	29th	0.243	283411.46
30.	30th	0.231	269915.68
Total			17988436.90

Source: Household Survey 2006

Table-1.4 Cost of the Bichhiwada watershed management project (in rupees)

Sl no	Cost on different heads	1998	1999	2000
(1)	(2)	(3)	(4)	(5)
1.	Community organisation	36000.00	29000.00	26000.00
2.	Training Programme	38500.00	44050.00	37150.00
3.	Administrative	140000.00	140000.00	140000.00
4.	Treatment of Public land	195531.30	125806.50	103222.40
5.	Treatment of Private land	116247.20	116247.20	75266.50
6.	Drainage line treatment	179338.80	231994.00	87419.90
7.	Community well digging	25000.00	25000.00	25000.00
8.	Tree plantation	196000.00	293972.00	133420.00
9.	Self help group	17495.00	27495.00	11110.00
10.	Other	5000.00	5000.00	0.00
Total		949112.30	1038565.00	638588.80

Source- Sevamandir, Udaipur, Rajasthan, 1998

Table-1.5   Present Value of Cost of Bichhiwada Watershed

Sl No.	Year	Discount rate	Present value of cost (Rs.)
(1)	(2)	(3)	(4)
1.	2005	1	875421.80
2.	2004	1.05	919192.90
3.	2003	1.10	965152.60
4.	2002	1.15	1013410.20
5.	2001	1.21	1064080.70
6.	2000	1.27	815019.00
7.	1999	1.34	1391775.90
8.	1998	1.40	1335496.20
Total			8379549.70

Source: Sevamandir, Udaipur, Rajasthan, 1998

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