

Socio-economic Impact of NABARD Supported Watershed Development in Amravati District

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ABSTRACT

The attempt was made to study the nature and evaluate the impact of NABARD supported watershed development fund programme. Water is the scarce resource and major portion of the world is facing the consequences of water scarcity. There is the urgent need for the conservation and effective management of the water. The watershed development programme is the solution to overcome the problem. The NHWDP a scheme for Vidarbha region of Maharashtra has been taken into consideration. The study concludes that programme is the effective tool for the overall development of the rural area. It is designed for the overall development of the selected area. Both male and female are provided with the opportunity to participate in the programme. People belonging to all age group participate in the programme. The education has positive impact on the adaptation of the programme and also the programme leads to the significant rise in the literacy status of the beneficiaries. The major constraints observed during the study are lack of awareness, literacy and political issues, groupism prevalent in the villages.

Keywords: NABARD, Watershed, NHWDP

Indian economy is agriculture based, about two third of the population depends on agriculture and allied activities for their livelihood. It provides employment to about 50 per cent of the workforce population and have 18 per cent share in India's Gross Domestic Product (GDP) [1]. Indian agriculture is rain fed and is mainly dependent on monsoon with average annual rainfall of 1100 mm but we are not able to conserve all the water that we receive. Deforestation leads to the flow of large amount of surface runoff leading to the denudation of land. About 58 per cent of the total world food production is from the rain-fed agriculture [2]. Due to global increase in the population, there is scarcity of water especially for food production and thus the world's rain-fed areas are becoming the hotspots of poverty,

malnutrition, food insecurity, prone to severe land degradation, and poor social and institutional infrastructure [3]. Even the various community water resources such as tanks, ponds, rivers and wells are misused and neglected. Due to which crops faces water stress during the critical growth stages which leads to poor quality and quantity of production leading to poverty, unemployment and food insecurity. Maharashtra has a large drought prone area (52 per cent) and has faced recurrent droughts and famines (1907, 1911, 1918, 1920, 1972 etc.) due to

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which it become necessary to put attention towards the rain-fed areas [4]. Thus, watershed development programme is considered as the very effective tool for solving many of these problems and considered as a crucial engine for agricultural growth and development in rain-fed areas. The union finance minister, in his budget speech for 1999-2000 had announced the creation of Watershed Development Fund (WDF) Programme with NABARD with broad objectives of unification of multiplicity of watershed development programme into a single national initiative through the involvement of the village level institutions and Project Facilitating Agency (PFA). Thus WDF Programme has been created in NABARD with a contribution of ₹ 200 crore.

NABARD anchors four programmes under WDF Programme as follows:

- ♦ Participatory Watershed Development Programme under WDF in 15 states,
- ♦ Prime Minister's Relief Package for distressed district in 4 states,
- ♦ Integrated Watershed Development Programme (IWDP) in Bihar and
- ♦ Indo-German Watershed Development Programme (IGWDP) in Maharashtra, Andhra Pradesh, Gujarat and Rajasthan.

The main aim of WDF Programme is to spread the message of participatory watershed development and to replicate and combine the isolated successful initiatives under different programme in government, semi government and NGOs sector. As on 31st March 2018, 1,275 projects were completed making the cumulative number of projects to 1,992 projects. 5,44,000 families were benefited by this Watershed Development Fund. The amount of ₹ 1,904 crore were sanctioned under WDF programme and ₹ 1,641 crore amount was released [5].

Several studies were conducted to evaluate the Watershed Development Programmes in India, including constraints and management aspects (Reddy *et al.* (2004); Kulshrestha and Singh (2012); Tilekar *et al.* (2009); Bagdi and Kurothe (2014); Jadhav *et al.* (2013); Johson *et al.* (2013); Singh *et al.* (2010), Meena (2012); Chand *et al.* (2009) and Pandey and Singh (2014). The present study was aimed at studying the functioning of watershed programme in Amravati

district. NABARD supported Holistic Watershed Development Programme (NHWDP), a part of Prime Minister's Relief Package, has implemented the watershed development programme for the distress area. Six district of Vidarbha regions of Maharashtra have been identified as distress region including Akola, Amravati, Washim, Wardha, Buldhana and Yavatmal. In Amravati district the project has been completed in two phase. In phase I six talukas and in phase II six talukas thus the project is implemented in twelve talukas. This project was designed for the overall development of the area. In the present study we will see the impact of NABARD supported Watershed Development Fund Programme.

MATERIALS AND METHODS

The study was conducted during the period from 2012-13 to 2018-19. The study is based on both primary and secondary data. The programme was conducted in six *talukas* of Amravati district i.e. Chandur Railway, Warud, Chandur Bazar, Nandgoan Khandeswar, Dharni and Amravati. All the six *talukas* covered under second phase of the study were taken into consideration. The random sampling design technique was used for the selection of the sample. From each *talukas* one village and from each village ten beneficiaries were selected, making the sample size to 60 beneficiaries. The selected beneficiaries were interviewed with the help of pre designed questionnaire. Along with that information was also generated through group discussion and interview with the NABARD's officials. The analysis of the collected data was done with the help of appropriate statistical tools.

Status of WDF programme in India

Watershed Development Fund is sanctioned by NABARD for every financial year from 2000-01. The study was conducted to know the status of watershed programme in India during the study year. From the study it can be concluded that it has emerged as a very effective tool for soil and water conservation, helping to maintain the eco-system. The number of the programme, the area treated and the population benefitted is increasing year after year. NABARD continues to put its contribution in the development of WDF programme. There is consistence rise in number of projects every year. At

the end of 31st March 2019, there were 69 sanctioned projects covering an area of 51,559 hectares. The project has benefited around 20,700 families. Water scarcity and disturbed biodiversity is the major problem, the present generation is coping with. Thus there is significant scope for the development of WDF programme throughout India. From Table 1, it can be clearly stated that the popularity of the programme is increasing among the population considerably and taking into consideration the need of time the government through NABARD is putting all its efforts for the betterment of the society.

Table 1: Status of watershed in India for the last six years

| Year | No. of projects sanctioned | No. of beneficiaries (lakh) | Area treated (lakh/ha) | No. of states |
|---------|----------------------------|-----------------------------|------------------------|---------------|
| 2012-13 | 29 | — | 17.80 | 15 |
| 2013-14 | 40 | — | 5.52 | 16 |
| 2014-15 | 38 | — | 5.07 | 16 |
| 2015-16 | 48 | 14,500 | 5.24 | 18 |
| 2016-17 | 57 | 17,400 | 33,800 /5.94 | 18 |
| 2017-18 | 58 | 17,800 | 47,922/19.59 | 18 |
| 2018-19 | 69 | 20,700 | 51,559 | 18 |

Source: Annual Report of NABARD 2012-13 to 2018-19.

The part of Prime Minister's Relief Package programme especially for the Vidarbha region of Maharashtra the special watershed programme named as NABARD Sanchalit Sarvangin Panlot Vikas Karyakramor NABARD supported Holistic Watershed Development Programme (NHWDP) is being implemented. Six districts have been identified as distress region including Akola, Amravati, Washim, Wardha, Buldhana and Yavatmal. The major objective of the programme is to lead the overall development of the society which include provide the farmers with the sustainable livelihood to improve their standard of living. Along with that it also aims to develop the vibrant community networks like farmers club, self help groups etc. which leads sustainable linkages leading to the better market information, adoption of new technologies and improving better credit and market facilities.[6]

The programme is designed such that each component is interlinked. At the micro level there is the family

plan for each family. The families come together to form the village watershed committee (VWC). Such 10 VWCs come together to form the cluster level committee (CLC). It is responsible for the affairs related to VWCs. The project implementing agencies (PIAs) guide and supervise CLCs. PIAs acts as a link between the officials of the village and NABARD. The watershed programme is conducted on the cluster approach. The cluster of 2-4 micro watersheds (an area of watershed having size of 500-1000 ha) in close locality covering 5-7 villages is selected. Contiguity of watershed villages is maintained as far as possible in selection of clusters. Each cluster covers an area of around 2500 ha. In each district 6 clusters covering 15000 ha is selected. Total 36 clusters in 6 districts covering an area of 90000 ha have been completed.

The NHWDP conducts various activities that act as a catalyst for the overall development of the area. The watershed measures (ridge to valley approach), wadi (tree based farming for tribal, BPL families & those on non- arable lands), animal husbandry (encouraging Animal Husbandry & Dairy with focus on linkages), special agronomical interventions, special plan for landless & women development measures for livelihood support and drudgery reduction. These projects are merged with government schemes/ other NABARD schemes/ bank credit etc. Thus NHWDP programme acts as an umbrella under which various interventions leading to the overall development of the village is done.

Table 2: Detail about the NHWDP project in Vidarbha Region

| District name | No. of villages covered | | Total |
|---------------|-------------------------|----------|-------|
| | Phase I | Phase II | |
| Wardha | 21 | 29 | 50 |
| Akola | 22 | 19 | 41 |
| Amravati | 32 | 35 | 67 |
| Buldhana | 22 | 25 | 47 |
| Yeotmal | 25 | 22 | 47 |
| Washim | 19 | 17 | 36 |
| Total | 141 | 137 | 278 |

For the present study, phase II projects were taken into account, from among the six *talukas*, one village from each *taluka* has been selected on the basis of availability of data. Thus six villages of Amravati

district had been selected for the study. The sample of 60 beneficiaries was considered to know the impact analysis of Watershed Programme. The impact analysis is done with the help of various social and economic aspects.

Educational Status

Amravati is a developing educational hub. The information regarding the educational status of the farmers was obtained. The percentage of educated member involved in the programme is high. Hence it can be concluded that the literacy have positive impact on the adoption of watershed development programme. The data is presented in Table 3.

Table 3: Educational Status of Sample Population for WDP

| Educational status | Sample Population | Percentage |
|--------------------|-------------------|------------|
| Uneducated | 3 | 5.00 |
| Educated | 57 | 95.00 |
| Total | 60 | 100 |

Annual Income

The annual income of the sample revealed that the economic condition of majority of the beneficiaries was not very good (Table 4). The WDP is conducted in the distress area of Amravati district and thus water scarcity is the major issue which is responsible for low annual income. But the beneficiaries responded that there is the rise in their income after joining of the WDF programme. The watershed development programme has positive impact on the annual income of the beneficiaries.

Table 4: Annual Income of Sample for WDP

| Family Income | Sample Population | Percentage |
|-----------------|-------------------|------------|
| Below 50,000 | 22 | 36.67 |
| 50,000 – 100000 | 35 | 58.33 |
| 100000 – 300000 | 3 | 5.00 |
| Total | 60 | 100 |

Change in Income

Change in the income of the beneficiaries is one of the parameter to measure the impact of WDP on

the socio-economic status of the beneficiaries. After joining the watershed development programme, 88.33 per cent (53) of the beneficiaries had their income increased and remaining 11.67 per cent (7) beneficiaries had no change in their income due to the joining of watershed development programme.

Electricity Supply

The beneficiaries were asked the questions regarding the availability of the electricity supply to them. The standard of living of the beneficiaries is measured on the basis of their access to the basic facilities of the livelihood. 63.33per cent (38) of the beneficiaries have the electric connection and supply in their houses and remaining 36.67 per cent (22) of the beneficiaries are devoid of electricity facilities. The GOI is making efforts to connect all the villages with electricity and road facilities. Due to NABARD schemes in the village the attention of GOI towards these villages was also attracted.

Availability of Gas Cylinder

The availability of gas cylinder for the cooking purpose was assessed. 66.67 per cent (40) of the beneficiaries use the gas cylinder for cooking purpose in their house. 33.33 per cent (20) of the beneficiaries replied that they used the traditional fuels like wood, dried cow dung cake etc. for cooking purpose (Table 5). These fuels are easily available to them hence they prefer that for the cooking purpose. Out of 66.67 per cent of the beneficiaries who had gas cylinder in their houses, majority of them still depends upon the use of conventional fuels for cooking purpose. From the study it can be stated that the participation in the watershed development programme have not affected the use of gas cylinder for the cooking purpose.

Table 5: Gas Cylinder Use for Cooking of Sample Population for WDP

| Other Questions | Yes | No | Percentage | |
|------------------------------|-----|----|------------|-------|
| | | | Yes | No |
| Availability of gas cylinder | 40 | 20 | 66.67 | 33.33 |

Participation in Public Activities

The beneficiaries were asked the question regarding their participation in public activities, participation in decision making and getting recognition in the society. 90 per cent (54) of the beneficiaries participated in the public activities and remaining 10 per cent (6) did not participated in the public activities due to their introvert nature. WDP was initially depended on the shaman due to which all the members in the village come together. The beneficiaries stated that their participation has increased since for attending meeting and training programs they usually come together.

Participation in Decision-making

80 per cent (48) of the beneficiaries had positive impact of watershed development programme and their participation in decision making process in their family and also in the society has improved. The members are also provided with certain kind of allied activities which has increased their income and also the busy days in the year which has increased their income and leads to increase the confidence. The increased confidence lead them to participate in the decision making process. 20 per cent (12) of the beneficiaries are very young members and due to lack of experience they do not participate in the decision making in the family and society.

Recognition in Society

The participation in the society and getting recognition is also the parameter to measure the impact of WDP on the social basis. The beneficiaries themselves were asked the questions regarding that weather they get recognition within the society after joining of the WDP. 76.67 per cent (46) of the beneficiaries states that they get recognition within the society due to their active participation in public activities and remaining 23.33 per cent (14) of the beneficiaries states that there is no change in the social status regarding getting any kind of more recognition within the society. But majority of the beneficiaries states that watershed development programme has the significant role in improving the social life of the villagers by undertaking the various activities.

Availability to Medical Facilities

The change in medical facilities was evaluated and it was found that 83.33 per cent of the beneficiaries had positive impact due to WDP and remaining 16.67 per cent of the beneficiaries find no change in their medical facilities (Table 6). Due to WDP the income increases and the contact with the group also helps to increases the awareness of the beneficiaries which ultimately leads to the improvement in the medical facilities. Previously the beneficiaries who preferred primary health centers now can access the private hospitals and doctors. The members in the village also can easily go the *taluka* places for the treatment.

Table 6: Change in Access to Medical Facilities of Sample Population for WDP

| Other Questions | Yes | No | Percentage | |
|------------------------------|-----|----|------------|-------|
| | | | Yes | No |
| Access to medical facilities | 50 | 10 | 83.33 | 16.67 |

Sanitation Habit

NABARD has started the rural sanitation programme to improve the sanitation habit of the villager. Under this programme the activities of the construction of the individual toilets, increasing awareness about the healthiness and cleanliness among the villagers. Also undertaking various awareness programmes to make the villagers aware of the health hazards that are caused due to poor sanitation habit like open defecation etc., is carried out. The study states that 68.33 per cent (41) of the beneficiaries have change in their sanitation habit and remaining 31.67 per cent (19) of the beneficiaries have no change in their sanitation habit. The beneficiaries who responded positively state that the awareness programme conducted by the NGOs in the village has motivated them to adopt the better sanitation.

Toilet facility

It was found that 61.67 per cent (37) of the beneficiaries preferred open defecation and 38.33 per cent (23) of the beneficiaries have individual toilet facilities. The majority of the members had constructed the

individual toilet in their houses under the various sanitation schemes of central and state governments (Table 7). NABARD under the head of rural development have conducted the rural sanitation programme known as 'Arogyalaya' which with the help of NGOs is working for the construction of toilet and increasing awareness among the members about better sanitation and toilet.

Table 7: Availability of Toilet Facility of Sample Population for WDP

| Type of Toilet Facility | Sample Population | Percentage |
|-------------------------|-------------------|------------|
| Open Defecation | 37 | 61.67 |
| Individual toilet | 23 | 38.33 |
| Total | 60 | 100.00 |

Drinking Water

Availability of safe and clean drinking water is necessary for the healthy life. The attempt was made to study the availability of clean drinking water to the beneficiaries. 85 per cent (51) of the beneficiaries had quick access to the clean drinking water. Earlier they use to face the problem of water scarcity but due to WDP the situation is better. The beneficiaries said that they follow the water conservation measures to conserve the water. The continuous chasing of the water conservation measures are needed to have the long lasting impact.

Change in Literacy Status

Literacy status is the important consideration for evaluating the impact of watershed development programme. After joining the WDP due to increase in awareness 75 per cent (45) of the beneficiaries states that there is a positive change in their literacy status and remaining 25 per cent (15) of the beneficiaries have not experienced any change in their literacy status. The members said that the increased income and awareness has motivated them to educate their child. Previously they do not have employment due to which all the members of the family have to earn. Now as the employment is provided in the village itself with the help of agricultural and allied sectors, they can have more income. Thus the need to send the children for work is not very urgent. The beneficiaries send their children to the school.

CONSTRAINTS

During the implementation of watershed programme the various constraints were observed. The beneficiaries reacted positively regarding the projects and responded that all the programmes were helpful for the upliftment of their standard of living. But there were certain constraints that were associated with the project. The general constraints that were observed regarding the project implementation are discussed as follows:

- ♦ The impact of the political parties highly influence the kind of the social and developmental activities conducted in the village. The villagers were blindly following their leaders. Due to the village politics/ groupism, sometimes there was lack of cooperation among the beneficiaries and they refuse to contribute for the community work.
- ♦ In certain villages the population was divided on the basis of their caste system, which was one of the major hinderance which does not easily allow the execution of certain developmental activities.
- ♦ Lack of awareness is the major obstacle in the successful implementation of the projects; the beneficiaries have the fear that the implementing agency or any other official will take the ownership of their land.
- ♦ In certain projects it was difficult to treat the targeted area due to the lack of coordination and cooperation from the line department, due to which it become difficult to obtain the desired result.
- ♦ Lack of experience to the members working under the PIA is also the kind of obstacles in the successful implementation of the project. The change of the staff during the period lead to inconvenience in the smooth running of the project. The members said that it is difficult to maintain the work coordination with the changing staff and hence leads to hassle in the running project. The project activities is time bonded and in certain project the available time

period is insufficient, hence in certain cases it become difficult to obtain the desired result in the specified time period.

CONCLUSION

It is concluded that NHWDP leads to the overall development of the beneficiaries. The study concludes that after the watershed programme, the beneficiaries are able to take more than single crop on the same piece of land due to the availability of the water. Hence for the farmers there is work on the field throughout the year. Along with agriculture they have started the allied economic activities which have positively resulted in the increased income. The study states that watershed development programme not only helps in the improvement of soil and water conservation but also helps in the development of the beneficiaries socially and economically. The overall findings of the study suggests that watershed development programme has significantly leads to the positive change in their income, other basic infrastructural facilities like availability of electricity, gas cylinders, medical facilities, proper sanitation facilities etc. Due to the NHWDP programme, the economic as well as their social status has also changed. The decision making power, participation in public activities and awareness about the current schemes and policies of government has also improved. The impact of the watershed development programme can also be seen through that the confidence of the beneficiaries has increased so that they can take risk and start any kind of business. The literacy status of the beneficiaries is also changed positively. The overall conclusion of the watershed development programme can be stated as it has touched almost every part of the beneficiaries life and has leads to the desirable change in the socio-economic parameter of their life. Since the leaders thought influence the development of the area and the implementation of the schemes. Thus the PIAs should initially target the leaders of the village and make them convince regarding the impact of the projects in the village. They should be made aware regarding the benefits that the said scheme will bring for the villager. The leader of the village should be the channel in disseminating the information and technology to the villagers. It will influence the villagers more easily and will ease the scheme implementation.

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