The study of Impact of Rural development programme on women empowerment with special reference to Watershed Development Programme

Thesis submitted by

Mrs. Leena G. Korde

Under the guidance of

Dr. Anupama keskar

To

Tilak Maharashatra University

For partial Fulfilment of the Master of Philosophy in Sociology

Pune 411052

Jan2010

DECLARATION

This is to state that the work entitled, "*The study of Impact of Rural development programme on women empowerment with special reference to Watershed Development Programme* " is original and carried out by me under the guidance of Dr. Prof. Anupama Keskar. This thesis contains no material that has been accepted for the award of any other degree or diploma in any educational institution. This thesis contains no material previously published or written by any other person, except where due reference is made in the text of the thesis. Any criticism is welcome and may be directed to me.

Mrs. Leena G. Korde
Tilak Maharashatra University

Pune 411052

CERTIFICATE

This is to certify that the work incorporated in this thesis titled "*The study of Impact of Rural development programme on women empowerment with special reference to Watershed Development Programme* " is original contribution by Mrs. Leena G. Korde for the award of the degree of Master of Philosophy in Sociology under my supervision. Such material that has been obtained from other sources is duly acknowledged in this thesis.

Dr. Anupama Keskar

Professor and Head
Department of Sociology

Tilak Maharashatra University

Pune 411052

ACKNOWLEDGEMENT

It is difficult to overstate my gratitude to my research guide Dr. Anupama Keskar Professor and Department of Sociology, for her valuable guidance and sound advice. She has exposed me to different ways of approach to a research problem with maximum perfection and the need to be persistent to accomplish the goal. Above all she has provided me with unflinching encouragement in various ways, during my study. I would like to specially acknowledge the help extended by Mr. Mahadev Jadhav for helping me in data collection and analysis. I am very much thankful to my all close friends Dr. V. V. Kulkarni for his constant support from the beginning of my study. I am thankful to all the teaching and non-teaching staff of the Department of Tilak Maharashatra University . Lastly, but above all I express a deep sense of gratitude and reverence for my parents Mr. Suresh Shinde, and Mrs. Nalini Shinde. I am very much thankful for giving whole hearted cooperation and sustain encouragement my husband Mr. Ganesh Korade and Mr. Hrushikesh Korade my son for bearing the pains of isolation during this study from me.

Mrs. Leena G. Korde

INDEX

LIST OF TABLES

LIST OF FIGURES

CHAPTER ONE
THEORETICAL FRAMEWORK AND REVIEW OF LITERATURE OF THE STUDY

1.1 Introduction

Over the last 20 years or so the water sector discourse has been drastically changing in India, and for that matter the world over. Many new concepts, terminologies and governance structures have come into the discourse. Integrated Water Resource Management (IWRM), participatory irrigation management and co-management institutions in the form of water users' associations, irrigation management turnover, water privatization, social good vs. economic good, river basin organizations, multi stakeholder platforms and processes, etc., have all become part of the water lexicon. Now there are World Water Council (WWC) and the Global Water Partnership (GWP) as a supra national bodies and the GWP has national and area partnerships spread all over the world. The World Water Forums, organized primarily by WWC and GWP once in every three years, seem to be directing the policy discourse on water the world over. We also hear increasingly about public-private partnerships, about making water rights tradable and the role of private service providers in irrigation management. There is also talk about virtual water transfers across national boundaries and water has been already brought under the purview of global trade by including water in the General Agreement on Trade and Services (GATS). All these and many other developments in the water sector (and also developments outside the water sector too) seem to indicate that the water sector is being impacted significantly by the Liberalization, Privatisation and Globalisation (LPG) regime unleashed in the country since the early 90s. There is also an increasing feeling that global lending organizations like the World Bank, Asian Development Bank (ADB), etc., are dictating the water policy of the country and of the different states.[1]

[1] The World Bank has decided to play a much larger role in the water sector in India as the outlay itself is going to rise from $ 700 million over the previous four years to $ 3200 million in the next coming four years. Also the World Bank lending would be tied to its recipe for water sector reforms in the country (see Brisco and Mallick 2006).

Though all those who are concerned about the water sector would agree that the water sector is going through a multi facetted crisis, the response to this crisis has been highly polarized. On one end we find uncritical acceptance and promotion of these changes as inevitable and also desirable as if wholesale privatisation is the only way out of the crisis. On the other, there is the tendency to equate everything that is happening in the water sector with privatisation and World Bank agenda, basically emanating from "statist" positions. On either side we find a refusal to engage with the crisis and the substantive issues confronting the water sector. We believe in the need to creatively engage with and respond to the challenges posed by both the crisis and the changes that are taking place and come up with alternative strategies to restructure the water sector in more sustainable, equitable and democratic lines. In fact this study is a modest effort in that direction.

1.2 Water is an ecosystem resource

Water is a resource embedded within ecosystems; we cannot treat it as a freely manipulable resource; nor as a resource to be mined. For example, too many of our mega projects, whether big dams, or diversions or interlinking schemes treat it as freely manipulable and do harm to the long term viability and sustainability of the resource itself affecting the health of riparian ecosystems and livelihoods of riparian communities.

Ecosystems have no voice, no votes, and some important ecosystem issues have never entered the agenda of water governance. For example, concepts of ecological flows, minimum ecosystem requirements and preservation of ecosystem services are not even being explored. Yet, our long term futures will finally be decided by whether we tackle these issues, before we poison the well springs of life on this planet. First of all we need to get out of the thinking that sees water flowing out to the sea as water going waste. This thinking, still prevalent in the country, led to a water management strategy centred on dams. This is not to argue against dams or water impounding and we believe that there could be an alternative approach in which water source development can take place

in an integrated, sustainable manner (integration of local and exogenous or small and large, which is discussed later). It is also important to have a historical perspective and not demonise dams and earlier dam builders. There is not much point blaming dams and dam builders of yesterday from today's vantage point; while questioning the wisdom of selling the same technology approach that is valued in that era, we need to look ahead.

Second we need to think seriously about issues related to water quality. Every water user not only uses water but also returns water, and how much water is returned and in what condition is crucial to ecosystem health. This is unfortunately the aspect of water that receives least attention. While the clamour over who should receive how much water is loud and clear, there is not much attention given to who is returning how much of that water to the ecosystem and in what condition. As a consequence, our springs of life literally are being polluted and water quality is deteriorating at an alarming pace.

1.3 Water is a common pool resource and has competing uses

Water is a common pool resource in the sense that the very nature of water (in terms of its bio-physical and social-institutional characteristics), irrespective of the property regime (private, public, common, etc.) under which it operates, calls for collective management and regulation in order to ensure equitable and regenerative (sustainable) use. For example in India most of surface water is by and large seen as part of the public property regimes, where as groundwater operates under the private property regime.

However, it is also not a public good, let us say, as in the case of a streetlight; if someone uses a streetlight it does not deny someone else the use of the same light, whereas if someone uses some water, someone else is denied use of that water. Inherent to this common pool character of water are (i) it has multiple uses and users and involves resultant tradeoffs; (ii) excludability is an inherent problem and exclusion costs involved are often very high; (iii) it requires a consideration and understanding of nested expanding scales and boundaries from the local watershed to interbasin transfers; and (v) the way water is planned, used and managed causes externalities – both positive and negative, and many of them are unidirectional and asymmetric.

These characteristics have a bearing on water related institutions (Lele 2002) and have the potential not only to trigger contention and conflict and become an instrument of polarisation and exclusion, but also to become an instrument of equitable and sustainable prosperity for all those who directly or indirectly depend on them for their livelihoods.

1.4 Water is both a local and non-local resource

It is important to recognise that water is both a local and non-local resource. The localist viewpoint sees water only as a local resource. However, water flowing down from upstream watersheds is the basis of livelihoods in the downstream regions. It is important to recognise that modifying water regimes in the upstream, however small it may be, ultimately, has *basin*-wide implications. Because the localist viewpoint looks at watersheds on the micro-watershed scale and treats and manages the watershed as an independent entity, the interdependence, the downstream effects appear as 'externalities'. It is in the way we define our boundaries that it becomes so – because water is both a local and non-local, exogenous resource. And so, while slogans like '*gaonka pani gaonme*' (basically meaning the rain that falls in a village is for that village) may help conserve water, they go against the grain of collective regulation and control of water resources. Within a basin the entire water use pattern is interconnected and it would be wrong to treat water as a wholly local resource. Water therefore is as much a shared resource as a local resource. Water cannot be managed at a single scale, it needs an approach that nests different scales – from micro watershed upwards to basins and further up to states and countries.

While we can argue in the case of many other local resources (except water) that local communities should have full right over the resources in their areas, the same cannot be said about water. In fact the issue is also very much related to inter-watershed or basin-level equity. Here, our normative position is that every community has a right to water as part of its right to assured livelihood. This implies that the local communities should be assured of adequate – quantity and quality – access to the water necessary for their livelihood – from local *as well a*s non-local or so-called exogenous sources together (as we have discussed in the section on sustainability below). From this perspective, all

communities should have a right to utilise as much of the local water resource as they can to fulfil their livelihood needs. But this also means that the water that does not go to fulfil livelihood needs does not form part of this right.

1.5 Sustainable and regenerative use of water

Terms like sustainability and sustainable development are being used very widely for very different things: from a purely economic sense equivalent to the withdrawal of all state subsidies and support, to a strictly the environmental sense.[2] However, here we use the term sustainability from the specific sense of environmental sustainability as mediated by human intervention.

According to the World Commission on Environment and Development, "Sustainable development is development that meets the needs of the present without compromising the ability of the future generations to meet their own needs" (WCED 1987). The key point of debate has been what exactly has to be conserved or sustained so that the 'ability of future generations' will not be 'compromised'. Maintaining and enhancing the productive and assimilative (as sinks) potential of the ecosystem becomes the objective if sustainability is the goal. In the specific context of watershed development, one is talking about sustaining the increased productivity and availability of various resources that is supposed to result from the interventions. Two important operational norms that logically follow from this approach to sustainability in the context of water are (i) use water within renewability limits, and (ii) minimise import of water, do it in a fair manner.

1.6 Use of water within renewability limits

In the context of sustainable use of water we need to make a distinction between stock and flow. Stock refers to water in the deeper aquifers, which have been built up over very long time spans. Flow refers to the annual availability of water. As the use of water goes up we need to keep an eye on what is happening to both stock and flow and the

[2] See Lele 1991 and 1993; Joy and Paranjape 2005 for a detailed discussion on sustainability especially the way the concept is used in this essay.

relationship between the two. Very often increase in irrigated area is taken as a success of watershed programmes and the question whether the increase in irrigation is from the stock or the flow is seldom addressed. Our normative position is that the water use should be planned, as far as possible, within the annual flows or within the annual renewability limits. However, there may be 'bad' years in which even the domestic water requirements may not be met through the annual flows. In cases like this water from the 'stock' could be used with the understanding that the 'stock' would be replenished in 'good' years.

1.7 Equitable access to water

Equity is not a fixed concept and there are many levels at which it may operate. For example, to hold that every piece of land within an irrigation command should get access to water is one level at which it may be defined. This is known as equity within the command. Starting from this simplest form, there are many other levels at which the issue may be posed, for example, that everyone in the village should have access to minimum water irrespective of his/her holding, that women in particular should have access to water, etc.

For the purpose here equity is seen as a matter of minimum assurance to all – especially those who depend on land and water for livelihood needs including landless – of water required for livelihood needs irrespective of their ownership of assets. Minimum water assurance is seen as a right that vests in people by virtue of their right to an adequate livelihood, and not by virtue of the land or other assets that they own. In the conventional approach, water rights are tied to and enjoyed through land rights. Very often access to water is determined by the size of the holding in a command area. The departure we make here is that land rights and water rights need to be separated and instead should be tied to the livelihood needs of the family.[3] Per capita water allocation,

[3] A word of caution would be in place here as World Bank and the pro-privatisation lobby are also talking of de-linking land rights and water rights. For the World Bank the rationale for de-linking the water rights from land rights is to make it a commodity (Brisco and Malik 2006). For the social movements and grassroots initiatives, committed to the equity agenda, the rationale for de-linking of water and land rights was to create wider access to the resource poor sections including the landless. Thus the very same demand of de-linking land and water rights is being pushed forward to serve two opposing interests.

first taken up by Pani Panchayat and further developed by Mutki Sangharsh and the South Maharashtra movement is based actually embedded in this principle of separation between land rights and water rights. There is some ground for this in traditional practices based on natural equity. However, while there is a tradition of natural equity in this sense of a minimum water assurance among landholders (especially when they belong to traditional peasant castes) which can be built upon, these concepts do not extend such assurance very easily to the landless or to women. Special efforts will be needed to bring such disadvantaged groups within the ambit of minimum water assurance as a right of equitable water access.

It should be noted here that we are not talking of distributing all the water equally amongst all the people and we make a distinction between basic service and economic service. Basic service is the water required by a family to meet requirements like drinking and domestic water, water for livestock water for production (agriculture, processing, etc.) to meet consumption needs as well as generate cash incomes to meet needs which have to be mediated by cash or market (like education, health, recreation, etc.). Economic service is a service, which is provided over and above the basic service basically to generate surplus (for example water for production for the market). Basic service is to be provided to all equally as a matter of right and only after meeting the basic service water has to be provided as economic service. In fact basic service is very close to the concept of water as a social good and economic service is very close to the concept of water as an economic good. This distinction has implications not only for access to water but also for water pricing, which is discussed under water pricing below.
Equity also has implications for water use prioritisation (or what could be called as inter sectoral equity) and implies making distinctions about water use and treating different uses differently. Broadly, the priority in most areas would be: drinking water; water for domestic use and for cattle; water required for ecosystem regeneration (for example, minimum environmental flows) and water required for livelihood activity; and surplus/extra water that could be used for cash or commercial crops. The principle here is that water should become available to the next category of use only after the first use is assured.

Equity is important because there are historically embedded inequalities. Class, caste (or community) and patriarchy are the three major dimensions in which inequality manifests itself in India. Of course there are other forms of inequality also, for example, the division between tribals and non-tribals, urban vs. rural, etc. The implication here is that in assessing the impact of watershed development, one needs to disaggregate the 'local community' in terms of different social sections (class, caste, ethnicity, etc.) and see the differential impact on them. The gender dimension adds one more layer to the issue of historical disadvantages.

1.8 Water pricing, subsidy and the role of the state

Since the 90s there has been an increasing demand to remove subsidies in the water sector and that the water tariff should reflect the real cost of providing water. This is also reflected in the World Bank prescription for water sector reforms in India as it advocates 'meeting costs from user charges as there is no free lunch and remove the disconnect between prices and costs as it induces a very large economic costs (Brisco and Malik 2006). Related to the issue of water pricing is whether water is a social or economic good, and also the role of state in the provision of water. The privatisers who believe water should be allowed to become a full commodity and that restrictions placed on this are the cause of all the ills related to water have unanimously welcomed the demand for full cost recovery and the left and other anti-privatisation currents have insisted that water is a social good, should not become a commodity and should be dispensed by the state as presently being done. The issue of subsidised water gets further compounded as the track record of water tariff collection has been pretty dismal and in some of the states the money spent on salaries of the staff engaged in water tariff collection far exceeds the collected water tariff! (GOI 1992).

Both these positions are problematic. There is a third strand of thinking which treats water as both a social and an economic good and argues not for a withdrawal of the state

but for a change in its role.[4] For example, access to clean water is fundamental to survival and critical in reducing the prevalence of many water-related diseases. Other dimensions of water supply also have a social good character that therefore requires governmental action, overseeing or regulation. At the same time, the supporters of this approach advocate the use of sound economics in water management.

Water is also a means of production, whether in agriculture or in industry, whether in artisanal production or large scale production. Moreover, take irrigation. Water for irrigation is important in order to stabilise a minimum production on small and medium farmers' lands. It is also important to farmers who produce for profit rather than for subsistence needs. When water is provided it is provided as a service and it serves both functions, as a basic service aimed at basic livelihood needs and also an economic service for conspicuous consumption or surplus generation.

Both of these functions also place contradictory demands on how the service should be provided and at what charge. A basic service aimed at basic needs to be provided to all equitably at an affordable price, including the poorest sections and if need be has to be subsidised, whether through cross subsidy within the sector or across sectors. On the contrary, an economic service provided for surplus generation needs to be charged full economic cost, and be charged at premium rates to provide for cross subsidy for basic service. It is difficult to see how free markets can even begin to meet these complex and contradictory demands. We do believe that we should take a rational, but socially just stand on the issue of water pricing and would argue that the basic service required for livelihood needs should be provided at an affordable cost, say to meet operation and maintenance costs and the economic service which is meant fro surplus generation should be provided at an economic cost and over and above the O & M costs should also meet capital costs. The differential or graded tariff system advocated by Irrigation Pricing Committee headed by Prof. A. Vaidyanathan (GOI 1992) can go a long way to resolve this tension between the social and economic good character of water.

[4] Peter Gleick is an important advocate of such an approach. For detailed discussion of how to combine the social and economic good character of water see Gleick 2002.

1.9 Participation and democratisation

Over the last two decades or so participation (variously seen also as collective action, community driven development, decentralised governance, etc.) has gained increased currency both in developmental practice as well as in Common Property Resource (CPR) research and literature. This increased awareness about the need for participation of local communities and the need for decentralised governance draw from different sources and standpoints like a) critique of the centralisation of power in the bureaucracy and alienation of local communities, b) disenchantment with the top down approach, c) increasing aspirations, awareness and demands from the 'subalterns' for their share both in political space as well as in the benefits of development, and d) donor agency prescriptions. Hardin's "Tragedy of the Commons" in a way forced the CPR research community to look at the question of community and community control and institutional issues much more closely and this has given rise to a vast literature which also brings out the different strands, trends and nuances of the problem.[5]

1.10 Participation: both a goal and a means

Very often participation of the local communities or resource users is seen as a means to achieve certain goals. For example Water Users' Associations (WUAs) are being formed with the primary aim of increasing cost recovery in terms of collection of water charges and water use efficiency). Thus participation is a means to achieve a goal, which is often set by the state or an outside agency. This is an instrumentalist viewpoint on participation. However, there is also the counter viewpoint, which values participation for its own sake and utilises participatory mechanisms and tools to move towards self-governance by the local communities or users. In our framework we see participation both as a goal of developmental (decentralised) process in that it helps communities make an informed choice and also as a means of more equitable, sustainable and efficient outcomes.

[5] For a detailed discussion on the major trends and issues in the CPR research over the last 30 years since Hardin's "Tragedy of the Commons" see Dietz 2002.

1.11 Separation of governance and production-related functions

The local institutions play two types of functions or roles, namely, allocation and regulation functions that can be called as governance functions and service delivery or production-related functions. For example deciding who gets access to how much water is a governance function. Distribution of water, operation and maintenance of channels and structures are service delivery or production related functions. We hold the view that these functions need to be kept separate and should be carried out through different institutions. Governance functions need to be carried out, as far as possible, through gram/hamlet sabhas – the general body of all adult members of the village or the hamlet. Service delivery functions can be carried out through specially created groups, which are organised around that particular activity or function. The service delivery groups or organisations have to function under the governance institutions or operate within the norms set by the governance institutions.

1.12 Highly differentiated communities

Given that rural Indian communities often are highly differentiated, decentralised democratic governance is easier said than done. Simple transfer of decision making power to 'the community' may well turn out to be handing over decisions to the dominant sections within the community [6]. Nor is it necessary that such simple transfer will ensure regenerative and equitable use. The quality and nature of within-community participation in democratic local governance depends to a great extent on the characteristics of the local community itself. For example in a community which is economically, politically and socially extremely stratified and hierarchical, the type of participation forthcoming would be very different from the type that one can expect in relatively homogenous communities bound by more egalitarian and democratic norms of behaviour and relationships. There is therefore a need to recognise the heterogeneity

[6] There is a growing literature which argues that the pre-existing inequities within local communities would distort the outcomes. This literature challenges the earlier assumptions that village communities are relatively homogeneous in their interests and cohesive in their relationships with each other and deconstructs the 'local community'. Some of the writings include (Li 1996); (Agrawal 1997); (Menon 1999); (Mosse 1997); (Shah 2003).

(both horizontal and vertical) within the local community while forming the various institutions so that space is created for all sections to participate in the process.

1.13 Accountability of larger structures and agents to the local community

An important dimension of participation and democratisation is the issue of accountability of larger or supra local structures and agents to the local community. As we have seen earlier water is both a local and non-local resource and the bio-physical characteristics call for nested and scaled institutional arrangements. This means that there would be institutions and agents, which are not part of the local community and the relationship between the two often becomes problematic. The experience so far has been that this relationship has been hierarchical and uni-directional (upward moving) and local communities and the local institutions are supposed to be accountable to the larger, supra local, outside institutions and agents. We firmly believe that the relationship between the local and outsider calls for greater accountability and transparency on the part of the outside agency to the local communities. There are different ways in which this can be actualised. First is to state up front in clear terms the overriding concerns and goals of the outsider agency in intervening in the local situation. The underlying principle is that the local people should be engaged in a dialogue on these aims and see where the convergence and divergence occur. It is our belief that an explicit acknowledgement of these foundational goals makes for better participation as well as better performance in this respect. Second aspect is to have financial transparency and the outside agency should place information before the people regarding the funding sources, the quantum of money that is coming in and also the way the money is going to be spent. Keeping the account open for public scrutiny can ensure financial transparency and accountability. The third aspect is related to the processes involved – how equitable is the relationship between the two fully recognising that the outsider agency may be in an advantageous position because of various factors. Putting it differently, it is important to see whether the outsider agency has evolved any mechanisms to 'democratise' the relationship between outsider and the local community. Though democratic decentralisation got a fillip with the 73rd and 74th constitutional amendments, the

necessary instruments (financial, administrative and political) have not been put in place. One of the preconditions of democratic decentralisation is the political empowerment of gram sabhas.

1.14 Role of outsiders

Though the local community has primacy in taking decisions and making choices on matters that impact them directly, we also hold that outsiders (supra local institutions, agents, etc.) also have a role to play. However, there needs to be a definite understanding about the nature of the role of the outsiders and what is the basis of the relationship between the local community and outside agencies. Informed participation, livelihood assurance, sustainable use and equitable access should be the foundational objectives of the collaboration between the community and outside agencies. The latter two concerns do not emerge spontaneously and even if they do, they seldom acquire foundational importance, unless conscious attempts are made to address them as issues and this often requires the intervention and support of outside agencies. Outsiders and public funds may have pro-active role to play in these matters by ensuring that transfer of decision making and mobilisation of public funds to the 'community' are contingent on the disadvantaged getting a fair share of the benefits, on their getting a greater voice in the decision making and on the 'community' ensuring regenerative use of ecosystem resources.

One of the preconditions for informed participation is capability building of the local communities. This could be done in different ways like making information and data available in a form that can be understood by the local communities, initiating participative experimentation, and also making available experiences from other areas. These would help the local communities to critically evaluate different options and make informed choices. We have also found in many instances the local communities change their choices in the light of new information and experiences. Resource literacy could be an interesting vehicle for this. However, the capability building should be a two-way process: it should become a learning experience for both the local community as well as the outsiders and both would change in the process.

Minimum set of principles

Sustainability

- Sustain the underlying bio-physical processes, their environmental integrity and dependability as mediated by human intervention
- Conserve and/or enhance the primary productive and assimilative potential of the ecosystem
- Use water within renewable limits: use annual flows, stocks to be used only in bad years with the understanding that they would be replenished in good years. Minimise import of water, do it in a fair manner

Equity

- Ensure inter-sectoral equity: water use prioritisation
- Ensure minimum water service livelihood needs to all on affordable terms irrespective of landholding
- Favour those bearing the brunt of the inequity due to class, caste, ethnicity, gender, spatial location, etc.
- Ensure rightful prior rehabilitation of project affected, and also explore options which reduce submergence, exchange behind-the-dam submergence with submergence in service area, and view rehabilitation as an upstream area development programme with water rights.
- Provide women with preferential access to water both for domestic and productive uses.

Participation and democratisation

- Separation of allocation and regulation functions (governance functions) from service delivery or production-related functions
- Democracy: Primacy of local community in decision making, accountability Representation of women, landless & other resource poor sections
- Right to information

- Participation of the would-be project affected persons in the decision making process

Outsiders have a definite role in capability building of the local communities to make informed choices and also in raising issues related to equity and sustainability

- Two-way traffic and learning for both "outsiders" and local communities

Accountability of larger structures and agents to the local community

1.15 Agro-climatic profile of Maharashtra

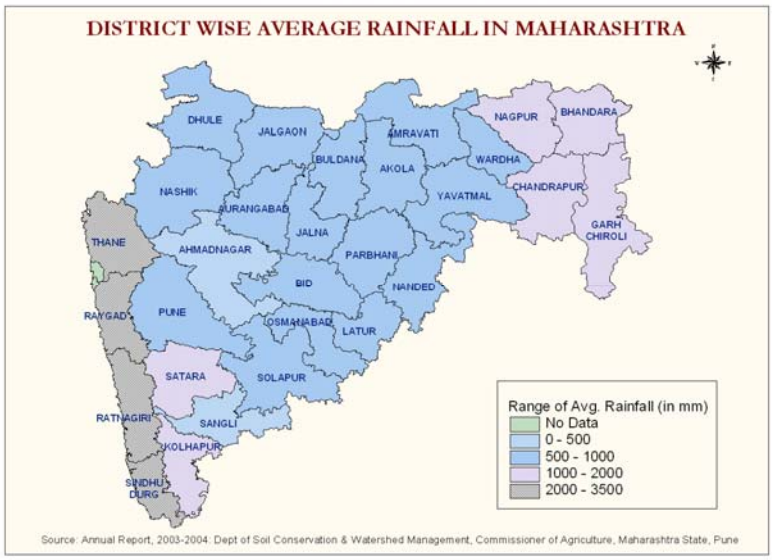
Maharashtra is divided into nine agro-climatic zones (Table 1). The average rainfall in these zones ranges from 450 mm (Scarcity Zone) to 3,750 mm (Southern Konkan Coastal Zone). A narrow coastal plain (Konkan region) separates the Arabian Sea from the Western Ghats and on the eastern side of the mountains the large Deccan Plateau spans the majority of the state. Rainfall is very high in the coastal region where as the western part of the Deccan Plateau (in the rain shadow of the Ghats) is very dry with low rainfall. Conditions for rainfed agriculture in the driest zones are difficult, and this is where watershed projects are most concentrated. In Eastern Maharashtra rainfall is much higher making conditions for rainfed agriculture favourable.

Table 1: Agro-climatic zones and rainfall: Maharashtra

Maharashtra		
S.N	**Zone**	**Average Rainfall (mm)**
1.	Southern Konkan Coastal Zone	3,750
2.	Northern Konkan Coastal Zone	3,281
3.	Western Ghat Zone	2,684
4.	Western Ghat Zone	2,137
5.	Western Maharashtra Plain Zone	791
6.	Scarcity Zone	450
7.	Central Maharashtra Plateau Zone	983
8.	Central Vidarbha Zone	883
9.	Eastern Vidarbha Zone	1,462

(Source: GoM, 2003, Agro Climatic Zones of Maharashtra)

Figure 1: Rainfall in Maharashtra



Maharashtra is divided into eight administrative divisions: Konkan, Nashik, Pune, Kolhapur, Aurangabad, Latur, Amravati and Nagpur and is also known as the following regions with respective administrative centres – Konkan (Thane), South Maharashtra (Kolhapur), Western Maharashtra (Pune), Khandesh (Nashik), Marathwada (Aurangabad and Latur) and Vidharbha (Amravati and Nagpur).

Table 2: Region specific problems

S.N	Region[7]	Characteristics/ Specific Problem
1	East Maharashtra (Vidarbha)	• Predominantly rainfed while Bhandara district irrigation is quite higher than state average. • Per cent area under cultivation is less • Rainfall between 700 to 1500mm. • Moderate to high soil erosion even though good forest cover

[7] Kandesh consisting of part of Nasik, Dhule,nandurbar and Jalgaon have more or less the same problems as that of Marathwada and Western Maharashtra. However it is predominantly tribal and land alienation of tribals and lack of livelihoods are major concerns.

		• Intensity of rainfall is very high throughout the rainy days. • Long dry spell between two wet spells. • High possibility of fire hazard in forest area, threat to natural regeneration. • Low level of groundwater development (15%). • Siltation of reservoirs and tanks. • Specific problem of salinity in Amravati, Akola and Buldhana districts in a total of 4.69 lakh ha of area. • Traditional agriculture with cotton and pulses as major crops. • Regional under development • Well-developed horticulture in some areas. • Predominantly tribal population
2	Central Maharashtra (Marathwada)	• Medium rainfall ranging between 700 to 1000mm. • Irrigation less than the state average (Latur division 10%) • High % of drought prone area. Recurring droughts • Two-third of area under cultivation. • Very little forest cover (4% of the area) Overgrazing and deforestation • Variation and late rainfall. • Uneven spread of rainy days. • Water shortage especially in bad rain years. • Black light soil with slight erosion hazard. • Groundwater development- average (27%) • Mix of traditional and modern agriculture. • Strong caste based society with feudal remnants. • Regional underdevelopment.
3	Western Maharashtra	• Very low to medium rainfall (except some parts of Satara and Kohlapur)

		• Medium to severe erosion. • Uneven spread of rain in time and space. • Some of the major irrigation project and irrigation above state average (around 23%) • High % of drought prone area except for Kohlapur • Poor forest cover • Recurrent drought. • Sloppy land. • Around 60% area under cultivation • Light soil • Groundwater development high in the state (42%) • High input and water intensive cultivation • Well developed region of the state • Heterogeneous society with history of collective actions.
4	Konkan	• High rainfall above 3000 mm. • High intensity rainfall • Severe soil erosion along western ghat and coast. • Very low irrigation. • Forest area above state average • High % of barren, uncultivable waste land • Less than 30% of land under cultivation • Groundwater development - very poor (7.6%) • Coastal salinity. • Flooding of cultivated lands. • Predominance of paddy and perennial horticulture. • High incidence of migration, average development.

1.16 Irrigation and Drought

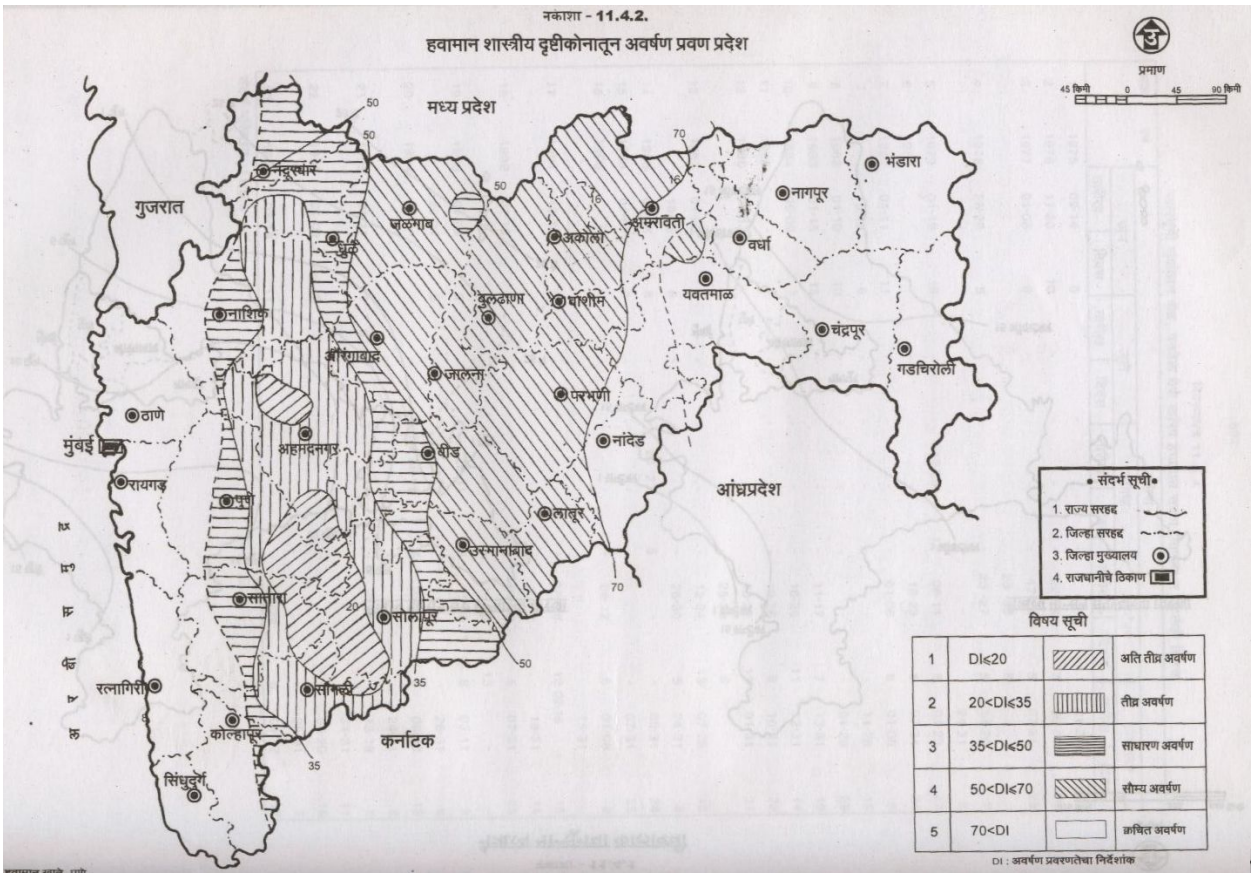
Maharashtra has very low irrigation coverage. Only about 15% of the area under cultivation is irrigated as compared to the national average of above 35%. The state has

a rugged and uneven terrain. Maharashtra has around 900 large dams (dams above 15 meters) as compared to 2900 for the entire country. Most of these dams are concentrated in the western and central part of Maharashtra. In irrigated agriculture, groundwater plays a dominant role through 1.51 million wells.

For the state as a whole 52% of the total area is drought prone and there is variation across different regions. For example in Nashik, Pune, Aurangabad and Amravati divisions more than 60% of the area is drought prone whereas in Kolhapur and Latur divisions it is about 40%. On the other hand, as mentioned earlier, only a little above 15% of the cropped area is irrigated in the state. Pune, Kolhapur, Aurangabad and Nagpur (by virtue of high irrigation coverage in Bhandara) divisions have above 20% of irrigation coverage followed by Nashik (15%), Latur (10%), Konkan (6%) and Amravati (5%) Bhandara district has the highest irrigation (46%) followed by Gadchiroli (24%) partially an outcome of the traditional tank systems still functioning.

The drought prone areas are affected by low and inadequate rainfall, long dry spells and an erratic distribution of rain through peaks and troughs. A very limited part of this area gets the benefit of major irrigation projects. The area under cultivation is very high in drought prone areas. Though Amravati also has a large area classified as drought prone, the intensity of drought is considerably less here.

Figure 3: Map Of Drought Prone Area in Maharashtra



1.17 Water Resource

In the year 1962, the State Irrigation Commission made a comprehensive study of irrigation development and management. The Irrigation Commission had assessed that the ultimate irrigation potential both from the surface and underground sources would be about 7.08 million ha (Mha) out of which 5.26 Mha (5.9 million ha as per revised estimate) would be from the surface sources and 1.80 million ha from underground sources.

Information about 75% dependable yield different basins and permissible water use (according to Interstate Water Tribunal Awards) is given in Table 3 below.

Table 3: 75% dependable yield in different basins and permissible water use

Basin	Geographical area (Mha)	Cultivable area (Mha)	75 % dependable yield (Mm^3)	Permissible use (As per tribunal award) (Mm^3)
Godavari	15.43	11.256	37,300	34,185
Tapi	5.12	3.731	6,977	5,415
Narmada	0.16	0.064	315	308
Krishna	7.01	5.627	28,371	16,818
West Flowing Rivers	3.16	1.864	58,599	69,210
Total	30.88	22.542	131,562	125,936

Table 4 below gives some of the important indicators related to the water resource in the state and country. Currently the net irrigated area as a percentage of net sown area is just 16.61 as against the national average of 40.01. The surface vis-à-vis groundwater potential is to the ratio of 60:40. For the nation the ratio is 55:45. The area under irrigation is limited and it is said that even with the full utilisation of its irrigation potential, the total area under irrigation (in the conventional sense) would not cross 30%. Wells – dug wells and bore wells – contribute significantly to irrigation and there are about 1.51 million wells in the state. Currently, 35% of the groundwater resource in Maharashtra is estimated to have been exploited. According to a survey by GSDA, groundwater development is maximum in 10 districts of western Maharashtra (42%) followed by 8 districts of Marathwada (27%) and 11 districts of Vidarbha (15%). Groundwater development in four districts of Konkan is the least (7.6%). In 76 areas in the state comprising about 5% of the total state area, groundwater is over-exploited causing concern about resource sustainability. The over-exploitation is manifested by progressive decline of water table at the rate of 0.3 m per year.

Table 4: Water resource situations in Maharashtra and India

State/Country	Ultimate irrigation potential from Major, Medium and Minor irrigation (In thousand ha)					Net Irrigated and Net Sown Area (In thousand hectares)		
	Major and Medium irrigation potential	Minor irrigation		Total Minor Irrigation	Total	Net Area Sown (NSA)	Net irrigated area (NIA)	Percentage of NIA to NSA
		Surface water	Groundwater					
Maharashtra	4100	1200	3652	4852	8952	17732	2946	16.61
India	58465	17378	64050	81428	139893	142598	57055	40.01

Mha-m: Million Hectare-metres.

Source: Annual Report, 2002-03, Ministry of Water Resources, Government of India taken from Economic and Political Weekly October 4, 2003

Table 4: Water resource situations in Maharashtra and India

Contd from back page	Groundwater Resources (as on 1.4.98)						
Total Replenish able Groundwaterresource Mha-m/Yr	Provision for Domestic, Industrial and Other uses Mha-m/Yr	Available groundwaterresources for irrigation in net term Mha-m/Yr	Utilisable groundwaterresources for irrigation in net term Mha-m/Yr	Gross Draft estimated on pro rata basis Mha-m/Yr	Net Draft Mha-m/Yr	Balance ground-water resources for future use in net terms Mha-m/Yr	Level of ground-water development in percent
3.78677	1.23973	2.54704	2.29233	1.26243	0.8837	1.66334	34.7
43.38593	7.12655	36.25938	32.63345	19.29173	13.50404	22.73145	37.24

Mha-m: Million Hectare-metres.

Source: Annual Report, 2002-03, Ministry of Water Resources, Government of India taken from Economic and Political Weekly October 4, 2003

However, the productivity of major crop categories for the state is below the national average. For example food grain productivity per hectare at national level is 1614 kg/ha while for the state it is 1058/ha. This is same for oilseeds, pulses, cotton etc. The only crop that stands above the national average is sugarcane, which is fully irrigated in the state. Maharashtra Human Development report also highlights the concern over the declining importance of agriculture in the GDP of the state. The share of agriculture has declined from 42.14% in 1960-61 to 27.69 in 80-81 to a drastic decline of 17.445 in 1999-2000[8]. This is generally due to the declining productivity of irrigated agriculture, stagnation in rainfed agriculture, low investments, fragmentation of holdings, skewed preference to certain crops like sugarcane etc. This trend calls for a long term planning with emphasis on improving rainfed-farming systems.

1.18 Groundwater development and Bachawat Award and Corporations

Since the 1970s, a lot of emphasis has been laid on groundwater development and huge amounts of loans and credits have bee given to individual beneficiaries to tap groundwater sources. This has been in the complete absence of any regulation and has been completely in the private domain.

Though there has been steady and definite increase in major and medium irrigation projects coming up in the pre 90's, efforts to impound water through large and medium projects got intensified in the post 90s to meet the deadline set by the Bachawat Award. The setting up of Krishna Valley Development Corporation (MKVDC) by the government was to speed up water resource development projects in the Krishna valley especially by raising the financial resources from the public. Similar Corporations came up in other river basins too.

[8] Human Development Report, 2002, GoM

1.19 Water Delivery systems

Surface irrigation systems require a water rotation or delivery system for effectively reaching the water to the fields. These systems are important from the point of both equity as well as sustainability and efficiency of the system. The water delivery system is also important from the point of view of water pricing. In India there are five regional systems of irrigation. These are *Warabandi* systems of North West India, *Shejpali* system of Western India, Localisation system of Southern India, Field to Field irrigation of paddy used in Eastern India and delta areas of Southern India and Tank irrigation in Western, Central and Southern India. These five systems are to be seen in relation to legal, regulatory and operational requirements for the introduction of water pricing.

In Warabandi system that exists in the northern parts of the country water rights are a given. It is in fact the equitable share for each of the total water available. Here the farmers do not have to put forth a demand for water. Crop selection is at the discretion of farmers. Rules are generally followed distribution is equitable and uniform. The system is not suitable for differentiated water supply at farm level as per requirement.

One of the more commonly followed approaches in distribution of water in canal systems is *shejpali*, Under *shejpali*, every farmer is required to apply for irrigation each season, indicating the crops to be irrigated and the area for each crop. Water availability is assessed annually and depending on that water is supplied to the farmers. Here water is supplied to a specific crop rather than an area. This kind of a system allows for a differentiated supply of water but it nevertheless leaves a lost of space for inequities.

In localisation system, water right is for 'enough' water for specified crop only. Rules are difficult to be enforced, and not possible for differentiated supply of water. In field to field paddy irrigation, there are no water rights at farm level, water distribution between farms is not controlled and it is impossible to provide differentiated supply of water. In tank irrigation system, water rights are hierarchical among farmers within tank

commands. Rules are locally enforced and it is difficult to provide differentiated service.

Under the block system (which is different from *shejpali*), longer-term commitments (six years or more) are made for a variety of crops. Such blocks are most common in parts of northern and western Maharashtra, where important types currently being cane blocks, fruit blocks, garden blocks, garden and seasonal blocks, two seasonal blocks, and three seasonal blocks

Almost all these water delivery systems mentioned above permit a lot of wastage of water. In fact any distribution on an area basis would only be too happy to receive water on a larger area or irrigated the same area for a longer period of time. Under the new irrigation system legislation farmers would now have a greater freedom in terms of deciding their cropping patters once they have a clearer understanding of their access.

1.20 Security of water rights

Although to guarantee rights there have been different rules and institutions, the sate does not offer any guarantee. There is no way that the person who is denied access could go and seek redressal. The other important form of guaranteeing water to all is by setting up regulation on use of water in general. Here we find a complete lack in the policies both before and after the 90s. In fact in the pre 90s there were a few rules set with regard to developing wells in the command areas of the canal systems as that was considered to be a misuse of the public utility. Under the 1976 Irrigation Act, canal and well water could not be used for the same area, and there had to be a distance of three meters between channels that supply irrigation water through canal systems and channels conveying water from wells. However none of that is now even considered worth a mention. Groundwater resource development is an important component of irrigation development.

The other dimension is the increasing talk of giving irrigation systems on a BOT basis to private companies. Although this is not too evident yet there are clear messages coming

in especially in the drinking water sector where private companies are increasingly being invited to invest in infrastructure development.

1.21 Democratization and Participatory processes

The idea of water users associations or farmers participation is not very new and in fact as we saw earlier has its roots in the early 30's in Maharashtra.Water Users' Association Some of the WUAs were formed as early as in the 1930's on the Godavari canals. This was the Samvatsar society which was of course formed by the private sugar factories during the early 1930's. This society still functions and all its members are from one caste group that is the Mali (OBC) caste who had bought or leased in land in the command area of this project. In fact none of the locals were allowed to become members of the society. The other early society i.e. the Malinagar Irrigators water Supply Co-operative Society registered in 1967 on Neera Canal still exists formally but all the actual agreements are still conducted by sugar co-operative that is instrumental in setting up this society. The Irrigation department would then allocate water to an assured area of sugarcane.

A continuous process of review of the irrigation system was going on and with independence the concept of the farmers associations was revived. The concept of Canal Advisory Committees and Water Panchayat Committees were to be formed as part of the rules. The water panchayats were supposed to prepare rotational schedules, estimation of water requirement and getting these sanctioned from the SDO, supervision of water distribution, resolving conflicts and complaints, providing suggestions for economic and equitable use of water. Although this was a fairly well conceived programme it did not materialise.

The next development was in the early 70's when the CADA were constituted as part of the national policy. The CADA was constituted for the major projects for promoting better, efficient and collective use of water. The CADAs were involved in efficient use of water through better farm management practices and hence they paid less attention to farmer participation as an area that needs to be explored. Some effort was made in the

Girna project where some village level committees for distribution of water were set up. But these were largely a department led process and did not involve any participation from the farmers. As a result this experiment too failed.

In 1984 the ID came up with the Outlet committee rules. Under this for every outlet, a committee of 5 members is to be formed. The outlet is supposed to irrigate an area of about more than 15 farmers. There is supposed to be a leader for each committee. The committees were empowered to collect Rs 50/ha of CCA for the repair and maintenance of the canals. Water Panchayat committee was to be formed. For other expenses, committees were allowed to collect 1 % of irrigation charges payable to the government. Unfortunately no such committees were formed in any of the irrigation projects in Maharashtra.

However there was a general understanding that there is a need for farmer involvement if work were to proceed in an efficient manner. Thus in 1985, the MOWR issued a circular to CADA commissioners as well as Secretaries in the State Irrigation departments expressing their anxiety over the lack of farmer involvement in the irrigation system. The need for NGO participation was also stressed around the same time through pilot action research programmes. Around the same time another letter was issued saying that each state ID should take the initiative in setting up farmer groups in one minor in each CAD, elaborate guidelines were issued and 50% of the cost for this was to be borne by the GOI.

Some of the other interesting recommendations of the Committee were to entrust the distribution of water to the irrigators themselves wherever practicable to the irrigation co-operative societies or Panchayats, maintaining a regular balance sheet of receipts and issues of water. There was also a recommendation to hold irrigators conferences twice in a year in which all matters affecting the welfare of the irrigators could be discussed. The present status of WUAs in Maharashtra is given in Annexure 4.

1.22 Drinking water

Drinking water provision has been supply-driven with an undue emphasis on building assets. There had been little concern over the management of resource itself. As a result of such an approach there have been several schemes that have led to over exploitation of the groundwater. There has been little effort to link the drinking water source development programmes with the existing watershed development programmes. Source strengthening through water harvesting and conservation has in fact only recently been introduced as part of the sector reforms programme.

According to some of the evaluations quoted in the Sector Reforms document of the Central government, the Government of India (GOI) has, over the last few decades, allocated massive financial and technical inputs to rural water supply (RWS) and sanitation programmes. However, the success has not been commensurate with the investments made. According to the Government's analysis, "This is due to the perception of the rural people that water is a social right to be provided by the Government, free of cost, rather than a socio-economic resource that should be managed at the lowest appropriate level, with users involved in the planning and implementation of projects".

Hence the government shifted from the "supply driven" mode to the "demand driven" mode with user's contribution as critical a component to the success of the programme. People's participation in operation and maintenance became a precondition for the scheme to achieve its desired goals. Keeping in line with this approach of GOI, the Government of Maharashtra (GoM) implemented the Accelerated Rural Water Supply Program (ARWSP) and Minimum Needs Programme with the help of Rajiv Gandhi National Drinking Water Mission, introduced by GOI in 1986 to give fresh impetus to the drinking water programme. In addition to these programmes, the GoM implemented some specific programmes in some selected districts out of funding received from bilateral and multilateral agencies.

As an outcome of the 'White Paper' prepared by the GoM in 1996, a separate Water Supply and Sanitation Department (WSSD) was set up and is considered responsible for the development of policies, establishment of institutions for implementing the projects, monitoring and evaluation of the programmes and mobilization of resources. The WSSD works through various institutions like Maharashtra Jeevan Pradhikaran (MJP), the Groundwater Survey and Development Authority (GSDA), the Zilla Parishad (ZP), the Panchayat Samiti and the Gram Panchayat to operationalize its mandate.

The World Bank supported Maharashtra Rural Water Supply and Environmental Sanitation Project ran from 1991 to 1998 and covered 560 villages in 10 districts. The Department of International Development (DFID), U.K., supported Rural Drinking Water Supply and Sanitation Programme was implemented in 197 villages in the three districts of North Maharashtra. Women's Studies Unit of Tata Institute of Social Sciences (TISS) was appointed as the community development consultant to ensure gender participation. One of the achievements of the gender strategy used by TISS was the introduction of women village water persons in 11 out of 197 villages. It brought the gender concerns in the forefront in the village communities (Datar 1997). These were regional water schemes where water was drawn from the dams but participation of the community and women especially was carefully woven into the programme from the planning stage at the village level. This was followed by *Aple Pani* (Our water) programme initiated in 2001. Based on these experiences, the GoM has undertaken an ambitious programme, Jalswarajya, to supply water to villages with the catchword of 'decentralisation' with guiding principles of demand responsiveness, participation, equity and sustainability. As in Swajaldhara, here too, the community has to bear 10% of the capital costs and the entire O&M costs (Datar and Ajith Kumar 2001).

Both the Irrigation Department and MJP are essentially 'supply driven' bureaucracies whose approach to water development is not likely to change for a long time to come. Also, success of the water sector is critically related – directly or indirectly – to the other sectors, important among them is power supply. All these factors would determine the

quality of the process of 'decentralization', and the quality of gender empowerment is very much linked to these.

1.23 The 73rd and 74th Constitutional Amendments (1993)

It gave the local governance bodies in the rural and urban areas the added responsibility of managing drinking water and sanitation. It was felt that the Public Health Engineering Departments and/or state water boards which till then were responsible for meeting domestic water needs were centralized, monopolistic and overstaffed, lacking accountability to users, especially the poor and the marginalized. Instead, PRIs are now expected to be responsible for the choice of technology, recovery of operating costs (through water taxes or user fees), and the maintenance of rural water supply and sanitation schemes through elected *pani samitis* (water committees). However, because state governments in many cases still control grants to the PRIs and have access to funding from bilateral and multilateral agencies as well as the central government, they continue to be the main providers of a minimum supply of free water to rural areas (UNICEF 1997: 9).

The Ninth Five Year Plan (FYP, 1997-2002) re-articulates the global shift from perceiving water as a social good to be provided free by the government to seeing water as a scarce economic resource which should be provided according to the standard of service that users are willing to maintain, operate and finance. The rural users are not only expected to provide 10 per cent of capital costs, but they are also meant to be fully responsible for O&M through *panchayats* and *pani samitis*. For the first time people's participation has been called for at all stages of project implementation right from the selection of technological options to implementation and maintenance (to overcome problems of poor workmanship and the use of sub-standard material).

Neither the Ninth FYP nor the National Water Policy (2002) make any specific mention of gender differentiated water needs or women's role in water management – they are simply subsumed under the general category of 'stakeholder participation'. That is, women, and communities, are looked at as homogenous categories. Special attention is to be given to the needs of marginal groups while developing water projects, particularly

those involving displacement. But the 'disadvantaged' are only identified as the scheduled tribes and castes, and gender is not considered as a category of social stratification or exclusion *within* these marginalized communities.

Despite massive investment for more than 50 years, a large proportion of rural water supply infrastructure failed due to poor operation and maintenance (O&M). To rural communities, water was not a scarce socio-economic good requiring local management, but a social right to be provided free of cost by the government. A comprehensive review of water resource management in India by the Government of India and the World Bank in the late 1990s concluded that 'India faces an increasingly urgent situation; its finite and fragile water resources are stressed and depleting while different sectoral demands are growing rapidly', and that 'replacement costs of water supply hardware is several times the available budget'

1.24 Policy initiatives in Maharashtra

In this part we take the three recent and important policy initiatives in Maharashtra for a detailed discussion. The three important policy initiatives are 1) Maharashtra State Water Policy, 2003; 2) Maharashtra Water Resources Regulatory Authority (MWRRA) Act, 2005 (Maharashtra Act No. XVIII of 2005)[9]; and 3) Maharashtra Management of Irrigation Systems by Farmers (MMISF) Act, 2005 (Maharashtra Act No. XXIII of 2005)[10]. The effort is to present the important provisions in the three policy initiatives so that the readers get an idea of what these three contain and also offer a critique keeping in mind, as far as possible, the normative framework which we discussed in the beginning of this essay.

1.25 Maharashtra State Water Policy

Maharashtra is one of the first states to come up with a water policy after the National Water Policy was enunciated in 2002. The Maharashtra State Water Policy document is

[9] First published after having received the assent of the Governor in the Maharashtra Government Gazette on 4 May 2005.
[10] First published after having received the assent of the Governor in the Maharashtra Government Gazette on 19 May 2005.

organised around 10 broad themes and some of the important issues discussed include user or community participation in the management of water resources – irrigation and drinking/domestic water, participation of private sector, water auditing, water use priority, water use entitlements and rights, and water pricing. The policy would be reviewed after every five years or as per the requirement.

1.26 Five-pronged strategy

The policy document suggests a five-pronged strategy: "First, the State will adopt a new State water policy framework to create enabling environment for better and more equitable and productive water resources management in an environmentally sustainable manner for promoting growth, reduction in poverty and minimising regional imbalance. Second, the State will restructure the fundamental roles and relationships of the State and the water users….will empower water users' organisations and entities to participate more fully in water resources management to manage, operate and maintain their water distribution and service facilities and grant these new water users' organisations and entities stable and predictable entitlements to water…Third, the State will create new institutional arrangements at the state level and river basin levels to guide and regulate water resources management; to decentralise the responsibility for water resource planning, development, management, operation and maintenance functions to the river basin and sub-basin level by suitably revising the responsibilities and powers of the existing river valley corporations. …Fourth, the State will place a high priority on promoting and supporting the development, adaptation and dissemination of new technology to improve efficiency and productivity…Fifth, the State will enact appropriate legislation and enabling rules to give effect to the above mentioned strategies…" (GoM 2003).

It identifies participatory irrigation management and creation of state water regulatory authority and river basin authorities as critical areas, which require legislation immediately. It also commits itself to make river basin/sub-basin as the unit for integrated and multi secotral planning, development and management of water resources. The policy also envisages developing a state water plan taking the different

basin level plans as its basis which will have components and elements like "structural measures, operational measures, watershed management measures, demand management measures like conservation, scarcity scheduling and efficient technologies, water pollution control measures and monitoring measures that will assure comprehensive sustainable management of the water resources and equity in water distribution…". (GoM 2003). In fact most of these components and elements are part of what is increasingly being known as the Integrated Water Resource Management (IWRM), something that is being actively propagated and pursued by Global Water Partnership (GWP) the world over.

1.27 User participation and participation of the private sector

In the present water policy the government makes a definite commitment to enact the necessary legislation making participatory irrigation management mandatory. In fact the policy envisages the participation of water users through their "legally recognised organisations or service providers shall have increased responsibility and be empowered to participate effectively in water resources planning and development, the operation and maintenance of water infrastructure and facilities and to manage their entitlements."

In the case of irrigation water, the policy talks of making participatory irrigation management mandatory through water users' associations (WUAs) and water would be allocated, delivered and charged to WUAs on a volumetric basis. The WUAs would hold what they call "bulk entitlements" on behalf of the members. There is also a provision to federate the WUAs at distributary and project levels. The policy also makes certain exceptions to this and has allowed continuing with their water quotas. The ex-malgujari tanks, the agreement systems on irrigations schemes in Vidarbha region and the block system on three pre-independent projects (Neera, Pravara and Godavari) can continue with the present water allocations and water quotas and it is mandatory on the part of the WUAs to respect these. Though the policy does not explain why these areas and systems have been exempted apparently there have been political pressure, especially from the areas where block systems are in operation like Pravara, so that their existing water quotas are not touched.

In the area of drinking and domestic water and sanitation the local community would be involved in planning and management of these services through community level organisations and/or local (appropriate level) bodies. The policy is pretty emphatic about the participation of private industrialists and commercial enterprises and water service providers in the preparation as well as implementation of river basin plans. The mode of participation of private parties is in the form of what is being called as "private-public (government) partnerships" basically for financing and implementing the projects. However, the policy does not make it clear as to what is the incentive for the private parties to invest in the water sector. In fact this is the crux of the problem and the fear is that probably the private parties would be given certain share in the water as "compensation" on which they would have absolute control in terms of use. Many also interpret this as the window opened for water privatisation.

1.28 Water use prioritization, rights and entitlements

One of the important sections of any water policy document is the section on water use prioritisation. The Maharashtra Water Policy document has also listing of water uses I order of priority as given below:

a) Domestic use for drinking, cooking, hygiene and sanitation needs including livestock
b) Industrial, commercial use and agro-based industrial use
c) Agriculture and hydropower
d) Environment and recreation uses
e) All other uses

One of the important changes or departures from the previous water policy and also the National Water Policy is that industrial and commercial use has been given the second priority and agriculture use has been pushed to the third position. In fact this has come for lot of criticism from many quarters especially the rural farmers organisations and movements. This change in the order of water use prioritisation clearly indicates that more and more water would be allocated to industrial and commercial use and

agriculture may have to do with less water. It is heartening to see that the policy mentions environmental use, though one does not know how this is going to translate into action especially in terms of keeping some amount of post-monsoon flows unbound as minimum environmental flows.

For the first time the policy also talks about water rights and entitlements as it feels that there is "considerable economic and social value in water user entities and service providers having a stable bulk entitlements to water. The State shall establish a well-defined, transparent system for water entitlements that cannot be unilaterally changed by any state agency or authority. Entitlements to use the water resources of the state as defined in regulations issued by the State shall use rights of the recipient of the entitlement within the limitations specified in the entitlements as prescribed by the State act, and the rules and regulations under such an act. Expropriation of these entitlements will be prohibited for any reason without just and equitable compensation and mitigation of the impacts of such expropriation."

The policy does not give any details of how the rights and entitlements are going to be defined. It is very clear from the policy (as can be seen from the paragraph above) that the ownership vests with the State and not with the community. This is going to have serious implications fro State-community relationship and also how water is going to be governed and regulated and the stake of the community in the whole affair. In South Africa, for example, State is seen only as a "trustee" who is supposed to hold water in trust on behalf of the people.

1.29 Review of literature

People and their environment are interdependent as has been said by Iyer (2003), Lathrop (2000) and FAO (1993). Any change in the surrounding environment directly affects the people living therein. Therefore Kerr (2002), Joshi (2000), Paul (1997) and Vishnudas (2007) say that a degraded environment results in a degraded quality of life of the people. Thus according to Sirigiri (2003), Hufschmidt (1991) cited in: PAP/RAC (1997) it is necessary for people to see the relationship between their poverty and the

degraded environment they live in. The problem of degraded land and its management is complex and multidimensional process according to Yoganand (2006). Farrow (2001) say that it requires scientific, holistic and innovative approach by involving the people whose livelihood is dependent on land resources. Lathrop (2001) says that needs and demands of unprecedented population have increased to the extent that the degradation of these resources is continuously threatening the sustainability of prevalent ecosystem and environment as a whole. Thus utmost attention is needed for preventing the further deterioration through integrated planning and management as mentioned by Weltz (2001) and Penelope (2000). Wani (2002) says that in order to save and manage the present natural resources, improving the condition of water should be done on priority basis. Gupta (2004) says that to meet the growing requirements of water for various applications and to be counted as a developed nation, it is imperative not only to develop the new water sources but to conserve, recycle and reuse water wherever possible.

An ancient perspective

Ghare (2000) and Vishnudas (2006) have said that the concept of watershed management is not new. They say further that our saints and philosophers have put forth the concept of watershed development in various epics of Indian culture. Mahindre (2002) has elaborated how in ancient period (3200 B.C.) King of Egypt provided water to the agriculture through canals. Those days a dense forest was spread all over Indian continent. However, it was reduced due to human violation. The author further says that in the same era Dhom Rushi started harvesting flowing water from the mountains and hills. To the honour of this outstanding work today we call that source of water as Dhom (which is in Konkan). King Chandragupta started the construction of Dam on Palashini River and king Ashoka completed that. Along with this for watershed development program king Ashoka had started cultivation of trees and even today after 700 years that dam fulfills the needs of humans and animals. Talyor's study of caves (2007) shows that water tanks had been built in most of the caves, which Rushis (seers) did by harvesting the flowing water from the mountain and hills and cultivation of trees. By the futuristic view Chatrapati Shivaji Maharaj built all his forts in the watershed area and implemented the program of tree cultivation. In the Maharashtra 250 years ago Peshvas

made available so many water resources. In the book entitled Dalit Movement in India and its leaders: 1857- 1956 written by Rāmacandra Kshīrasāgara in 1994 it is said that the renowned social reformer Mahatma Phule noted the importance of water and soil conservation in his renowned book 'Shetkaryancha Asud' (Cultivators Whip 1883). He writes:

> "Stop the flowing water from the mountain and hills which is full of decomposed material of animals, insects, flowers, leaves of trees which makes the agricultural land fertile."

Along with him other reformers also emphasized the conservation of natural resources.

Situation during pre independence era

Ghare (2000) has said that the reserved stock of the food grain used to be provided to poor people during the drought period by Rajas and Maharajas. However, as the large amount of agricultural income was being utilized by the Rajas for their lavish living style and for maintaining armed forces for protecting the state, adequate efforts were not taken during this period to improve the agricultural production. During British period the situation became worse, since their entry into India was exclusively for the purpose of extraction of the natural wealth. Desai (1987) says that at the beginning of the 20th century British government realized the need to stop starvation due to drought, and suspended collection of the octroi for drought period. As per the recommendations of the 1901 Drought Commission government started to give help to the farmers in the form of loans but unfortunately the direct beneficiaries were Savkars and Jamindars. He further emphasizes that British government started drought works in 1937-38 to decrease the starvation.

The post independence period

Desai further adds that in the post independence era the main emphasis was to provide relief to drought stricken villagers through work and wages in their own environment, so that people would not have to leave their homes. Jaithley (1995) and Samuel (2007) in their study say that early 1970s were the years of severe drought during which Maharashtra showed the path to other states. "Food for work" was the favoured strategy

of late1970s, using which Hazel Skuce and Edna Vawser, the Australian Missionaries of Baramati Agricultural Trust constructed 100 percolation tanks. During that same period building of several check dams, nalla bunds, and percolation dams etc was carried out. Mahapatra (2007) points out that during that year itself Gram Gourav Prathisthan under the direction of Vilasrao Slunke laid the foundation of Pani Panchayat in Naigaon close to Pune and developed the concept of equitable distribution of water (1980).

Hobley (1996), Turton (1998), Phadke (2002) and Khalid (2004) mention various examples of successful stories: Adgaon and Ralegan Siddhi in Maharashtra, Sukhomajri in Madya Pradesh, Johad in Alwar district of Rajasthan, Integrated Micro Watershed Development Programme of N.M. Sadguru Water and Development Foundation in Gujarat Village (1991), Jhabua in Madhya Pradesh (1998) and All-Woman Watershed Committee in Gauraiya of Sagar district in Madhya Pradesh (1977). These examples have shown the light to rest of the country for conserving water on watershed basis by late 1980s. But Mishra (1996) says that with advent of different Natural Resource Management practices and strategies there are many other successful stories in country. Hence in 1980s it was realized that there should be different activities done for soil and water conservation. If soil and water is conserved then porosity of soil increases and there is more infiltration, which leads to increase in ground water level. For conserving soil, more and more plantation should also be done. And to do all these works local manpower is needed which will increase the employment generation, reduce poverty, increase productivity, and this will also lead to better availability of drinking water, food, fodder and health.

Zoebisch (2005), Bilal (2008) and Arya (2007) have established that the voluntary organizations didn't only understand the integrated nature of rocks, their derivatives, soil, vegetation, atmosphere, humidity etc along with water but also understood the concept of natural resource development and management. Samra(1997), Hanumantha (2000) and Shah (1998) say that this led to concept of area development along with people. It is not a sectoral programme like minor Irrigation, Horticulture, and Soil Conservation on one hand and for SC, ST and people below Poverty Line etc. but it is an

integrated development and hence all people, all livestock etc. have to integrate and then sustain life, and this is how the concept of integrated watershed development originated.

Lakshimikanthamma (1997) says that in India, watershed development as a strategy has been recognized since 1930's. Reddy (1999) and Lakshimikanthamma (1997) have shown that the programme strategy during its earlier years of implementation facilitated establishment of dry farming research stations and demonstration centres in the country as well as a thrust on soil conservation and water harvesting as separate programmes. The author Kerr (2000) says that first watershed development started in 1942 under Land Improvement Act and the main focus was not only on water conservation but also on soil conservation and land improvement (which involves area treatment, budding and leveling).

Shifter Approach of Indian Government Resolutions

Thakkar (1999) says that in 1972 activities on water conservation were given more thrust where only single activity was carried out on the demand of people. Ravindra (2001) mentions that watershed as approach started in 1983 and the programme was called as Comprehensive Watershed Development Programme. The focus of the programme was on ridge to valley approach. At that time only Agriculture and Soil Conservation Department (a branch of Agriculture Department) used to get involved in all kinds of watershed activity (as there was no integrated approach). WOTR (2005) has given that in 1992 Department of Jalsandharan was formed and in that sub-department for agriculture, social forestry, minor irrigation, and GSDA were started. The Department of Jalsandharan started taking concentrated efforts on a single village as a unit of development under watershed development programme. Joy (2004) says that in 1995 slight modification in the procedure was done from the experience of Adarsh Gaon Scheme and some developed watershed. Various studies of WASSAN (2001, 2004) have shown that wherever there was participation at local level the project was successful. Chandrudu (2006) and Ahuja (2005) say that an integrated approach to watershed programmes as a strategy for overall development of rainfed areas was

initiated during the period from 1975 to 1983 with launching of three pilot projects financed by the World Bank and International Development Association (IDA).

As the Watershed Development Programme in recent and past decade has been considered as the integrated approach for the development of wasteland and degraded land, the Government of India under Ministry of Rural Development has taken up various initiatives under the Area Development Programme to achieve the optimum utilization of land and improve its quality as said by Kenneth (1994) and MoRD (1994). The ministry has implemented The Drought Prone Area Programme (DPAP) and Desert Development Programme (DDP), which adopted watershed approach in 1987 and the Integrated Watershed Development Project (IWDP) was adopted in 1989 under National Watershed Development Board, along with National Watershed Programme in Rainfed Areas (NWPRA) under Ministry of Agriculture and Integrated Wastelands Development Programme in 1996 under Ministry of Rural Development and Employment. At present, ongoing 4 central schemes IWDP, DPAP, DDP and NWDPRA have been merged into a new scheme called Bhoomi Vikas Yojana under a common guideline as given in Guideline for Watershed Development, 1995, which envisages bottom-up approach. The main aim is to manage the land and water resources for sustained production.

Government had also set up the National Wasteland Development Board (NWDB) in 1985 under Ministry of Environment and Forest. Later a separate department of Wasteland Development was formed under Ministry of Rural Development and Poverty Alleviation in 1992. Consequently NWDB was transferred under MRD. In 1999 the Department of Land Resources was created to act as a nodal agency in the field of Land Resource Management. All schemes and programmes being implemented by various departments and ministries were brought within the purview of this department. Area Development Programme (ADP) is one of the crucial programmes and it is expected that these programmes not only bring wasteland under vegetation but will also generate the employment opportunities leading to sustainable development. Area Development Programme (ADP) is a comprehensive programme which covers major schemes, namely:

1. Integrated Wasteland Development Programme (IWDP).
2. Drought Prone Area Programme (DPAP).
3. Desert Development Programme (DDP).

This programme is being implemented since last 10 years prior to the recommendations of Hanumantha Rao committee. In 1995 as per the recommendations of this committee ADP programmes were implemented through community participation in accordance with guidelines for watershed development programme. The guidelines for watershed development programme were further revised in September 2001 in which the greater flexibility, focused role for Pnachayati Raj Institutions (PRI), twin track approach, exit protocol, greater community participation in project implementation, post project maintenance through Self Help Groups (SHGs) comprising SCs/STs, women, landless laborers and village artisan etc. were envisaged. In 2003 the guidelines for watershed were further improved based on various suggestion and was named as "Hariyali". Presently 972 blocks of 185 districts in 16 states are covered under DPAP. Similarly 235 blocks of 40 districts in 7 states are covered under DDP. The coverage of IWDP extends generally to blocks that have not received DPAP or DDP.

As government of India has considered the Watershed program to be an important instrument in addressing the issues related to drought and its adverse impacts and hence the Watershed Development Programme has strong influence of drought proofing measures like the Drought Prone Areas Programme (DPAP) and the Desert Development Programme (DDP) in 1971. Samra (2009) and Kaushik (2007) says that the Governmental effort which started in 1962-63 with the River Valley Projects, aimed at soil conservation by arresting siltation and thereby protecting the large dams that Jawaharlal Nehru euphemistically called the temples of modern India. These programmes largely borrowed their designs and technologies from the Tennessee Valley Project in the United States. Bhagwat (2006) in 1972 the focus of the government approach for combating drought was under area approach which was implemented by Line Department under Drought Prone Area Programme after this in 1973 integrated area approach was suggested with greater provision for stable incomes and employment opportunities to the weaker sections of the affected population by task force headed by

Dr. B.S. Minahs. WASSAN (2003) has mentioned that in 1982 the task force headed by Dr. M.S.Swaminathan suggested the exclusion of income-generation and infrastructure oriented schemes and greater stress was given on land-based infrastructure. The committee also suggested adopting watershed management as a basis for planning and beneficiary-oriented approaches to area development along with subsidies extended to all farmers. Thus WASSAN, 2001 says that WDP becomes one of the key interventions in regenerating natural resource based rural economy in many drought prone districts.

In 1987 the Central Sanctioning Committee recommended that the main focus of DPAP and DDP should be conservation of soil and water. Later, the National Committee on DPAP and DDP (1988) under the chairmanship of Dr L C Jain recommend the involvement of community participation and involvement of voluntary organizations in the programmes. Meanwhile, the Central Government initiated Integrated Waste Land Development Programme (IWDP) in 1989. In 1993 the Technical Committee headed by Dr C. H. Hanumatha Rao brought in a real shift in the programme bringing community at the centre stage of development and by giving responsibilities to voluntary organizations at Taluka level and Ministry of Rural Development to take up the responsibility of the programme at national level and along with this micro watershed area was suggested to be the basis for interventions as given by Reddy (2004, 2008). Based on these recommendations, the Ministry of Rural Development, Government of India issued Guidelines for Watershed Development in 1994. Following the report of the Technical Committee the DPAP, DDP, the Integrated Wastelands Development Programme (IWDP) and employment generation programmes like the Employment Assurance Scheme (EAS) and IJRY were brought under common Guidelines for Watershed Development in 1994. Coming into operation in 1995, the Guidelines have made a fundamental difference in the way drought-alleviation programmes have been implemented. Though there is no explicit link between the two, guidelines has proved to be an operational model of the commitments and spirit of Agenda 21 as mentioned by Shrubsole (2004).

Sanghi (2005) mentions that the Guidelines for Watershed Development in 1994 brought about fundamental changes in Approach—bottom-up rather than top–down, integrated rather than sectoral and long-term rather than short-term and hence initiated a new era in the ecological restoration. WASSAN (2003) says that the Guidelines for Watershed Development Programme was further revised in September 2001 in which the greater flexibility, focused role for Pnachayati Raj Institutions (PRI), greater community participation in project implementation, post project maintenance through Self Help Groups (SHGs) comprising SCs/STs, women, landless labourers and village artisan etc. were envisaged. In 2003 the Guidelines for watershed were further improved based on various suggestion and was named as "Hariyali". Haryali guidelines have brought panchayats to the centre stage as a potential key player in the area of natural resource management. In 2005 the Ministry of Rural Development set up a technical committee on DPAP, DDP and IWDP chaired by Shri S. Parthasarathy (2008). The committees proposed to consolidate the three area development programmes of Ministry of Rural Development namely Integrated Wasteland Development Programmes, Drought Prone Area Development Programmes and Desert Development Programme into a single programme called Integrated Watershed Management Programe (IWMP). This consolidation is for optimum use of resources, sustainable outcomes and integrated planning as elaborated by Joy (2006). But Samra (2009) says that though the participatory approach has been promoted for the past 10–15 years, still more than 30% government-funded watershed development programmes/activities continue to be under 'top-down' approach.

Jana (2008) and Palmer (2001) say that watershed management is a pardigm shift ensuring supply of water to every field in the rainfed areas which will remove hunger and poverty from the devastated dryland/ drought prone areas restoring ecological balance providing green cover over denuded areas, bringing in more rains, and improving the environment, economy, ecology, export and equity in the country.

Shifted Approach of Planning Commission in Five year Plans

The following paragraph have put emphasis on the changing approach of planning commission through various five year plans for using watershed as a unit for sustainable development. Ramchandran, 2006 shows that the large investments have been assigned for watershed based development in the National Five Year Plans since 1990s and more investments have been earmarked till 2025. Watershed management is some how getting in India and this stage is of about 55 years of development, established during 1970 at the end period of Fifth Five Year Plan. Up to the end of Sixth Five Year Plan (1980-85), 2950 million hectares had been treated which represent 16.3 per cent of the total estimated problem area of 175 hectares as has been shown by Jana (2008). Kerr (2002) says that the main objective of Watershed Development Programme for Rainfed (Dryland) Agriculture during Seventh Five Year Plan (1985-90) was to harvest water and to conserve soil moisture from the low rainfall, which is also highly variable in these areas, and to extend farming practices and cropping systems, which increase production by minimizing yield risks. During the Eight Five Year Plan GoI sponsored National Watershed Development Project for all Rainfed Areas (NWDPRA), which aims at scientific land use through development of integrated farming systems on the principles of watershed management, where less than 30% arable area is under assured means of irrigation. From the year 1990-91 to 1996-97 GoI released nearly 5115.777 lakh Rupees to treat nearly 108164 of hectare of land out of which 175939 hectare of land was arable. As per the guidelines of GoI 5.54 lakh hectare of an area was selected for treatment under watershed plans during Ninth Five Year Plan. Seven watershed model plans were selected based on seven agro-climatic zones during 1996. Accordingly 118433 hectare area was treated, of which 71121 hectare arable land and 47312 hectare non arable land under the scheme during Ninth Plan with a financial outlay of Rs. 3727.072 lakhs between 1997-98 and 2001-02.

The experience of WGDP implementation during the Fifth Five year Plan (1974-78) revealed that the area development approach alone couldn't meet the development needs of Western Ghat region. Hence the Sixth Five Years Plan (1980-85) suggested an

integrated strategy for development of hilly areas based on the principles of ecology and economies. During the Seventh Five Year Plan (1985-90), the Planning Commission released an approach paper, which called for harmonious socio-economic growth with eco-preservation, eco-restoration, and eco-development. Harnessing of the natural resource endowments like water, soil, forest, minerals and biological resources on a watershed basis along with development of human resources became the core strategy. To develop agriculture in regions where assured irrigation sources did not exists the integrated watershed development programme as a movement for overall development of agriculture in the country was made operational since the Seventh Five Year Plan (1987-92). The Eighth Five Year Plan (1992-97) more or less followed the same strategy as the 7th Plan. Its general approach was that of taking up integrated development programme on compact watershed basis keeping in view the overriding priorities of eco-development and eco-restoration as well as the basic needs of the local people. During the Ninth Five Year Plan (1997-2002) various Ministries of the GoI, the state governments, NGOs, multilateral financial institutions and international funding agencies have been associated with the implementation of the watershed development programmes in the country. A common approach for watershed development activities was adopted for the Ninth Five Year Plan (1997-2002). Tenth Five Year Plan (2002-07) laid emphasis on Special Area Development Programmes (Hill Area Development Programme, Western Ghat Development Program, DPAP) with respect to people's participation in order to accelerate the efforts of development process. Planning Commission (GoI), 2008 in Eleventh Five Year Plan (2007-2012) emphasized converging of various departments such as Rural Development and Agriculture, and to opt integrated approach for water resource development and conservation with the focus on PPP (Public Private Partnership).

People's Participation

According to Patterson (1991) and Reid (1997) cited in Shrubsole (2004) the literature from the Earth Summit in 1992, the World Summit on Sustainable Development in 2002, and the 3rd World Water Forum in 2003 has been used to establish a foundation to examine the concept and practice of watershed in sustainable manner. In Earth Summit

1992 the major emphasis was on managing the natural areas for their biodiversity value including the creation of parks, conservation easements, stewardship approaches, debt for nature swaps, biodiversity prospecting, ecotourism, and paying for intellectual property rights. At the international level, Agenda 21 and the Rio Declaration, which were developed at the 1992 Earth Summit, furthered the concept of sustainable development that was espoused by the Brundtland Commission (WCED 1987) by encouraging better resource management through many avenues which included the concept of participatory approach in decision making. Grubb (1993) cited in Shrubsole (2004) has given the list of those avenues which are as follows:

- The adoption of realistic standards
- The merging of environment and development
- The integrated land management
- Promoting sustainable agriculture and rural development
- Conserving biodiversity
- Changing consumption patterns
- Applying a mix of policy instruments including pricing mechanisms
- A participatory approach to decision making
- The need to build institutional and individual capacity
- The use of the precautionary approach Promoting integrated water management (quality and quantity).

Stocking (1996) cited in Vishnudas (2006), Frantzeskaki (2009), Pretty and Ward (2001) says that by the end of 1990s it was known to all that there can be no sustainable natural resources management unless the participation of all the inhabitants of the concerned environment in an active manner is involved. According to Lurie (2007), Negi (2001), Singh (2002), Sharma (2002) and Mishra (2002) the participatory approaches to watershed management have been advertised as more effective than traditional command-and-control approaches, yet evaluation of their success have been limited. Learning from the experiences of the successful watersheds in the past, a technical committee constituted by the Ministry of Rural Areas and Employment (MoRAE), GoI, recommended planning on the watershed basis through participation of the people at all

stages of the programme (GOI 1994 and Hanumantha Rao 2000). Narayan (1995), White (1996), Ani (2002), Vishnudas (2006), Leach (1999) say that people's participation is a dynamic group process in which all members of a group contribute towards the attainment of group objectives, share the benefits from group activities, exchange information and experiences of common interests, and follow the rules, regulations and other decisions made by the group. But Kerr (2007) says that Management is difficult because watershed systems have multiple, conflicting uses, so any given approach will spread benefits and costs unevenly among users. Saint (2002) has mentioned that need for people's participation in these development programmes is articulated in terms of efficiency and/or cost effectiveness, equity in distribution of benefits, sustainability and empowerment of people.

In the articles by Turton and Farrington (1998); and Yugandhar *et al.*, (1999), it appears that the very same factor, viz. people's participation and decentralization, which accounts for the successes made so far, is highly inadequate for sustaining development, especially in the areas where programme has proceeded fast by fulfilling the targets for completion of works without waiting for the required institution building and leadership formation at the grassroots level. Though most of the past studies have made a cursory statement that people's participation is a must for the sustainable watershed development, a few have attempted to analyse and understand the process of collective action, either theoretically or empirically.

This review of literature has been further cited by analyzing the various case studies, research articles, evaluation studies etc in gist. The section further has been categorized in to three parts viz., people's participation and sustainability, women's empowerment through WDP along with impact of watershed on existing natural and socio- economic environment, in order to have in-depth knowledge about each and every component required for sustainable development of WDP.

People's participation and Sustainability

People's active participation is a key element in watershed management programme. A study conducted by Chand (2001) at Nilgiri Hills has discussed the levels of community participation at various stages of project implementation. They have observed that the index of community participation was high at planning stage followed by implementation and maintenance stage. They found very close relationship between educational level and participation of beneficiaries. They have suggested that watershed programme could be managed on sustainable basis by strengthening the community organization activities and concluded that without the systematic approach for community organization active involvement is not possible. Turton (1998 and 2000) has studied institutionalization of participatory approaches in watershed development. He concluded that participatory approach enhances the productivity of vegetation, livestock and agricultural production which is ecologically sustainable. Engel (1998), GTZ (2003) and Kotru (2003) say that one of the most important aspects of decentralization of authority and developing the capacity among local communities has helped to bring new movement to rural development. Therefore the community empowerment is necessary which can only be done when local people become owners and managers. Dhar (1994) and Kulkarni (1995) show that people's involvement in watershed development and management will solve the problem of drinking water. But then Brown (2002), Cleaver (1999) and Dietz (2009) say that the participatory approach for sustainable development is still questionable. Fundamental changes to institutions and management and decision-making strategies are necessary to address the issues of participation and sustainability to effectively meet conservation and development objectives. In that respect Turton (1998) says that the end result in any particular community is highly site specific and depends on various factors. These include the physical characteristics of the watershed and technical choices regarding resource development, the nature of property rights and the social structure and organisation of the community. At a macro-level, the policy and institutional and economic environment play a critical role in supporting or undermining the watershed development process.

The paper "Enhancing Livelihoods through Participative Watershed Development in India" demonstrates that a livelihood perspective can be used to encourage a more

explicit analysis of the ways in which WSD directly and indirectly affect people's livelihoods. The paper focuses particularly on questions relating to the extent to which WSD activities result in the creation of new livelihood opportunities and to extent to which these opportunities are both equitably distributed and sustainable. It encourages a broader and more structured assessment of impacts relevant to the poor.

Kurien et. al. (2005) in their paper "Rule Compliance in Participatory Watershed Management: Is it a sufficient Guarantee of Sustainable Rural Livelihood?", have tried to argue that institutional success can be evaluated on the basis of how much rule compliance has contributed towards an improvement in transparency of programme implementation, pro-poor benefit distribution, and condition of environmental resources.

The authors Badal P.S. and Pramod Kumar et.al. (2007) in their study have showed that a very low proportion of beneficiaries is contributing in terms of participation at different stages of the watershed development programme in form of either labour or finances or both. In the study they have also shown that training of farmers, age, and frequency of the visit of extension workers are some of the factors due to which people's participation increases in the programme. They have also shown that there is negative relationship between participation and off-farm income by applying Tobit Regression Model for checking the level of people's participation in WDP. Faham (2008) has used correlation and step-wise regression analysis for analyzing the factors influencing rural people's participation in National Action Plan for Sustainable Management of Land and Water Resources (NAP-SMLWR) in Hable-Rud Basin.

For active participation of community in developmental projects variety of determinants are operating continuously. Broadly we can classify these determinants into two broad categories i.e. proximate determinants and distant determinants. Each one of the determinants is influenced by regional elements. A study conducted by Swarnlata Arya (1994) has suggested that unless stake holders are benefited directly and immediately it will be very difficult to get active community participation. Transactions of all the activities should be transparent by taking all people into confidence. However

coordination of various government level departments makes the significant impact on people's response in community development.

Jagawat (2000) in his article Watershed Development says that the experiences in Rural Development during the post Independence phase, clearly suggest that, very well planned programmes have not yielded the desirable results, in spite of abnormally heavy investments. He further says that the main problems are at the implementation level, and therefore, most of the failures could be attributed to grossly bad and to a great extent mismanaged implementation. If all rural development programmes of India had been implemented very well with fairly good degree of proficiency, integrity and transparency, the rural scenario would have been much better than what it is after 53 years of Independence. Also often, uniform pattern of programmes and allocations with uniform guidelines throughout the length and breadth of the country with enormous local variations cannot work uniformly well at all places. Tucker (2003) has focused that the types of operational mechanisms in the existing guidelines are still insufficient to institutionalize the participatory approach in the desired manner. It has also been realized that adequate administrative instruments are also not available in these guidelines, with the result that functioning of even the existing mechanisms is not at a satisfactory level.

Several evaluation studies have been undertaken to assess the impact of WDP in rain-fed regions of India. Notable among them are by Kerr (1992, 2002), Rao (2000) and Reddy et al. (2004). Most of these evaluation studies conducted till date, are based on econometric analysis as baseline information is often very difficult to obtain from the project implementing agency or the funding agency without which meaningful evaluation is impossible. The study done by Ramachandran (2006) attempts to use tools of Geometrics in consonance with conventional techniques of field survey, soil and water analysis and socio-economic survey for creating baseline information of pre-project period and evaluation of post-project scenario. Mishra (2007) in his article has focused on the fact that the success of programme owed much to the community participation in each stage of programme intervention. Iyengar (2001) has tried to distil

the many colors of sustainability from the decade long experience of two people at the grass-roots and emphasizes that the sustainability is nothing but a process of re-education of the resource users to realize the values of natural resources. The paper written by Pradeep Kumar Mishra, a doctoral student at Institute of Rural management, Anand, focuses on "Integrated Impact Assessment for Explaining Differential Impact of Watershed Development Projects". The author says that the impact of large-scale watershed development projects in India has not been up to the desired level. The existing literature provides an agency-centric explanation of this poor impact and his paper argues this explanation as insufficient and proposes an explanation based on implementation theories which bring in issues like policy dilution, stakeholder interests and organisational processes. The paper captures this complex situation through an integrated method of assessment.

Wabler (2001), Jain, (2002) in their paper titled "Agriculture", have focused on the issue that the permanent solution for water scarcity is Watershed Management, which can only be accomplished in sustainable way by managing the resource trinity, viz., Land, Water and Biomass through people's participation.

Blomquist and Edella (2000) have emphasized in their study that the decision making structure has to be evolved in early stage of implementation of watershed development programmes to bring together all stakeholders to prepare the plans which can be implemented efficiently. In this process the political economy of respective villagers and the institutions plays a pivotal role. However Farrington et. al. (1999) suggests user based approach developed by NGOs, which can be adopted by public sector through making necessary structural adjustments in bureaucratic set-up. He concludes that small watershed programs have more chances to increase agriculture and its associated produce (vegetation, pasture land and overall environmental conditions). He further stated that rehabilitation of project affected farmers will be easier only if resource user groups were formed to create decision making authority for the management of these natural resources. On the same lines Moriarty (2001) have strongly recommended that there is a need for sound institutional set up for organizing people for their own benefits.

Further he stated that without systematic organization of local people watershed management has rarely helped the poor people to improve their livelihoods.

Sharma K.C. (2000) highlighted the role of NGOs and village level institutions, particularly self-help groups, in making watershed interventions sustainable. It emphasized the inter-institutional linkages required for sustainable management of watershed. Ballabh V. and Ujjwal Pradhan (2000) in their paper "India's Water Crises and Institutional Challenges: An Overview", have concluded that with the help of user groups or institutions one can overcome the recent problem of water crises. Mishra B. (1996) in his research report has highlighted that to achieve a process of sustainable development people should not merely participate, but be in charge of their own development. To prove his statement he has given the classic example of Ralegaon Siddhi village, in Ahmadnagar District of Maharashtra State. Through this example he shows that what village people can do when they take control of their own development. He has shown the major elements responsible for the successful people's participation in watershed village, which are -emergence of local leadership, underpinning of moral sanctions for all, voluntary moral codes e.g. ban on uncontrolled grazing and tree cutting etc., Govt./NGO partnership, involvement of all sections of society, holistic and sustained development over long time (10-20years), use of simple and appropriate but efficient technology for watershed development, and primacy of village assembly in decision making. Mandavkar M. (2001) in his research report on "Sustainability in Watershed Management", has given three main criteria for a system (or usage pattern) to be sustainable, which are – economic viability, management of technology and knowledge, and equity. And he says that these criteria can be used for planning and designing appropriate interventions, as observed and experienced in various watershed development projects. Observations are from drought prone areas of Maharashtra. As a result Reddy (2000) has mentioned that people's participation in watershed management has remained cursory even in policy formulations and consequent low adoptions.

Pastakia's study (2001) concludes that a breakdown of institutions could lead to liquidation or misappropriation of natural resources, while Mathur (2001) pointed out

that group of people who lived in a community, need institutional support that can help them in pursing their common interest. Padma (2001), Yugandhar (1995), Bhatnagar (2001) and NWDPRA (1991) study related to Guidelines for watershed development has emphasized on institutional set-up, community participation and effective decision making process for enhancing and strengthening, equitable distribution of benefits, active community participation for managing natural resources.

Gandhian philosophy put forward by Hazare (1996) through Adarsh Gaon Yojana believes, village should be the unit of planning and the only way to make sustained progress is through self reliance and self governance which are auto regulatory process. Further his study stated that a common man of a village should be the active decision making authority in rural development processes. Indo-German Guidelines (NABARD, 1992) highlighted the need to develop micro watersheds in a comprehensive manner through the initiative taken by village groups, including women and their active participation. On the same line Jain (2002), Terkhedkar (1998), Ghare (2000, 2001), Harstone (2000), Shanker (2003), Kaushik (2001) and Baumann (1998) have emphasized on the various issues related to community participation, natural resource management, structural adjustment, power structure, villagers contribution etc. Saravanan, V. S. (2002) in his paper "Institutionalizing Community-Based Watershed Management in India: Institutional Elements for Sustainability" has discussed institutionalizing the community based watershed management. And thus in order to do so, one has to strengthen the Project Implementing Agencies. And also he has examined the role of state in the sustainability of Watershed Development Programme.

A number of studies have been conducted on various dimensions of WDP in India. However the policy analysis studies of Yugandhar (2000), Bhushan (2000), Kanda (2000) and Rao (2000) have proved that changing of the guidelines frequently creates confusion in the minds of the villagers and thus this programme is grossly suffering from non participation of community and local people at various stages of the project. Though the PRIs have been given substantial power for planning and implementation most of the PRIs have failed to maintain consistency in programme implementation due to frequent changes, especially post implementation of the projects. The studies

conducted by Agarwal (2001), Udgaonkar (1987), Shah (1999 and 2002) emphasize that due to lack of benchmark work majority of the projects have failed to give the results as anticipated whereas the study conducted by Ramaswamy, (2002) has remarkably noted that lack of inputs of social education about the project and its implication is the main regions for failure. He has also emphasized that the community dynamics, caste dynamics and the dynamics of local politics are the main hindrances in WDP. Ravindra, 2002, Ramachandran, 2006, Khalid, 2004 and Das, 2002 these scholars have emphasized the felt needs of the community and stated that unless community takes the efforts for their own development in collective form there are hardly any chances to get success in community based projects like Watershed Development.

Rajput (1997, 2000 and 2002) in his study has shown that there had been the positive impact due to adoption of watershed management and development programme in raising the level of income, employment and productivity. Singh, 1992 has given the different theories put forward in order to understand the dynamic people's participation and he has further given the formula to calculate the People's Participation Index, which can be used to analyse the level of people's participation in any development project. In a similar way Bagherian, 2009 has also determined the factors which influence community participation in order to enhance their participation in Watershed Management Programs (WMP) in Iran. Jonson (2001) suggests that management of a complex system such as a watershed requires user participation in the research process itself and the challenges have to institutionalize user participation in both watershed management and research remained unsolved.

Women's Empowerment through WDP

Pandey Sanjay (2007) in his another article entitled "Reducing the gender bias through Water Shed Management" wants to explain that wage supported watershed measures enable women to acquire their own funds. As established by Arya (1998) the regular cash income earned enhances their status in their own eyes as well as within the family and society. It gives them a sense of security. This has an impact on gender

relationships. It has been observed that women gradually gain self-confidence and self-respect.

Vanaja (2002) in her study has said that the gender strategy should include the appropriate programme implementation structures to bring the change. These measures can ensure the redressal of women's issues in watershed programme and bring more gender balance in the society. She said further that there should be success indicators developed collectively to monitor all aspects of the Watershed specific to women's issues like ownership and access to resources, reducing the drudgery, upgradation of skills related to production, processing and marketing and equality in wages and other opportunities like education, health etc.

Fami (2006) conducted a study in *Tafresh* area of Iran to examine factors influencing participation of rural women in mixed farming activities in 1999. A descriptive correlation research project was carried out. Stepwise regression analysis revealed that 48 per cent of variation in the overall participation of rural women in mixed farming was explained by the variables marital status, woman's education and time spent in animal husbandry. On the same line Okunade (2005) conducted research to see the participation of Women Local Leaders in women-based rural development projects in *Osun* State, Nigeria. By focusing the role of women as SHG Purushothaman says that poverty reduction may remain an unrealized goal, if rural SHGs which are perceived as major change agents, do not have an integrated perspective of their socio-ecological System. Seeley (2000) argues that role of women and marginal group continues to be hindered by beliefs that watershed development is land development for landowners. Women are often not recognised as members of the watershed community in their own right, but are viewed as being there to fill the quota which the Watershed Guidelines make necessary. But the author feels that women's involvement is needed not just at the village level but at the district, state and national level if lasting change is to occur. Adhikari (2001) feels that participation of local communities is possible only when they see tangible benefits, unobstructed access and property right over resources. He suggests that there is a need of mainstreaming gender issues in the overall planning processes of community

programmes in order to make the programme successful. As said by Angurana (2003) watershed development in India is gender blind as all the benefits accruing are being cornered exclusively by men.

Natural and Socio- Economic Environment

Workman (2008) says that watershed management can be used as an ecological tool to help look at environmental and development issues under single umbrella. An ecosystem and a watershed can be equivalent but need not be always. Any one watershed may encompass multiple ecosystems, and a sufficiently large ecosystem will encompass multiple watersheds. Krchnak, (2007) states in his collection of different case studies entitled "Watershed Valuation as a Tool for Biodiversity Conservation: Lessons Learned from Conservancy Projects" that watershed valuation can act as a catalyst for watershed conservation. He further elaborates by saying that the valuation will help local actors recognize the importance of these natural areas and take action to protect them in order to ensure the integrity of this critical environmental service.

The locus of Watershed management is both an environment and a social space as has been said by Pandey Sanjay (2007). He further says that developmental intervention has to be closely observed, steered and if necessary redirected and adapted to get the desired results. In watershed management different components like land and water management, bio – mass regeneration, community development, pasture development, energy management, live stock management, local institutional development, gender and equity issues etc have to be observed and analysed to get the desired results. In order to find out the impact of the watershed programme one needs to use monitoring as the strategy to achieve the desired objective without much deviation. Through process monitoring and impact monitoring one can understand different dimensions of the implementation of resources (institution, actors and strategy) and the impact it has on the different components of watershed management.

Reddy (2002) says that watershed approach, apart from recognizing the importance of geo-hydrological relationships in planning sustainable conservation measures also

assesses the land capability and its carrying capacity. Watershed management, through improving and stabilizing the productivity of rainfed agro ecosystem, is also expected to improve the socio-economic conditions of people living below the poverty line. Reddy (2002) has said that inclusion of horticultural crops in the system yielded more returns than traditional crops in a watershed area on a sustainable basis. Shiferaw (2008) study investigates the institutional and policy issues that limit effective participation of people in community watershed programmes and identifies key determinants for the degree of community action and its effectiveness in achieving economic and environmental outcomes. An attempt was made by authors Reddy Y.V.R. et. al. in their book titled "Watershed Management" to cover all aspects of watershed in order to observe and judge the effectiveness and efficiency of the watersheds based on the development of natural resources, agriculture and socio-economic conditions. Chandrudu (2002) through his study has tried to explain that watershed programmes address the livelihood concerns.

Seven watersheds representing diverse agro-ecological and socio-economic conditions were evaluated by analyzing five years multi-criteria data under the study "Socio-Economic and Environmental Impact Assessment of Participatory Watershed Management in Drylands of India" done by Jagir Singh Samra. Deolankar S.B. and Himanshu Kulkarni in the year 1985 have proved through their study that based on the Hydrogeology of the area there is either increase or decrease in the production of Agriculture. To prove the hypothesis they have done a case study in Deccan Basaltic Terrain of Maharashtra, India.

Mishra Pradeep Kumar (1996) through his paper has tried to explain the complex situation of impact of large-scale watershed development projects in India and says that these projects have not been up to the desired level. The paper provides an agency-centric explanation of this poor impact. This paper argues this explanation as insufficient and proposes an explanation based on implementation theories which bring in issues like policy dilution, stakeholder interests and organisational processes.

Das (2002) in his study "Cropping Pattern (Agricultural and Horticultural) in Different Zones, their Average Yields in Comparison to National Average/ Critical Gaps/Reasons Identified and Yield Potential" says that more than 250 double cropping systems are followed throughout the country and the multiplicity of cropping system depends upon the prevailing socio-economic situations of farming community. Out of 250 double cropping systems the author has identified nearly 30 important cropping systems and focused on major issues emerging in the irrigated cropping systems along with yield gaps of some of important cropping systems.

Chowdary et.al. (2001) have done monitoring and assessment of changes in the watersheds spread over three districts of Orissa state using remote sensing technology. The changes were analysed pertaining to pre and post treatment periods of each watershed. The study revealed an increase in area under cultivation, water bodies, plantation and tree cover as a result of watershed management. The study conducted by R.L. Shiyani et.al (2002) for examining the impact of watershed development in South Saurashtra has focused on comparison between the projects managed by GLDC and AKRSP and has revealed that watershed development played pivotal role in increasing cropping intensity, productivity of various crops, profitability and employment generation. Apart from this the authors have stated that this programme has helped substantially in reduction of income disparity among the beneficiaries due to increased frequency of yield. This has resulted into intensification of utility of women labour force and concluded that the female population which is already heavily loaded by domestic chores has been further additionally burdened by farm activities.

Thomas et.al. (2003) have done a study on the socio-economic constraints of the Watershed Development Programme in Palakad district. It showed that among the constraints faced by the beneficiaries the constraints such as non-availability of irrigation water, lack of technical guidance and lack of awareness of beneficial programme were the major ones. Joy (2006) has stated that the central problem (and cause for poor performance in the past) is the absence of organisational arrangement and the right kind of agencies to implement the project. Sanjaya Reddy and Prasad Rao

(1999) have stated the issue and future agenda for watershed development programmes in India and have discussed the overall impact on rural development and agriculture. They conclude saying the programme should be flexible which will help in smooth execution which will ultimately result into economic development. Therefore they suggest some modifications in the current guidelines issued by the government so that this programme will be need based and people oriented. Thus the chances of failure are reduced substantially.

S.K. Nalawadmath et.al in the year 1983-84 implemented the watershed development programme in black soils of Joladarasi of Bellary district of Karnataka, India. The project was implemented in the area of 569.5 ha land under the guidance and supervision of Central Soil and Water Conservation Research and Training Institute. Project was implemented in order to see the impact after five years with respect to new techniques and improved practices. It was concluded that the per capita income has risen from Rs. 675/- to Rs. 1342/- and the benefit-cost ratio was found to be 1.45. The results indicated the economic feasibility of watershed management programme for improving the socio-economic status of beneficiaries and non-beneficiaries residing in the rural area. Thus the integrated watershed management approach was found to hold the key to development of the area. This has been corroborated by German (2006) and Rajagopalan (1991).

P.K. Sing et.al (1995) in their paper entitled "Watershed approach in improving the socio- economic Status of Tribal Area - A Case Study", have proved that watershed management programme helps in improving the socio-economic status of farmers residing in the tribal area. Watershed development project was implemented in Peepalwas of Udaipur district by IFFCO for soil and water conservation from year 1988-89 to 1992-93. Then the project was evaluated in terms of resource development, conservation and increase in productivity. The programme not only increased the crop yield but also developed fodder resources in the area which proved that watershed programmes help in social upliftment of the tribal farmers. Prasad et.al. (2005) in their study in Rajasthan have found that the general perception of farmer is that project

intervention has positive influence on watershed environment. Although project impact was not very conspicuous with respect to individual environmental indicators such as groundwater status, land quality, vegetation status and other social environmental parameters, it appears that the project activities played a positive protective role on groundwater depletion and degradation of arable land.

Summary

In this chapter theoretical framework review of literature present situation of water and relation of water with women empowerment is discussed. the review of literature related to each one of the aspect is also given in detail. The natural source which have close connections with the echo system is discussed in the introductory part as a main source of clear livelihood. In village communities water is important for agriculture even today in rural communities 90% families are dependent all agriculture and without water agricultural is very difficult. It also generates the employment opportunities which absorbs unskilled human resources at village community. The increasing trend of extraction of water from the earth has created several problems and water scarcity is now No.1 problem. Therefore how to regenerate these sources have also been discussed in this chapter. The govt. is making sustained efforts for regenerating water resources which will be helpful to rural communities however, going population and massive use is gating major set back to these efforts. Equitable access to the water is one of the significant aspect in rural development. Inclusive growth and development is exclusively based on equitable distribution of the benefit of water shade development programme. In this chapter the water pricing subsidy and the role of the state is also discussed in detail. While considering the various dimensions of water shade development programme the participation of the community and democratization the powers related to equitable distribution is discussed in detail.

Unless village community s is actively involved in regenerating water resources the govt. will never get success in water conservation. There is a tendency to use maximum water in agricultural naturally this leads the waste of precious resource. Therefore accountability of the natural resource have also been discussed in detail. In Water

conservation the role of outsiders i.e. NGO's various sources of water and its significance in view of agroclimatic profile of Maharashtra is discussed in detail. There prevalent irrigation system and droughts have also discussed thoroughly. The Bacchavat Ayog which have greatest significance in water monitoring is discussed thoroughly various aspects related to the delivery system of water securing various rights of the water. Participatory process in conserving the natural resources are also discussed in the detail. The 73 constitutional amendment, policy initiatives in Maharashtra and state water policy is also discussed in detail. The users participation and participation of private sector have been discussed in detailed.

Annexure 1

Land Utilization Statistics - 2001-02(figures in percentage)

Division	Konkan Dn.	Nashik Dn.	Pune Dn.	Kolhapur Dn.	Aurangabad Dn.	Latur Dn.	Amravati Dn.	Nagpur Dn.	State Total
Reported Area for Land Utilization Statistics ("00"ha)	29790	41653	47518	26955	28489	35945	45967	51266	**307583**
Forest	19.70	24.44	7.63	12.43	3.54	3.52	15.30	38.67	**16.96**
Barren and unculturable land	17.65	7.50	7.12	7.51	1.86	1.70	2.78	1.97	**5.59**
Land under non agri.use	7.26	1.82	2.88	4.14	4.42	3.09	4.58	7.53	**4 .47**
Culturable waste	9.21	0.72	2.02	3.31	2.54	3.97	1.44	2.80	**2.97**
Permanent Pastures	3.71	2.70	3.35	5.07	3.56	3.33	3.84	6.48	**4 .07**
Land under misc. trees and grooves not included in net area sown	2.69	0.16	0.48	0.96	0.61	0.77	0.50	0.81	**0.80**
Current Fallows	2.22	2.22	4.78	2.56	7.22	7.93	2.38	3.16	**3.95**
Other Fallows	10.09	1.29	5.57	4.76	4.25	4.71	1.62	1.56	**3.87**
Net Area Sown	27.48	59.19	66.17	59.26	71.97	71	67.57	37.01	**57 .32**
Area sown more than once	2.42	15.04	14.21	20.01	23.14	30.57	19.06	4.41	**15.52**
Gross cropped area	29.90	74.23	80.38	79.27	95.11	101.57	86.63	41.42	**72.84**

Source: www.agri.mah.nic.in/agri/stat/Lus-main

Annexure 2

Distribution of Drought prone areas and extent of irrigation in Maharashtra

District	Geographical area	Net cropped area	Irrigated area	Irrigated area (%)	Drought prone area	Drought prone area (%)
	'000 ha				'000 ha	
Thane	972	244600	12375	5		
Raigad	687	188500	9600	5		
Ratnagiri	816	245400	1950	1		
Sindhudurg	504	140200	23550	17		
Konkan Division	**2979**	**818700**	**47475**	**5.80**		
Nashik	1563	886600	170250	19	1563	100
Dhule	1438	734700	77400	11	1062	74
Jalgaon	1164	850500	132750	16	651	56
Nashik Division	**4165**	**2471800**	**380400**	**15.39**	**3276**	**79**
Ahmadnagar	1702	1145600	253425	22	1261	74
Pune	1562	977200	213000	22	1500	96
Solapur	1488	1037700	192900	19	1327	89
Pune Division	**4752**	**3160500**	**659325**	**20.86**	**4088**	**86**
Kolhapur	776	424600	93450	22		0
Satara	1058	577800	166275	29	436	41
Sangli	861	591700	109275	18	719	83
Kolhapur Division	**2695**	**1594100**	**369000**	**23.15**	**1155**	**43**
Aurangabad	1008	702500	141600	20	802	80
Jalna	773	603200	82425	14	188	24
Bid	1069	778200	188250	24	823	77
Aurangabad Division	**2849**	**2083900**	**412275**	**19.78**	**1813**	**64**
Latur	716	534400	29325	5	488	68
Osmanabad	749	507500	91050	18	317	42
Nanded	1033	710600	55575	8	470	46
Parbhani	1097	825700	83325	10	126	11
Latur Division	**3595**	**2578200**	**259275**	**10.06**	**1401**	**39**
Buldhana	967	692900	37725	5	684	71
Akola	1056	818500	23475	3	1056	100
Amravati	1222	752000	58800	8	680	56
Yavatmal	1352	849900	47400	6	1034	76
Amravati Division	**4597**	**3113300**	**167400**	**5.38**	**3453**	**75**
Nagpur	986	547600	101175	18	83	8
Chandrapur	1092	459600	83400	18	349	32

Gadchiroli	1492	178800	43575	24	306	20
Bhandara	928	358600	165975	46		0
Wardha	629	366500	33450	9		0
Nagpur Division	**5127**	**1911100**	**427575**	**22.37**	**738**	**14**
Maharashtra	**30758**	**17731600**	**2722725**	**15.36**	**15923**	**52**

Source: GoM, agro climatic zones, 2003

Annexure 3

Present Status of Water Users' Association In Maharashtra State (July 2005)

Sr. No.	Project	Water Users' Association functioning		Agreement Signed, yet to Hand Over		Registered yet to Sign Agreement		Proposed		Total	
		Nos.	CCA (Ha.)	Nos.	CCA (Ha.)	Nos.	CCA (Ha.)	Nos.	CCA (Ha.)	Nos.	CCA (Ha.)
A	**Major & Medium**										
	Within CAD	437	136812	247	83736	626	249218	673	328197	1983	797963
	Outside CAD	227	73214	98	29992	344	114066	680	282496	1349	499768
	Total	664	210026	345	113728	970	363284	1353	610693	3332	1297731
B	**M. I. Projects**	110	40495	81	38208	231	70126	297	94255	719	243084
Total (State Level) (A+B)		**774**	**250521**	**426**	**151936**	**1201**	**433410**	**1650**	**704948**	**4051**	**1540815**

Annexure 4

Region-wise Present Status of Water Users' Association (July 2005)

Sr. No.	Region	Water Users' Association functioning		Agreement Signed, yet to Hand Over		Registered yet to Sign Agreement		Proposed		Total	
		Nos.	CCA (Ha.)	Nos.	CCA (Ha.)	Nos.	CCA (Ha.)	Nos.	CCA (Ha.)	Nos.	CCA (Ha.)
A	**Major & Medium Projects**										
1	Konkan	0	0	0	0	4	600	12	4680	16	5280
2	Nagpur	36	12790	64	24990	176	80033	501	258176	777	375989
3	Amarawati	112	29735	69	20753	177	48421	411	186210	769	285119
4	North Maharashtra	176	61009	140	40602	158	52929	66	19579	540	174119
5	Pune	234	60077	20	6638	204	54934	305	107763	763	229412
6	Marathwada	106	46415	52	20745	251	126367	58	34285	467	227812
Total		664	210026	345	113728	970	363284	1353	610693	3332	1297731
B	**Minor Irrigation Projects**										
1	Konkan	8	958	5	604	14	2263	47	8203	74	12028
2	Nagpur	1	165	25	14972	25	8274	53	19856	104	43267
3	Amarawati	66	21626	17	5795	125	37894	158	58758	366	124073
4	North Maharashtra	14	5483	2	670	37	11157	7	1881	60	19191
5	Pune	2	177	0	0	4	1268	19	3124	25	4569
6	Marathwada	19	12086	32	16167	26	9270	13	2433	90	39956
Total		110	40495	81	38208	231	70126	297	94255	719	243084
Total (A+B)		774	250521	426	151936	1201	433410	1650	704948	4051	1540815

Annexure 5

District/ Division wise distributions of watersheds

DISTRICT	Number of Watersheds			
	Major-	Sub-	Mini-	Micro-
Thane	34	140	288	789
Raigad	17	91	220	678
Ratnagiri	20	82	116	504
Sindhudurg	11	68	191	650
Konkan div.	**82**	**381**	**815**	**2621**
Nashik	80	283	501	2518
Dhule/Nandurbar	65	302	589	1600
Jalgaon	66	278	678	1328
Nasik div.	**211**	**863**	**1768**	**5446**
Pune	71	303	637	3290
Ahmadnagar	80	225	835	3466
Solapur	64	185	415	1296
Pune Div.	**215**	**713**	**1887**	**8052**
Satara	50	217	446	1361
Sangli	38	202	400	1005
Kolhapur	40	193	366	1621
Kohlapur div.	**128**	**612**	**1212**	**3987**
Aurangabad	52	226	0	1190
Jalna	52	191	385	1299
Beed	48	104	322	2132
Aurangabad Div.	**152**	**521**	**707**	**4621**
Latur	39	117	211	806
Osmanabad	41	151	291	935
Nanded	49	123	256	1307
Parbhani/Hingoli	51	246	506	1541
Latur div.	**180**	**637**	**1264**	**4589**

Buldhana	57	250	514	1471
Akola	65	155	261	665
Washim		131	243	587
Amravati	63	228	450	1341
Yavatmal	64	439	732	1503
Amravati Div.	**249**	**1203**	**2200**	**5567**
Wardha	39	144	0	1162
Nagpur	54	206	0	1792
Bhandara	54	157	0	1416
Chandrapur	58	154	0	2174
Gadchiroli	83	182	0	2758
Nagpur Div.	**288**	**843**	**0**	**9302**
Total	**1505**	**5773**	**9853**	**44185**

Annexure 6

Present Status of Water Users' Association In Maharashtra State (July 2005)

Sr. No.	Project	Water Users' Association functioning		Agreement Signed, yet to Hand Over		Registered yet to Sign Agreement		Proposed		Total	
		Nos.	CCA (Ha.)	Nos.	CCA (Ha.)	Nos.	CCA (Ha.)	Nos.	CCA (Ha.)	Nos.	CCA (Ha.)
A	**Major & Medium**										
	Within CAD	437	136812	247	83736	626	249218	673	328197	1983	797963
	Outside CAD	227	73214	98	29992	344	114066	680	282496	1349	499768
	Total	664	210026	345	113728	970	363284	1353	610693	3332	1297731
B	**M. I. Projects**	110	40495	81	38208	231	70126	297	94255	719	243084
Total (State Level) (A+B)		**774**	**250521**	**426**	**151936**	**1201**	**433410**	**1650**	**704948**	**4051**	**1540815**

CHAPTER TWO
RESEARCH METHODOLOGY

2.0 Introduction

Knowledge that comes out from application of scientific methods is often general in nature. When such knowledge us tested or verified again and again this leads to formation of theories. A systematic presentation of theories of any particular subject is called discipline. In this way application of scientific research leads to knowledge of systematic body of knowledge consisting of concepts, theories and principles leads to development of different disciplines. In short the search for knowledge through objective and systematic method of finding solution to a problem is research.

Methodology of the study which mainly consists of target area, target population, sampling design, criteria of selection of sample, criteria of selection of target population, tools of data collection, method of data collection, analysis and interpretation of data, conclusion and generalization, aims and objectives of the study. On this background, the purpose for selection of the topic was as follows:

2.1 Definition

In this regards, some of the important definitions are as follows:

“Scientific Research consists of obtaining information through empirical observation that can be used for the systematic development of logical related proposition attempting to establish casual relations among variables.”- Black and Champion

“Research is considered to be the systematic and intensive process of carrying out scientific method of analysis. It involves a more systematic structure of investigation resulting in some sort of formal conclusion.” John Best

2.2 General Characteristics of Research

- Research is a systematic process
- It is an application of scientific method

- It is directed towards finding solution of some of the problems
- It adds to existing knowledge
- It involves scientific thinking

2.3 Social Science Research

Social Science Research is systematic method of exploring, analyzing and conceptualizing sociological phenomenon. Especially, it explains the human life in order to extend, correct or verify knowledge of human behaviour and social life.

2.4 Hypothesis

a. Watershed Development Programme leads to reduce the drudgery of rural women

b. Watershed Development Programme helped to enhance the participation of women in vaillage development activities

c. Watershed Development Programme makes the impact on improving status of women at community level

d. Watershed Development Programme leads to improve socio economic condition of the village which helps to improve living condition of the women

In the initial stage, when the researcher selected the research topic related to the holistic understanding of impact of Watershed Development Programme on womens status .Therefore following are the objectives of the research.

1. To study socio-economic condition of the women beneficiaries of Watershed Development project .
2. To explore the factors associated with the participation of the women in village development activities.
3. To study the impact of Watershed Development Programme on reducing drudgery of women
4. To study the role of women in implementation of the Watershed Development Programme.

5. To study the impact of Watershed Development Programme on Animal Husbandry and Dairy Development Business in view of improving womens economic status in villages.
6. To study the determinants of community participation in Watershed Development Project.

2.5 Inspiration for the Research Topic

Women empowerment is one of the forefront of the development.In rural community women's are not taking part in any developmental activities. Infact women's are the worst sufferers of the problem of the water scarcity. They have to fetch the water for family members, cattels and animals. They have to spend lot of energy on bringing. Thus the water Water is one of the major areas, where government is concentrating its effort for adequate and sufficient availability of water in villages. Agriculture is mainly based on irrigation, in drought prone area, almost all farmers are suffering by the problem of water for irrigation and for drinking which have direct bearings on the women. To overcome these problems, government has implemented Watershed Development Programme in villages. There was curiosity in the mind of researcher about how far these programs has made impact on improving womens status and socio-economic conditions in the respective villages. Whether this programme has helped in improving the availability of water in villages or not which is concern with the drudegery of the women, whether these programmes have made uniform impact on participation of women in community development or not etc. These are the main points which has led perhaps inspired researcher to undertake this research.

2.6 Pilot Work

One can observe, there is a lack of participation of the women's in any developmental activities conducted by the government. There is a general impression that the development is the task of male folk and women are getting only the benefits of this development. However during last decade, the approach of government has changed. Now, the government is expecting the women should be participants or the partners in the development process. Hence, the significant contribution in terms of money, labour

and material is expected by the government. There are several factors which are operating on effective participation of the women in developmental project. On this background, certain observations were made by visiting every village. The main focus of these visits was to assess the overall situation how far women are aware about Watershed Development Programme in village. The pilot survey was undertaken about 15 families each and plan of data analysis was prepared. Based on the feedback received from the pilot interviews, questionnaire was modified and finalized.

2.7 Area of the Study

a) Universe

Universe covers the whole defined area/fields on which study is based and it is the whole population out of which sample is selected. Accordingly, all villages where Watershed Development Programme was implemented in Shirur block of Pune district was the universe of this study. From this universe, four villages were selected as discussed below.

b) Study Area

The main focus of the study is on assessing the impact of Watershed Development Programme on improving women's status in villages. In this view, a survey of the various villages were undertaken at Zilla Parishad Office and it was found that in Shirur Block, this programme has been implemented very successfully. Hence, it was decided to select Shirur block for this study purpose. In shirur block, there are more than 120 villages. Out of these, Watershed Development Programme was implemented in 30 villages during last fifteen years. Among these 30 villages, final selection of the study area was carried out.

Following criteria was kept in view for selection purpose.

1. The government has implemented Watershed Development Programme before 5 years.
2. Villagers are very keen to effective use of their natural resources for their own development.

3. Panchayat Raj institutions are keen to implement Watershed Development Programme very efficiently.
4. After implementation of the Watershed Development Programme, Gram Panchayat had shoulder the responsibility for its maintenance.
5. Cooperation from the general population, villagers, Panchayat Raj functionaries and government officials.
6. Approachable by public transport facilities.

2.9 Research Design

In continuation of the above discussion, research design is prepared. To get the systematic adequate and comprehensive information, it was decided to select minimum four villages for study purpose. In these villages, the programmes have been implemented in 2007 and till today it is expected that it has made impact on womens participation. Accordingly, as per the suggestion and advice of the experts, the four villages were selected as follows:

1. Pabal: No. of families- 332 Population- 2000
2. Chincholi: No. of families- 270, Population- 1800
3. Shastabad: No. of families- 250, Population- 1300
4. Kendur: No. of families- 275, Population- 1800

The geographical areas of all these villages are almost same and the no. of beneficiaries are also more or less same. As all the villages are located in same geographical area, and in same agro-climatic conditions, it is expected that Watershed Development Programme has made significant impact on the quality of life of the villagers.

While selecting the villages, the care was taken that there is an equal number of population who has got the benefits of development as regard to the agriculture.

2.10 Sampling Design

1. While selecting sample, the care was taken that each one of the family(women) is the beneficiary of Watershed Development Programme and they have contributed

their efforts in implementation of Watershed Development Programme.

Following criteria was kept in view while selecting sample.

1. She should be the resident of the respective village.
2. She should be a farmer having own agricultural land or might be cultivating other's land.
3. Active participation in implementation of Watershed Development Programme.
4. Cooperation for providing necessary information.

2.11 Sample Size

In earlier part, total number of families has been mentioned. Among these families, its was decided to select approximately 10% of the total families.

1 Pabal: No. of families- 332

2 Chincholi: No. of families- 270,

3 Shastabad: No. of families- 320,

4 Kendur: No. of families- 300,

2.12 Selection Method of Sample

Simple Random Selection Method was used to select study population from respective villages. A list of all families were prepared with the help of village authorities and every 1oth family was selected. Therefore, from Chincholi 28 families were selected by using Lottery method and in the same way from Pabal 35 families, from Kendur, 30 families and from Shastabad, 32 families have been selected for the study.

2.13 Sources of Data

Two types of data were needed for this study. However, the secondary data was collected from Gram panchyat about total number of the families. The details about each one of the family was collected from Gram Panchayat Office.

Thus, the secondary data was collected from Gram Panchayat on the various issues of Watershed Development Programme.

The primary data was collected from the selected families. As primary data is the first hand information, researcher was totally dependent on the information received from respondents. As the primary source of data is the original source, from which researcher directly collects the data from the beneficiaries. Naturally it provides the first hand information in first attempt. Thus the primary data was collected from the head of families.

2.13 Methods of Data Collection

Considering the nature of data and the characteristics of the population, it was decided to collect the data by conducting interview of the women with the help of interview schedule. Accordingly, interview schedule was prepared. While preparing the care was taken that it will help to collect reliable data without any bias and it will also provide the data on various aspects of Watershed development. Therefore, the interview method was used to collect the data.

2.14 Tools of Data Collection

Though there are several tools for survey method, all tools are not applicable to a certain conditions. Considering the nature of problem, it was very difficult to collect the data with the help of questionnaire only, because most of the parents were illiterate and were not able to provide the information as expected by the researcher. Considering this situation, interviews were conducted with the help of structured questionnaire, which was held to get systematic data from the head of families and to probe the certain question as and when it was felt necessary. Data was collected by the researcher himself.

2.15 Data Analysis

After collecting data, extensive editing was undertaken. After clarifying the doubts, it was felt necessary to make second visit to the concerned respondents. Visit was made and necessary corrections were made in questionnaire. Soon after completing editing, coding was undertaken. Scientific method was used for coding and data was analyzed by using SPSS Software. Simple tables were prepared and graphs were designed and placed at appropriate places in respective chapters.

2.16 Presentation of the study

The entire study is presented in seven chapters as follows:

Chapter One Provides theoretical framework, various theories, nature of the problem, extends of the problem, the efforts made by the government, the situation in the field, association of various variables, classification, various variables. The extensive review on various dimensions of women's role in village development and watershed development project and its significance of water in their daily life has been considered in this chapter. The hypothesis, objectives are also given in the same chapter.

Chapter Two describes the research methodology. This includes, sampling design, tools of data collection, method of data collection, universe of study etc.

Chapter Three deals with socio-economic profile of study population, which includes Introduction, Age,Fducation ,Main occupation ,Secondary ccupation, Income , Caste, Religion, Location Of House, Distance Of House From pproached Road, Type And Area Of House, Area Of Household, Earning Members in The Family,To Monthly Income, Perception About Sufficiency Of Income, According To Native Place, Enlistment In Voter's List, Possession Of Ration Card, Colour Of Ration Card,Development During Last Five Year.

Chapter No IV is about Women and Drinking water: present situation Introduction, Type of Sources of Drinking Water, Availability of Drinking Water, Location Source of drinking Water, Distance of source of drinking water, Persons bringing water, Time Spend in Collecting Water, Frequency of bringing water, Information about WDP, Duration of the yr of Information, Source of information, Transfar of information, Perception about impact of wsdp on womens, Chapter Four deals with Sources of water, Sources of drinking water before implementation and After implementation during various seasons, during summer; Availability of water throughout year for irrigation and drinking purpose, distance from the source of water, at family level, the person who is bringing the water, time spent for bringing water, frequency for bringing the water,

information about Watershed Development Programme, perception about the impact of Watershed Development Programme, perception about change in environment, water scarcity during last five years, duration of water scarcity, efforts made to meet out the problems, Panchayat rule etc.

Chapter No 5deals with Impact of Active participation on women Introduction, Collective thinking Among Women, Extent of collective thinking, Women's participation in village Activities, Attendence in Gramsabha, Extent of participation, Womens are taken into confidence, If Yes, how much, Active part in Gramsabha, Meeting with officials, Collective thinking ablut village problems, Meeting of SHG, Frequency of the Meeting, Family Level Help of the SHG, Perception about Impact on Social Status, Perception about Impact on Economical Status, Perception about Impact on Decission Making Capacity,

Chapter VI Women, Grampanchyat and Community , Introduction,Perception about Co-operation of GP Members,Perception about Co-operation of Govt. officials, Co-operation of other womwn, Active Part in Village Development, Active Part in Cultural Activities, Control on Family resources, Strength of coping problems, Awarness about Self Esteem, Attendence of the Meeting, Participation in WSD, Participation in management, Husband's permission for participation, Decission about Children's Education , Restrications in Family, Control on family income, Active part in family decission making process Perc. About freedom.

In Seventh Chapter, Summary, Conclusion and Recommendations of the study are given.

In appendices, the questionnaire, map of the study area and Bibliography is given.

Summary

Methodology of the study consists of study area, study population, sampling design, criteria of selection of sample, criteria of selection of target population, tools of data collection, method of data collection, analysis and interpretation of data, etc. Accordingly the Hypothesis of the study is Watershed Development Programme leads to reduce the drudgery of rural women, watershed Development Programme helped to enhance the participation of women in vaillage development activities, Basewd on the hypothesis the objectives of the study are to study socio-economic condition of the women beneficiaries of Watershed Development project ,to explore the factors associated with the participation of the women in village development activities, to study the impact of Watershed Development Programme on reducing drudgery of women, to study the role of women in implementation of the Watershed Development Programme. In this chapter Universe, Study Area criteria of selection of villages, Research Design, Sampling Design, Sample Size and Selection Method of Sample, Sources of Data, Methods of Data Collection, Tools of Data Collection, Data Analysis and Presentation of the study is given

CHAPTER THREE
SOCIO-ECONOMIC PROFILE OF STUDY POPULATION

3.0 Introduction

Watershed Development Programme is one of the most important and prestigious rural development programs in India in view of women empowerment. This program is being implemented since 1950s. Perhaps, it was the main thrust area for the development of villagers and village women. Government has developed various policies and programs to implement this program in various parts of the nation. In rural areas where this program has been implemented that area is developed to the extent that the purchasing capacity of the poor women farmer has been increased substantially.

As regard to the agricultural development, every individual in the villages are closely connected with agriculture. In rural areas one finds that there is one main occupation and to support main occupation, there is another occupation which is considered as a secondary occupation. This occupation is carried out by women. Considering the changes taking place since 10 years, the villagers have started various occupations that can be helpful for poor and marginal farmers to earn more at village level. The structures of villages are based on the convenience of the farmers. If the farmer feels his stay in farm is more suitable for him, he will stay in his farm, instead of staying at village. As a result of this process, it is observed that the population is scattered in various Wadis and Vastis. Naturally, when few families are staying in Vastis, they may not get good road or transport close to their house. One finds the poor housing conditions in almost all villages. All the womens in the family are working either in their own farm or on the other's farm and earns the wages available at villages. When a women does not posses adequate agricultural land they do not get sufficient income needed for their survival. If they do not get employment opportunities in their own village, they move from one place to another place, for want of employment. Thus, the migration between villages is also important as regard to Watershed Development Programme. Possessions of Rationing

Card, Enlistment in Voter's list, Residence of the respective village etc. are also very important aspect in agriculture development.

Family Composition makes the significant development on various aspects of economic development. Earning members and their earning have special significance as regard to overall development of the community. Thus, in brief one can say that when we are thinking about the impact of Watershed Development Programme on daily life, the above points have vital significance as there is a direct relationship of socio-economic status and Watershed Development Programme. On this background, information regarding socio-economic condition of the women selected for the study has been discussed in this part.

3.1 Age

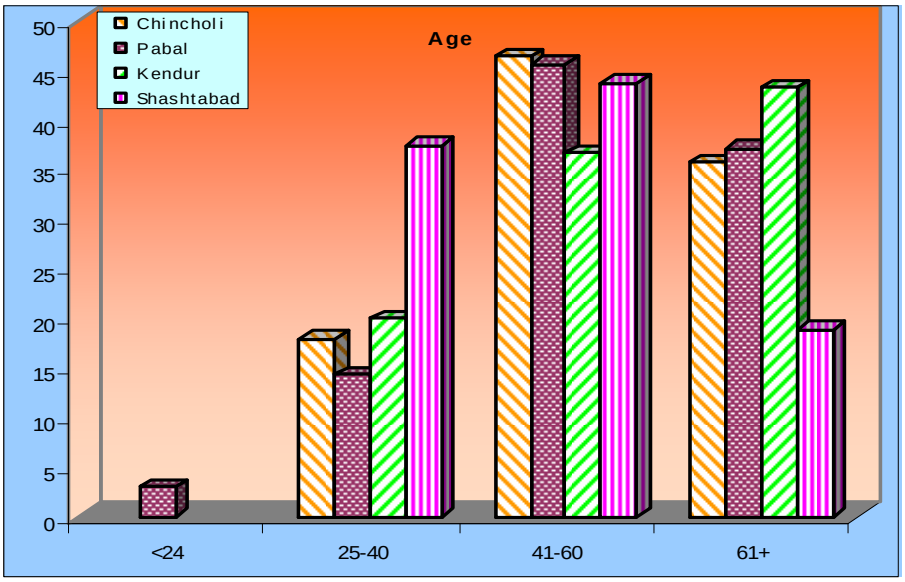
Age of respondent have a special significance because the women. follows the traditional and conventional practices of domestic work. Usually, the senior women in the family is shouldering the responsibility of next to the head of family, who takes the decision related to various agricultural operations. The accounting in agriculture is most complicated part. Decisions related to all aspects of the family need maturity of thinking to perform the role and responsibility of farming. Hence, the age is important to achieve the level of maturity as a head of family, who takes the decisions related to his agriculture.

Table No. 3.1 Distribution of the respondents According to age

Village	Age of Respondent				Total
	<24	25-40	41-60	61+	
Chincholi	0	5	13	10	28
	0.0%	17.9%	46.4%	35.7%	100.0%
Pabal	1	5	16	13	35
	2.9%	14.3%	45.7%	37.1%	100.0%
Kendur	0	6	11	13	30
	0.0%	20.0%	36.7%	43.3%	100.0%
Shashtabad	0	12	14	6	32
	0.0%	37.5%	43.8%	18.8%	100.0%
Total	1	28	54	42	125
	0.8%	22.4%	43.2%	33.6%	100.0%

Figure No. 3.1

Age of the Respondents



According to the table above, the maximum number of women falls under 41-60 years of age group, i.e. 43.2% followed by above 61 years, 33.6% and 25-40 years 22.4%. Very few women respondents fall under below 24 years, i.e. 0.8%. No large variations have been identified between the villages. The proportion is same in Chincholi and Pabal, whereas as regard to Kendur maximum number of women respondents are of Above 61 age-group and in Shashtabad, very least proportion of women respondents fall under the category of Above 61 age-group. The women respondents of age-group below 24 are nil in Chincholi, Kendur and Shashtabad and are about 3% in Pabal. In brief it is to say that, women respondents are of late adulthood and early old age and matured enough of all the aspects such as agriculture and village life.

3.2 Education

Educated women are expected to use scientific methods and advance knowledge in agriculture. The illiterate women may use traditional methods but the women, who has exposure of education; they may use the advancement taken place in the field of agriculture. In all villages, educational level is low as compared to urban areas. The literacy level among the women is considerably very low for two main reasons. One-there is high drop out rate and another is non-enrolment is equally very high. Most of the

villagers are thinking that they have to do farming in their latter age. Hence, they need not to take education. Naturally, this understanding has prevented them for the application of advanced knowledge and technology in their agriculture. The educated women may be able to explain the impact the impact of Watershed Development Programme on various aspect of agriculture and its allied fields, but the illiterate women cannot explain this process. In this view, the education of women respondents is important.

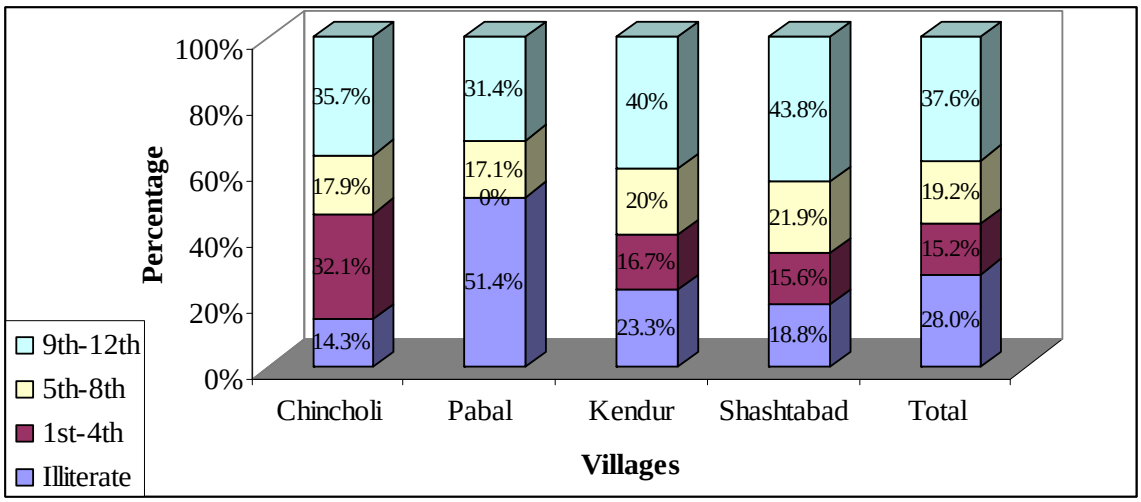
Table no. 3.2

Distribution of the respondents According to education

Village	Education of Respondent				Total
	Illiterate	1-4	5-8	9-12	
Chincholi	4	9	5	10	28
	14.3%	32.1%	17.9%	35.7%	100.0%
Pabal	18	0	6	11	35
	51.4%	0.0%	17.1%	31.4%	100.0%
Kendur	7	5	6	12	30
	23.3%	16.7%	20.0%	40.0%	100.0%
Shashtabad	6	5	7	14	32
	18.8%	15.6%	21.9%	43.8%	100.0%
Total	35	19	24	47	125
	28.0%	15.2%	19.2%	37.6%	100.0%

Figure No. 3.2

Education of the Respondents



It is seen from the above table that, the maximum level of education the women respondents have is up to 12^{th} standard, i.e. highest in Chincholi 43.8% followed by 40% in Kendur, 35.7% in Chincholi and 31.4% in Pabal. As regard to primary education, 50% women respondents have got primary education in Chincholi, whereas only about 18% women respondents have got education till primary education in Pabal. It is 36.7% in Kendur and 37.5% in Shashtabad. More than half of the women respondents in Pabal are illiterate, whereas it is only 23.3% in Kendur, 18.8% in Shashtabad and 14.3% in Chincholi. The overall picture shows that 28% women respondents are illiterate, 34.4% are educated till primary level and 37.6% women respondents have education till twelfth standard.

3.3 Occupation

It is a fact that, even today 80 percent of the rural population is dependent on agriculture for their livelihood. Indeed, in villages agriculture is the only source to meet their daily needs. In most of the villages, agriculture is not providing the employment throughout year. Hence, they may adapt some other occupation which will support their main occupation. During last 30 years, the industrial growth and progress has made significant impact on rural areas also. Naturally, there is slight diversion in occupational pattern. Transportation, dairy development, vegetable business, small shops, renting agricultural appliances etc. are new emerging trends of agriculture which is observed in villages. Dairy Development, Vegetable Agriculture, Floriculture, Horticulture are also considered as a secondary occupation, which helps to support their main occupation in villages. If the main occupation doesn't fulfil their minimum needs and if there is no scope for getting employment throughout year, the womens in that family takes employment in nearby villages or they work on other's farm as a agricultural labourer, which is considered to be secondary occupation at village level. The secondary occupation is mainly accepted by the young generations who are educated at minimum level of education and staying in the same family. This situation is observed in almost all villages. The occupation related to dairy development is also one of the significant aspects of development at village level. As the study area have the proximity of urban setting, they are getting substantial market facilities in Pune city. Naturally, dairy development is

being carried out as a secondary occupation. The details about the primary and secondary occupation are discussed in the following points.

Table no. 3.3

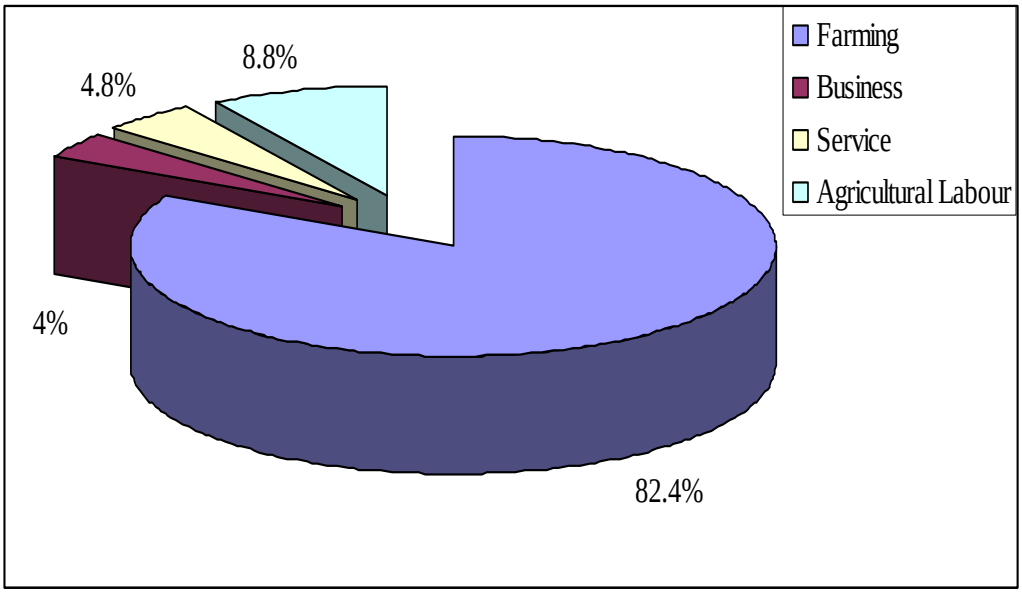
Distribution of the respondents

According to main occupation

Village	Main Occupation				Total
	Farming	Business	Service	Agricultural Labour	
Chincholi	27	0	0	1	28
	96.4%	0.0%	0.0%	3.6%	100.0%
Pabal	30	2	3	0	35
	85.7%	5.7%	8.6%	0.0%	100.0%
Kendur	19	3	3	5	30
	63.3%	10.0%	10.0%	16.7%	100.0%
Shashtabad	27	0	0	5	32
	84.4%	0.0%	0.0%	15.6%	100.0%
Total	103	5	6	11	125
	82.4%	4.0%	4.8%	8.8%	100.0%

Figure No. 3.3

Main Occupation of the Respondents



More than 80% of the women respondents own farming as their main occupation, whereas only 4% women respondents have main occupation as business, followed by 4.8% in service and 8.8% are engaged in Agricultural labour. No large variations are identified between villages. In fact, there are no women respondents who own business and service as their main occupation in Chincholi and Shashtabad and are 14.3% in Pabal and 20% in Kendur. Agricultural labourers are nil in Pabal and are followed by Chincholi 3.6%, Shashtabad 15.6% and Kendur 16.7%. In brief, one can say that farming is the main occupation in all the villages and only educated people are engaged in other type of occupations such as service and business. The people who don't have land are not educated only these people are engaged in agricultural labour.

Table No. 3.3 B
Main Occupation * Education of Respondent

Main Occupation	Education of Respondent				Total
	Illiterate	1-4	5-8	9-12	
Farming	30	16	23	34	103
	29.1	15.5	22.3	33.0	100.0
Business	1	1	0	3	5
	20.0	20.0	0.0	60.0	100.0
Service	2	0	0	4	6
	33.3	0.0	0.0	66.7	100.0
Agri Labour	2	2	1	6	11
	18.2	18.2	9.1	54.5	100.0
Total	35	19	24	47	125
	28.0	15.2	19.2	37.6	100.0

The above table shows that either illiterate or the women having Education more than 8th Std. is performing farming as a main occupation and equally it is found that the agricultural labour also. There is no any consistency in education and occupation. This shows that either educated or non-educated women can do any type of occupation. The details regarding secondary occupation is shown in the table below:

Table no. 3.4 a

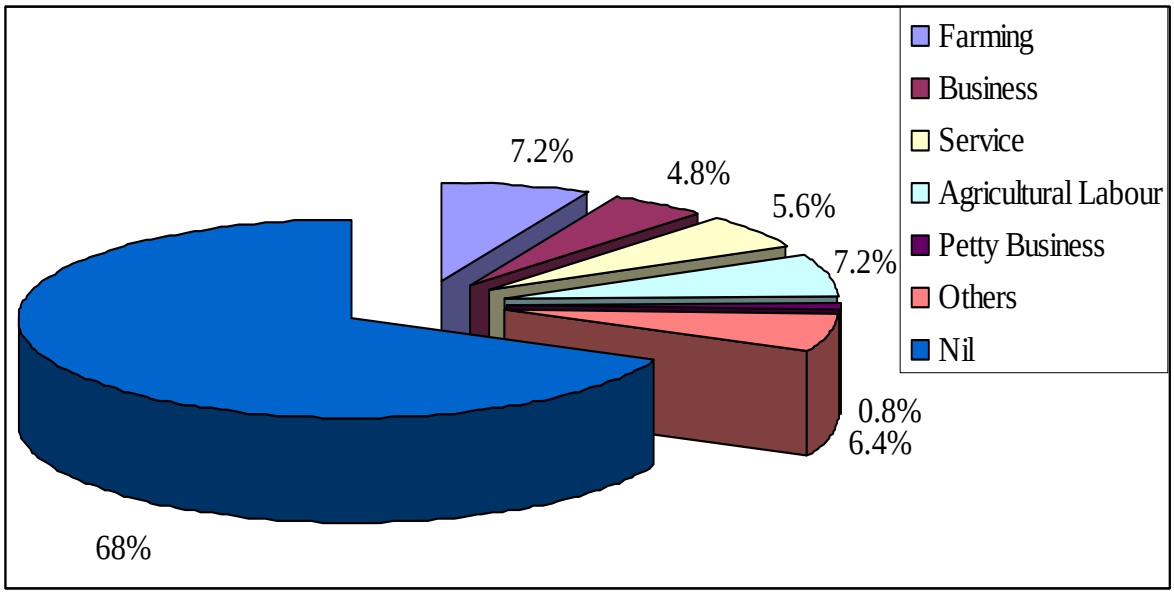
Distribution of the respondents

According to secondary occupation

Village	Secondary Occupation							Total
	Farming	Business	Service	Agri.Labour	Petty	Other	Nil	
Chincholi	1	1	2	2	0	1	21	28
	3.6%	3.6%	7.1%	7.1%	0.0%	3.6%	75.0%	100.0%
Pabal	0	3	0	2	1	2	27	35
	0.0%	8.6%	0.0%	5.7%	2.9%	5.7%	77.1%	100.0%
Kendur	6	1	1	2	0	0	20	30
	20.0%	3.3%	3.3%	6.7%	0.0%	0.0%	66.7%	100.0%
Shashtabad	2	1	4	3	0	5	17	32
	6.3%	3.1%	12.5%	9.4%	0.0%	15.6%	53.1%	100.0%
Total	9	6	7	9	1	8	85	125
	7.2%	4.8%	5.6%	7.2%	0.8%	6.4%	68.0%	100.0%

Figure No. 3.4

Secondary Occupation of the Respondents



According to the table above, maximum women respondents don't have any secondary occupation and are fully dependent on primary occupation. The secondary occupations people are engaged in apart from farming are business, service, agricultural labour, petty business and some other occupations. 25% from Chincholi, 23% from Pabal, 33% from Kendur and 47% from Shashtabad are engaged in different types of secondary

occupations. Among the secondary occupations farming and agricultural labour are most popular in the study villages followed by service i.e. 5.6%, business 4.8% and petty business about 1%. In brief, it is to say that moreover people are engaged in agriculture either this way or that way by holding it as primary occupation or secondary occupation and in agricultural labour which is also directly related to agriculture.

Table No. 3.4 B
Distribution of the Respondents According to Secondary Occupation V/S Main Occupation

Secondary Occupation	Secondary Occupation			Total
	Farming	Business	Agri Labour	
Farming	3	2	4	9
	33.3	22.2	44.4	100.0
Business	5	0	1	6
	83.3	0.0	16.7	100.0
Service	6	0	1	7
	85.7	0.0	14.3	100.0
Agri Labour	8	1	0	9
	88.9	11.1	0.0	100.0
Petty	1	0	0	1
	100.0	0.0	0.0	100.0
Other	7	1	0	8
	87.5	12.5	0.0	100.0
Nil	79	1	5	85
	92.9	1.2	5.9	100.0
Total	109	5	11	125
	87.2	4.0	8.8	100.0

For farming, agricultural labour and other petty job are observed to be more important as a secondary occupation. Perhaps, it is agriculture related job. Hence, women respondents are preferring such type of occupation.

3.4 Annual Income

To calculate annual income of a farmer's family is very difficult task, because most of the farmers are illiterate, they do not keep the record of expenditure and income. Perhaps, it is very difficult to keep such records. Usually, the main product is considered as a income, but the secondary product do no have any status in the agriculture. For example:

the straws of paddy or pulses, husks of Jawar and Bajra, Wheat etc. They do not have any market value. Hence, it is not considered as income. These are the by products of the agriculture. One cannot get the appropriate valuation of such things. Another aspect is the farmer put his efforts throughout year. Along with him, the family members also help in various operations in agriculture. Therefore, the valuation of manpower that he has put for production is very difficult to calculate in terms of cash. One of the significant of agriculture is that there are some products which hare very less in quantity. The farmer does not take the cognition of such products in his income. Most of the products are needed for domestic consumption. Naturally, he doesn't consider these agricultural products as the source of income. Hence, one finds large variation in income level in the villages.

Table no. 3.5 A

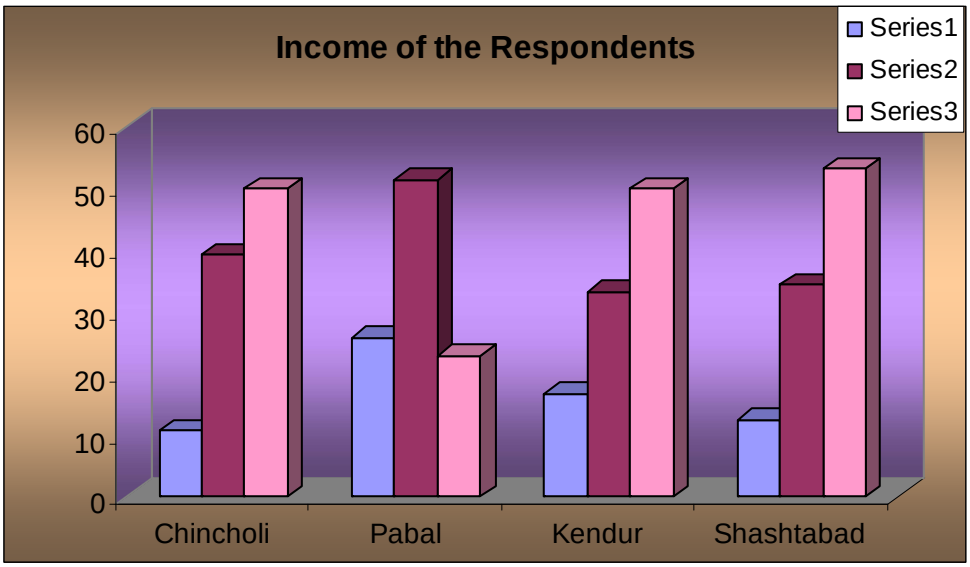
Distribution of the respondents

According to income

Village	Income(in thousand/annum)			Total
	<25000	25000-50000	50000 +	
Chincholi	3	11	14	28
	10.7%	39.3%	50.0%	100.0%
Pabal	9	18	8	35
	25.7%	51.4%	22.9%	100.0%
Kendur	5	10	15	30
	16.7%	33.3%	50.0%	100.0%
Shashtabad	4	11	17	32
	12.5%	34.4%	53.1%	100.0%
Total	21	50	54	125
	16.8%	40.0%	43.2%	100.0%

Figure No. 3.5

Annual Income of the Respondents



The above data indicates that 43.2% of the women respondents have annual income above 50,000. 2/5 of the total women respondents have annual income ranges in between 25,000-50,000 and around 17% women respondents have very less annual income, i.e. below 25,000 per annum. No large variations have been identified in all the villages as the women respondents having very less annual income are not increased by 25% in all the villages. In Chincholi, Kendur and Shashtabad about 50% women respondents have income more than 50,000 per annum which sounds better income in the villages, whereas it is only 23% in Pabal. It is followed by income of 25,000-50,000 per annum, i.e. 51.4% in Pabal, 39.3% in Chincholi, 34.4% in Shashtabad and 33.3% in Kendur. In overall, one can conclude that about half of the women respondents in all the villages have sound economic background and almost ¼ of the total women respondents have very low annual income, which shows low quality of life.

Table No. 3.5 B
Distribution of the Respondents According to
Income (in thousand/annum) V/S Main Occupation

Income (1000/annum)	Main Occupation				Total
	Farming	Business	Service	Agri Labour	
<25000	14	1	3	3	21
	66.7	4.8	14.3	14.3	100.0
25000-50000	43	2	0	5	50
	86.0	4.0	0.0	10.0	100.0
50000 +	46	2	3	3	54
	85.2	3.7	5.6	5.6	100.0
Total	103	5	6	11	125
	82.4	4.0	4.8	8.8	100.0

In the farming occupation, income is dependent on the size of land they possess. However, in farming occupation also, there is a consistency in steady income. This is mainly due to the various cropping pattern.

Table No. 3.5 C
Distribution of the Respondents According to
Development during last five year V/S Income (in thousand/annum)

Development during last five year	Income(in thousand/annum)			Total
	<25000	25000-50000	50000 +	
Nil	10	26	22	58
	17.2	44.8	37.9	100.0
1& 5	1	8	8	17
	5.9	47.1	47.1	100.0
2	2	3	4	9
	22.2	33.3	44.4	100.0
3&7	3	4	6	13
	23.1	30.8	46.2	100.0
4&6	1	4	5	10
	10.0	40.0	50.0	100.0
1+2+3+4+5	4	4	6	14
	28.6	28.6	42.9	100.0
All	0	1	2	3
	0.0	33.3	66.7	100.0
Total	21	50	53	124
	16.9	40.3	42.7	100.0

Development during last five year has close connection with monthly income. The womens having higher income have undertaken the development in various fields.

3.5 Caste

Indian Society has a strong base of Caste System. As per Government's classification (Standard), Scheduled Caste, Scheduled Tribe, Other Backward Castes and the general caste are the main categories. Generally, it is observed that Scheduled Caste and Scheduled Tribe do no posses agricultural land and if they have, it is very small in quantity. Naturally, they belong from marginal and small farmers' category. Once point is to be clarified here that there are certain communities in the villages which do not perform agriculture directly, but they provide necessary services needed for agriculture. Therefore, assessing the impact of Watershed Development Programme, on these communities are very important, whether they were benefited by this program or not and if they are benefited up to what extent, it has helped to change their quality of life. The detail of the distribution according to Caste is as follows.

Table no. 3.6 a

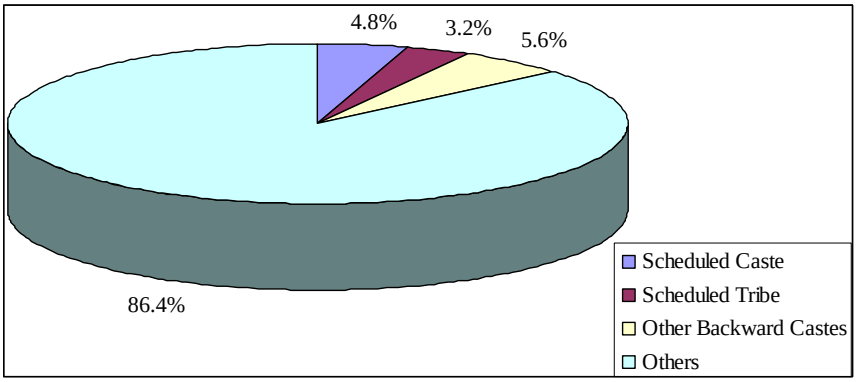
Distribution of the respondents

According to caste/tribe

Village	Caste/Tribe				Total
	SC	ST	OBC	Other	
Chincholi	1	1	4	22	28
	3.6%	3.6%	14.3%	78.6%	100.0%
Pabal	0	1	3	31	35
	0.0%	2.9%	8.6%	88.6%	100.0%
Kendur	2	2	0	26	30
	6.7%	6.7%	0.0%	86.7%	100.0%
Shashtabad	3	0	0	29	32
	9.4%	0.0%	0.0%	90.6%	100.0%
Total	6	4	7	108	125
	4.8%	3.2%	5.6%	86.4%	100.0%

Figure No. 3.6

Caste/Tribe of the Respondents



About 85% of the total women respondents fall under the category of Other, i.e. open category in caste which is followed by Other Backward Classes 5.6%, Scheduled Caste 4.8% and Scheduled Tribe 3.2%. No large variations are found in all the villages as there are very few SC, ST and OBC category women respondents are found in all the villages. The ST and OBC category women respondents in Shashtabad, OBC category in Kendur and SC Category in Pabal are nil. From the above that one can conclude that very minority of the people are from reserved category there in all the villages.

Table No. 3.6 B
Distribution of the Respondents According to
Caste/Tribe V/S Main Occupation

Caste/Tribe	Main Occupation				Total
	Farming	Business	Service	Agri Labour	
SC	5	0	0	1	6
	83.3	0.0	0.0	16.7	100.0
ST	4	0	0	0	4
	100.0	0.0	0.0	0.0	100.0
OBC	7	0	0	0	7
	100.0	0.0	0.0	0.0	100.0
Other	87	5	6	10	108
	80.6	4.6	5.6	9.3	100.0
Total	103	5	6	11	125
	82.4	4.0	4.8	8.8	100.0

Among the open category people and OBC category, farming is the main occupation in all the villages.

Table No. 3.6 C Distribution of the Respondents According to Caste/Tribe V/S Income (in thousand/annum)

Caste/Tribe	Income(in thousand/annum)			Total
	<25000	25000-50000	50000 +	
SC	1	4	1	6
	16.7	66.7	16.7	100.0
ST	0	3	1	4
	0.0	75.0	25.0	100.0
OBC	0	3	4	7
	0.0	42.9	57.1	100.0
Other	20	40	48	108
	18.5	37.0	44.4	100.0
Total	21	50	54	125
	16.8	40.0	43.2	100.0

The above table indicates that the OBC and other category of the womens have more income as compared to SC and STs. This is quite obvious that as they possess the land, chances of getting more income are more in these people.

3.6 Religion

Hinduism is the prominent religion in Indian Society. Even today more than 80 percent population is Hindu followed by Islam, Christianity, and Neo-Buddhism. The details about the broad distribution of various religions are discussed in following points.

Table no. 3.7

Distribution of the respondents according to religion

Village	Religion		Total
	Hindu	Muslim	
Chincholi	28	0	28
	100.0%	0.0%	100.0%
Pabal	35	0	35
	100.0%	0.0%	100.0%
Kendur	29	1	30
	96.7%	3.3%	100.0%
Shashtabad	30	2	32
	93.8%	6.3%	100.0%
Total	122	3	125
	97.6%	2.4%	100.0%

Talking about the religion, almost all women respondents are Hindu considering 2.4% Muslims. In Chincholi and Pabal, all the women respondents are Hindu and only 3.3% and 6.3% in Kendur and Shashtabad respectively are Muslims. It shows that the villages are Hindu dominated villages are minority are Muslims.

3.7 Location of House

Agriculture is an occupation, which needs attention continuously throughout the year. Hence, the farmer usually prefers to stay in farm so that he can give continuous on his farm. There are some families who stay in group on the particular geographical area. These groups of houses are cluster of houses are known as wadi or vasti. Apart from Wadi and Vasti, there are single families also which stays in their own farms in isolation. The Watershed Development Programme might have made impact on cropping pattern and the cropping intensity. If the farm is far away from village, they prefer to stay in their own agricultural land. For such families, day to day drudgery is more, because they do not have Pakka approach road. During rainy season, they have to face several difficulties. For shopping or daily needs, they have to come in village quite frequently. Built in view of agricultural practice, stay in farm is considered to be more important than in to stay in village. The detail about the place of house and the distance from approach road is as follows:

Table no. 3.8 distribution of the respondents

According to location of house

Village	Location of House		Total
	In Farm	In Vastis	
Chincholi	12	16	28
	42.9%	57.1%	100.0%
Pabal	4	31	35
	11.4%	88.6%	100.0%
Kendur	15	15	30
	50.0%	50.0%	100.0%
Shashtabad	8	24	32
	25.0%	75.0%	100.0%
Total	39	86	125
	31.2%	68.8%	100.0%

According to above table, total 68.8% of the women respondents live in Vastis and remaining women respondents live in their own farm. Large variations are identified in the villages. 75% of Shashtabad, 50% of Kendur, 88.6% of Pabal and 57.1% of Chincholi live in Vastis whereas 42.9% of Chincholi, 11.4% of Pabal, 50% of Kendur and 25% of Shashtabad live in farms. People who are exclusively engaged in farming, they generally live in farms for better production and efficient farming, but as people are social animals and need cooperation of each other in any matters, they prefer to live in vastis, where they are accessible to all the facilities as well as in touch with other villagers.

3.8 Distances between House and Approached Road

If the farmer is staying in farm, his house may be located away from the main road. That may cause inconvenience in availing the facilities like health services, schooling of the children etc. One point is to be noted here that sometimes it is the need to stay in farm. It helps in taking care of their crop from time to time. Usually, temporary house is constructed near the well so that they need not face any problem of bringing water. The detail about the distance of the house from main road is given in following table:

Table no. 3.9

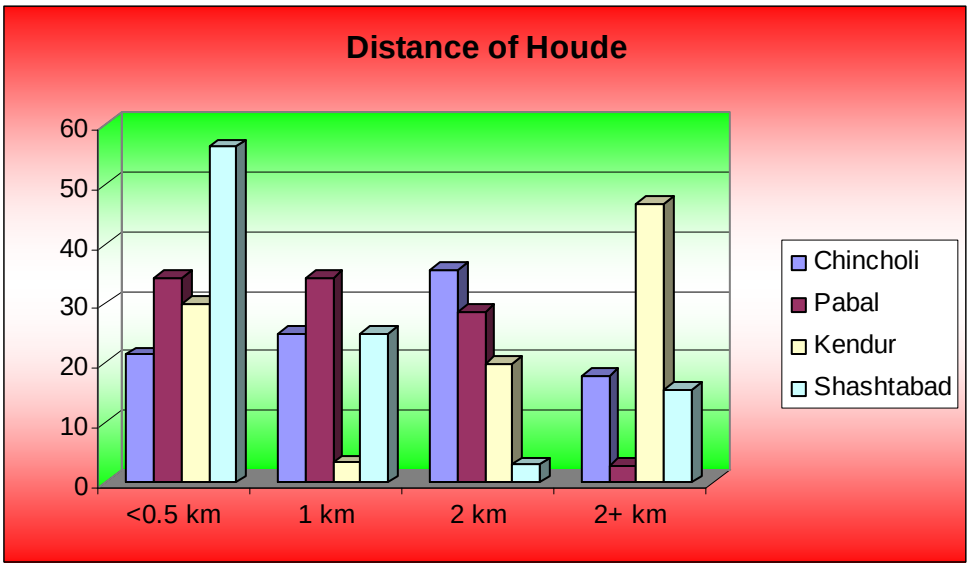
Distribution of the respondents according to

Distance of house from approached road

Village	Distance of House from approach road (km)				Total
	<0.5 km	1 km	2 km	2+ km	
Chincholi	6	7	10	5	28
	21.4%	25.0%	35.7%	17.9%	100.0%
Pabal	12	12	10	1	35
	34.3%	34.3%	28.6%	2.9%	100.0%
Kendur	9	1	6	14	30
	30.0%	3.3%	20.0%	46.7%	100.0%
Shashtabad	18	8	1	5	32
	56.3%	25.0%	3.1%	15.6%	100.0%
Total	45	28	27	25	125
	36.0%	22.4%	21.6%	20.0%	100.0%

Figure No. 3.7

Distance of House from Approached Road



As more than 2/3 women respondents live in clusters of the village, where a considerable number of people live, there is no any long distance from their house to any approached road. 36% of the total women respondents live in distance below half kilometre followed by 1km, i.e. 22.4%, 2kms 21.6% and 20% live in distance more than 2kms from the approached road. Generally, people who live in farm live in isolation, so there is no accessibility of road and have to cross a long distance to reach the road and access to development, because road infrastructures are base of development, means where there is road, there is indication of development. A large variation is found in between the villages regarding the distance between house and approached road. In Chincholi 35.7% women respondents have distance of 2kms followed by 28.6% in Pabal, 20% in Kendur and only 3.1% in Shashtabad. 56.3% of Shashtabad live in distance less than half kilometre, which is followed by Pabal, i.e. 34.3%, Kendur 30% and 21.4% in Chincholi. It is very surprising that 46.7% of the total women respondents of Kendur live in distance more than 2kms from the approached road.

3.9 Type and Area Of House

It is known fact that due to poor economic condition, most of the farmers do not have pakka house. Usually, it is observed that it is made up of the straw of paddy or wheat and for roofing tin-sheets is used. Walls are made up of grass and thatched by cow dong. For flooring, they cannot afford for stone or bricks. Hence, loam is used for flooring, which is used to be cleaned and covered by thin layer of cow-dong. Uses of modern amenities such as toilets, bathrooms, separate kitchens, separate bedrooms or drawing rooms etc. are totally absent. They have hardly, one big room, partitioned by grass walls for various purposes. The size of house or the area of house does not have any special significance, because the land is available in plenty. It is also observed in rural areas, the cowsheds are also much closed to the house. Perhaps, in most of the houses, one finds the cowshed is located inside the house. The proximity of animals creates several problems in rural areas. There is no proper drainage and disposal of animal waste. There are hardly few houses of the womens who are rich and posses large size of land built as per urban settings. For a poor women almost everyone stay in small huts. The detail about the type of house and total area of house is discussed as follows.

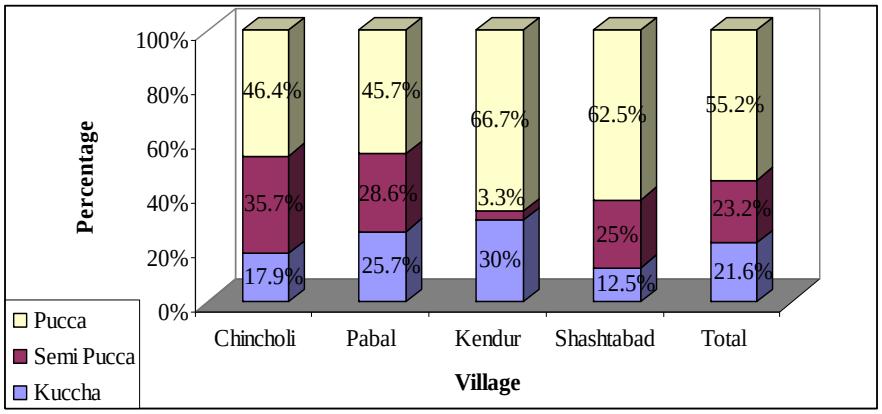
Table no. 3.10 a

Distribution of the respondents

According to type of house

Village	Type of House			Total
	Kachcha	Semi Pucca	Pucca	
Chincholi	5	10	13	28
	17.9%	35.7%	46.4%	100.0%
Pabal	9	10	16	35
	25.7%	28.6%	45.7%	100.0%
Kendur	9	1	20	30
	30.0%	3.3%	66.7%	100.0%
Shashtabad	4	8	20	32
	12.5%	25.0%	62.5%	100.0%
Total	27	29	69	125
	21.6%	23.2%	55.2%	100.0%

Figure No. 3.8 Type of House



It is very interesting to know that 55.2% women respondents live in Pucca Houses. However, they are living in the villages; they are able to make Pucca and permanent house to live. 23.2% of the total women respondents live in Semi-pucca Houses and 21.6% people live in Kachcha type of houses. The proportion is same in all the villages. Total 66.7% women respondents of Kendur live in Pucca houses, which figure maximum is among all the villages followed by 62.5% in Shashtabad, 46.4% in Chincholi and 45.7% in Pabal. Talking about kachchha type of house, it is also led by Kendur, i.e. 30% followed by Pabal 25.7%, Chincholi 17.9% and Shashtabad 12.5%. In conclusion it is to say that though all the study areas are of rural setting, the considerable number of people live in Pucca houses which again indicates their quality of life. The area of the house also indicates the well being of the family.

Table No. 3.10 B
Distribution of the Respondents According to
Type of House V/S Income (in thousand/annum)

Type of House	Income (in thousand/annum)			Total
	<25000	25000-50000	50000 +	
Kuccha	4	12	11	27
	14.8	44.4	40.7	100.0
Semi Pucca	5	11	13	29
	17.2	37.9	44.8	100.0
Pucca	12	27	30	69
	17.4	39.1	43.5	100.0
Total	21	50	54	125
	16.8	40.0	43.2	100.0

There is hardly any association in the income and type of house. This indicates, though the farmer is rich, they used to stay in either Semi-Pucca or Kachcha Houses. The details regarding the area of the house of the women respondents are given in the table below:

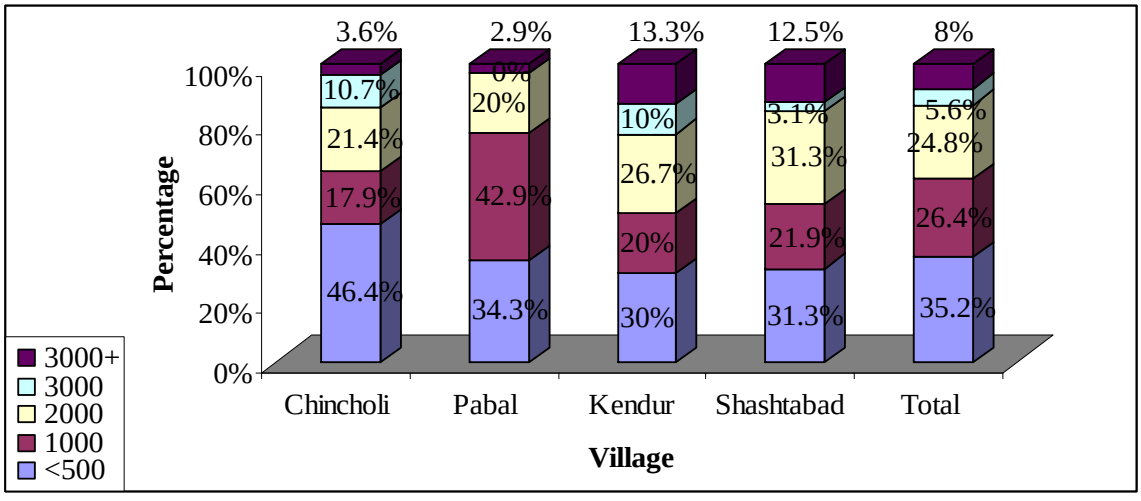
Table no. 3.11

Distribution of the respondents

According to area of household

Village	Area of Household (sq ft)					Total
	<500	1000	2000	3000	3000+	
Chincholi	13	5	6	3	1	28
	46.4%	17.9%	21.4%	10.7%	3.6%	100.0%
Pabal	12	15	7	0	1	35
	34.3%	42.9%	20.0%	0.0%	2.9%	100.0%
Kendur	9	6	8	3	4	30
	30.0%	20.0%	26.7%	10.0%	13.3%	100.0%
Shashtabad	10	7	10	1	4	32
	31.3%	21.9%	31.3%	3.1%	12.5%	100.0%
Total	44	33	31	7	10	125
	35.2%	26.4%	24.8%	5.6%	8.0%	100.0%

Figure No. 3.9: Area of Household



According to the table above, 35.2% women respondents have households in area up to 500 sq. ft. which is followed by up to 1000 sq. ft., i.e. 26.4%, up to 2000 sq. ft. 24.8%, more than 3000 sq. ft. 8% and up to 3000 sq. ft. 5.6%. The proportion is equal in all the villages. However, the data regarding the area of the household in Pabal is somehow

different than in other villages. 42.9% women respondents have household area up to 1000 sq. ft. which is followed by less than 500 sq. ft. is 34.3%, up to 2000 sq. ft. is 20% and more than 3000 sq. ft. is 3.6%. There is no any household holding the area up to 3000 sq. ft. It indicates that, the total area of household is considerably small. It may be because of the type of house. The people invest more in the house to make a pucca house, so that they cannot afford a big house, thus remain in small area.

3.10 Earning Members in the Family

In rural areas, large size families are prominently observed. This is mainly due to the requirement of man power in agriculture. Larger the family, better the agriculture, this is the simple equation followed by every family. Naturally, the family size is considerably large. As the children in the family grows. They start working either in their own farm or on the other's farm to get money or help from their side. Almost everyone of the family works in their own farm and if they do not have any work in their family, they can work on the other's farm to support their family income. The Women gets daily wages in agriculture and male ma\members of the family gets various types of the work, from which they can earn the wages during off season of agricultural operations. The detail about the number of earning members in family is given in following table.

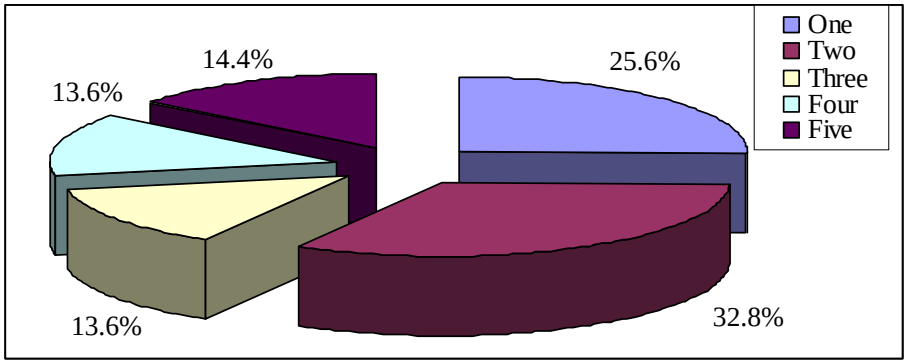
Table no. 3.12 a

Distribution of the respondents according to total earners

Village	Total Earners in Family					Total
	1	2	3	4	5+	
Chincholi	4	8	6	3	7	28
	14.3%	28.6%	21.4%	10.7%	25.0%	100.0%
Pabal	10	15	3	7	0	35
	28.6%	42.9%	8.6%	20.0%	0.0%	100.0%
Kendur	7	11	4	3	5	30
	23.3%	36.7%	13.3%	10.0%	16.7%	100.0%
Shashtabad	11	7	4	4	6	32
	34.4%	21.9%	12.5%	12.5%	18.8%	100.0%
Total	32	41	17	17	18	125
	25.6%	32.8%	13.6%	13.6%	14.4%	100.0%

Figure No. 3.10

Total Earners in Family



In 1/3 families, there are 2 members earning in the family and ¼ of the families have only one earning member, which is followed by 14.4% where 5 or more than 5 family members are engaged in earning and equal ratio of families i.e. 13.6% have 3 or 4 family members earning in the family. The proportion is almost same in all the villages except Shashtabad, where the highest number of families has only one member earning in the family, i.e. 34.4%. The more members earning in the family equals to more income of the family and more income of the family equals to quality of life, they are simple equations. Based on these equations one can conclude that the families have less fix income, but it might be that they have not considered those as earning members who are unorganized sector of agriculture.

Table No. 3.12 B
Distribution of the Respondents According to
Total Earners in Family V/S Main Occupation

Total Earners in Family	Main Occupation				Total
	Farming	Business	Service	Agri Labour	
1	24	1	1	6	32
	75.0	3.1	3.1	18.8	100.0
2	35	2	3	1	41
	85.4	4.9	7.3	2.4	100.0
3	15	0	0	2	17
	88.2	0.0	0.0	11.8	100.0
4	14	0	1	2	17
	82.4	0.0	5.9	11.8	100.0
5+	15	2	1	0	18
	83.3	11.1	5.6	0.0	100.0
Total	103	5	6	11	125
	82.4	4.0	4.8	8.8	100.0

Larger the family, farming is the occupation. This simple equation is observed in all villages. Perhaps, large numbers of the family womens are observed in farming occupation.

Table No. 3.12 C
Distribution of the Respondents According to
Total Earners in Family V/S Income (in thousand/annum)

Total Earners in Family	Income(in thousand/annum)			Total
	<25000	25000-50000	50000 +	
1	7	11	14	32
	21.9	34.4	43.8	100.0
2	7	16	18	41
	17.1	39.0	43.9	100.0
3	1	9	7	17
	5.9	52.9	41.2	100.0
4	3	7	7	17
	17.6	41.2	41.2	100.0
5+	3	7	8	18
	16.7	38.9	44.4	100.0
Total	21	50	54	125
	16.8	40.0	43.2	100.0

From the above table, it shows larger the number of earners in the family, higher the income.

3.11 Fix Income of Family

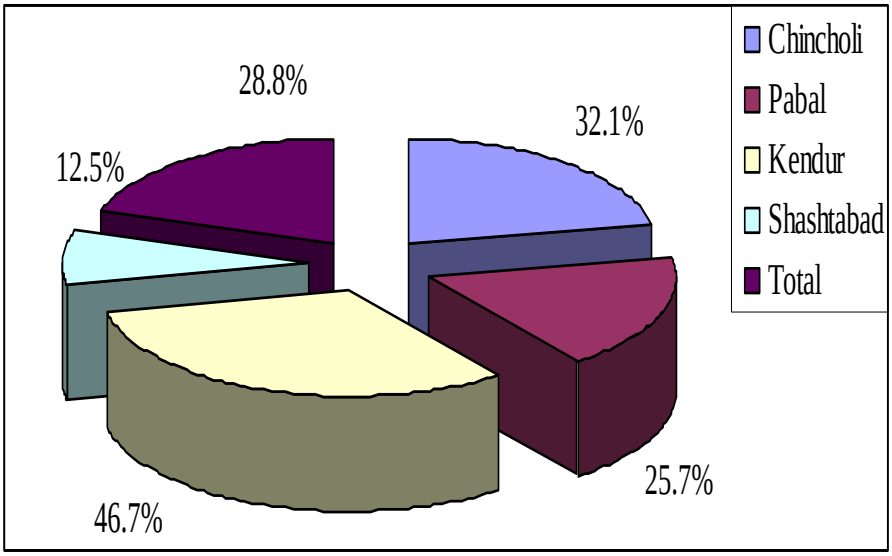
In agriculture, there is hardly any income source, which provides fix income to the family. Dairy, Poultry and Goat keeping are various occupations related to agriculture. For meeting the expenses of agricultural operation, they must have some other income source. If they earn the wages, their proportion is considerably less. Hence, they could not meet their daily expenses. Most of the families do no have the specific fix income from which they can meet their daily necessities. The detail regarding the various sources of fix income is shown in following table.

Table no. 3.13 a

Distribution of the respondents according to monthly income

Village	Monthly Fix Income		Total
	Yes	No	
Chincholi	9	19	28
	32.1%	67.9%	100.0%
Pabal	9	26	35
	25.7%	74.3%	100.0%
Kendur	14	16	30
	46.7%	53.3%	100.0%
Shashtabad	4	28	32
	12.5%	87.5%	100.0%
Total	36	89	125
	28.8%	71.2%	100.0%

Figure No. 3.11 Monthly Income



According to table above, 71.2% people don't have monthly fix income as almost all of them are engaged in farming holding it either as primary occupation or secondary occupation, where the income is not certain and is fully based on the production of the year. Considering the statistics of the women respondents who have monthly fix income, Kendur has maximum number of people who have fix income, i.e. 46.7%, followed by Chincholi 32.1%, Pabal 25.7% and Shashtabad 12.5%.

Table No. 3.13 B
Distribution of the Respondents According to
Monthly Fix Income V/S Main Occupation

Monthly Fix Income	Main Occupation				Total
	Farming	Business	Service	Agri Labour	
Yes	27	1	3	5	36
	75.0	2.8	8.3	13.9	100.0
No	76	4	3	6	89
	85.4	4.5	3.4	6.7	100.0
Total	103	5	6	11	125
	82.4	4.0	4.8	8.8	100.0

For farming occupation, there is no consistency of income but it varies from season to season. This observation is prominently observed from above table.

Table No. 3.13 C

Distribution of the Respondents According to
Monthly Fix Income V/S Income (in thousand/annum)

Monthly Fix Income	Income(in thousand/annum)			Total
	<25000	25000-50000	50000 +	
Yes	8	12	16	36
	22.2	33.3	44.4	100.0
No	13	38	38	89
	14.6	42.7	42.7	100.0
Total	21	50	54	125
	16.8	40.0	43.2	100.0

The above table shows those who have fixed income, they belong from middle income category mainly they are engaged in either service or business as a main occupation.

3.12 Perception about Sufficiency of Income

Poverty is prominently observed in rural areas. Large size families and increased cost of survival has invited several problems in villages. They have to spend money for insecticides, pesticides and seeds, but they are not aware about how much income they will get from their crop. And if they get adequate income, that income is always less than what they put in agriculture. Therefore, their perception about adequacy of the income is always inadequate income. One point is to be noted here that, this perception is based on

the family size and the needs of the family. If they have more needs, any amount of income will be less and then they feel they do no have adequate income. Detail about the perception about their annual income for meeting their needs are discussed in following table.

Table no. 3.14

Distribution of the respondents

Perception about sufficiency of income

Village	Income is Sufficient		Total
	Yes	No	
Chincholi	15	13	28
	53.6%	46.4%	100.0%
Pabal	15	20	35
	42.9%	57.1%	100.0%
Kendur	15	15	30
	50.0%	50.0%	100.0%
Shashtabad	4	28	32
	12.5%	87.5%	100.0%
Total	49	76	125
	39.2%	60.8%	100.0%

While the question regarding the perception about the sufficiency of income was asked to the women respondents, about 2/3 of the women respondents responded negatively. One's perception is developed from the past experiences and perception regarding the sufficiency of income is developed through the needs and own capacity to own their need. As there is no fix income, people find difficult to fulfil the family needs in time, thus they show negative attitude towards their profession and income. Considering the villages, 53.6% from Chincholi have responded positively followed by Kendur 50%, Pabal 42.9% and Shashtabad 12.5%.

3.13 Native Place

Migration is inherent process of social mobility. If the womens are not getting adequate income, job opportunities, they get migrated in other villages. Most of the people migrate from rural areas to urban areas for getting employment opportunities. There are three main types of the migration, one-rural to urban, two-urban to urban and three-rural to

rural. Rural to rural migration is comparatively small in size. Those, who are unskilled labourer and do not posses any skill to work in urban areas gets migrated in rural areas. Therefore, there are some families, which are migrated and settled in some other villages. Detail about the same is given in following table.

Table no. 3.15

Distribution of the respondents

According to native place

Village	Native Place		Total
	Same Village	Migrated & Settled	
Chincholi	28	0	28
	100.0%	0.0%	100.0%
Pabal	33	2	35
	94.3%	5.7%	100.0%
Kendur	29	1	30
	96.7%	3.3%	100.0%
Shashtabad	28	4	32
	87.5%	12.5%	100.0%
Total	118	7	125
	94.4%	5.6%	100.0%

According to the table given above, almost all the women respondents are local considering 5.6% who have migrated and settled in the village from other places before some time. It is even cent percent in Chincholi, where no women respondents are migrated from other places followed by Kendur 96.7%, Pabal 94.3% and Shashtabad 87.5%. In brief, one can say that the study villages have moreover local people and only few people are migrated from other places and settled in the villages.

3.14 Enlistment in Voter's List

If the women is migrated from one place to another and settled in some village for a longer period, he gets enrolment in the voter's list of the village. Enrolment in voting list is an indication of adapting citizenship of the respective village. Naturally, they have to shoulder the responsibilities as the citizen of concerned village and should take the active part in various fields as other villagers are participating in village activities. As regard to

WSD, there are several committees suggested in the program for smooth and effective implementation. Unless the women are enrolled in Voter's list, he could not get opportunity to take part in village activities. The detail about the citizenship is given in following table.

Table no. 3.16

Distribution of the respondents

According To Name in Voter's List

Village	Name in Voter's List		Total
	Yes	No	
Chincholi	28	0	28
	100.0%	0.0%	100.0%
Pabal	34	1	35
	97.1%	2.9%	100.0%
Kendur	30	0	30
	100.0%	0.0%	100.0%
Shashtabad	32	0	32
	100.0%	0.0%	100.0%
Total	124	1	125
	99.2%	0.8%	100.0%

Though few people are migrated and settled in the study villages before some time, almost all have enlisted their name in Voter's list and are now permanent residents of the villages. According to above table only 0.8% women respondents have not enlisted their name in Voter's list. It is cent percent in Chincholi, Kendur and Shashtabad and 2.9% women respondents have not enlisted their name in Voter's list. From the table, one can say that almost all the people are settled in the villages and are permanent residents of the villages and enlistment in Voter's list is one of the evidences of the permanency of residence in the village.

3.15 Possession of Ration Card

In continuation of the earlier point, if they are the citizen of a village, they will get the rationing card depending upon their income level. There are various categories of the rationing card. The white card is meant for general population, and red or orange coloured card is meant for the women who is Below Poverty Line. In any village, one

finds that there is large number of the BPL families. Especially, in Watershed Development Programme there are specific conditions of the government for the involvement of BPL families in Watershed Development Programme. Though, they do posses small piece of land or they are landless, the Watershed Development Programme can help them for initiating animal husbandry projects, which can be a continuous and permanent source of income. The detail regarding colour of ration card is given in following table.

Table no. 3.17

Distribution of the respondents

According to possession of ration card

Village	Possession of Ration Card		Total
	Yes	No	
Chincholi	27	1	28
	96.4%	3.6%	100.0%
Pabal	34	1	35
	97.1%	2.9%	100.0%
Kendur	30	0	30
	100.0%	0.0%	100.0%
Shashtabad	30	2	32
	93.8%	6.3%	100.0%
Total	121	4	125
	96.8%	3.2%	100.0%

Ration card is another evidence of permanency in the village and also it helps to get privilege of different schemes provided by the government in different matters. In the study area 97% women respondents have possessed Ration card and only 3% don't have Ration card. It is 100% in Kendur followed by Pabal, i.e. 97.1%, Chincholi 96.4% and Shashtabad 93.8%. In brief it is to say that almost all the villagers have knowledge regarding Ration card and different schemes of government and are getting privilege of Ration Card.

Table no. 3.18

Distribution of the respondents

According to colour of ration card

Village	Colour of Ration Card			Total
	white	pink/orange/red	yellow	
Chincholi	0	26	2	28
	0.0%	92.9%	7.1%	100.0%
Pabal	2	17	16	35
	5.7%	48.6%	45.7%	100.0%
Kendur	0	29	1	30
	0.0%	96.7%	3.3%	100.0%
Shashtabad	1	26	5	32
	3.1%	81.3%	15.6%	100.0%
Total	3	98	24	125
	2.4%	78.4%	19.2%	100.0%

3.16 Development during Last Five Year

Development will take place if the economic conditions are better and able to afford to spend the secondary needs. At village level, there are several areas of development. Renovation of house or construction of new house, transaction in land, i.e. purchase or sell transaction of animals: purchase/sell or purchase of other valuable at family level. Such type of activities can be carried out only after if they fulfil their daily needs or if they do not get sufficient employment opportunities, they can start new activities. For that purpose, they can develop their agricultural land by using various advanced technology. They can make the investment for irrigation, so that they can get more and more income from their own resources whether the development has been taken place or not, this is an excellent indicator of the economic development of the family. The detail regarding various developmental activities that have been carried out by the family is discussed in following table.

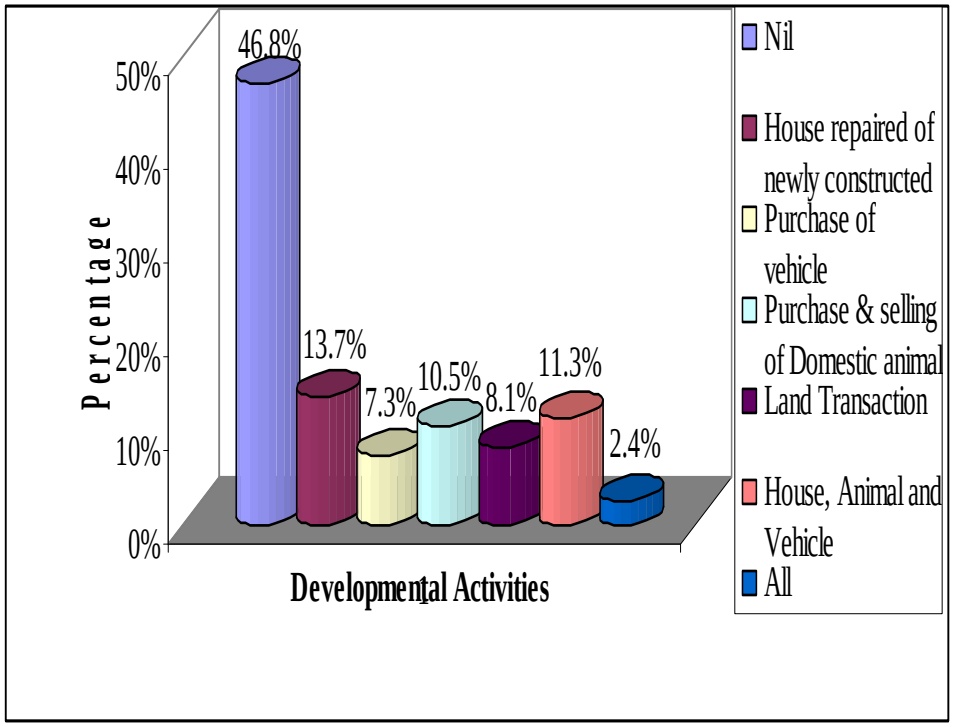
Table no. 3.19 a

Distribution of the respondents

According to development during last five year

Village	Development during last five year							Total
	Nil	House repaired of newly constructed	Purchase of vehicle	Purchase & selling of Domestic animal	Land Transaction	House, Animal and Vehicle	All	
Chincholi	10	1	4	3	4	3	3	28
	35.7%	3.6%	14.3%	10.7%	14.3%	10.7%	10.7%	100.0%
Pabal	21	5	1	4	2	2	0	35
	60.0%	14.3%	2.9%	11.4%	5.7%	5.7%	0.0%	100.0%
Kendur	16	1	2	3	1	7	0	30
	53.3%	3.3%	6.7%	10.0%	3.3%	23.3%	0.0%	100.0%
Shashtabad	11	10	2	3	3	2	0	31
	35.5%	32.3%	6.5%	9.7%	9.7%	6.5%	0.0%	100.0%
Total	58	17	9	13	10	14	3	124
	46.8%	13.7%	7.3%	10.5%	8.1%	11.3%	2.4%	100.0%

Figure No. 3.12 Development during Last Five Year



It is seen from the above table that in Pabar and Kendur, about 55% of the women respondents have reported that there is no development in their family in last five years, whereas 35% of the women respondents in Chincholi and Shashtabad have reported there is no development. Among the various activities of the development, renovation of old house or construction of new house and purchase of either animal or vehicle is observed to be prominent. There is very less transaction on the land.

Table No. 3.19 B
Development during last five year * Education of Respondent

Development during last five year	Education of Respondent				Total
	Illiterate	1-4	5-8	9-12	
Nil	20	6	9	23	58
	34.5	10.3	15.5	39.7	100.0
House renovated or newly constructed	9	2	3	3	17
	52.9	11.8	17.6	17.6	100.0
Purchase of Vehicle	1	3	3	2	9
	11.1	33.3	33.3	22.2	100.0
Purchase or sell of animal	2	3	3	5	13
	15.4	23.1	23.1	38.5	100.0
Land Transaction	1	3	2	4	10
	10.0	30.0	20.0	40.0	100.0
House, Animal and Vehicle	1	2	3	8	14
	7.1	14.3	21.4	57.1	100.0
All	1	0	1	1	3
	33.3	0.0	33.3	33.3	100.0
Total	35	19	24	46	124
	28.2	15.3	19.4	37.1	100.0

Among the women respondents those who belong from higher category of education have more development in various aspects as stated in earlier table. However, among the illiterates also, more or less same trend is observed.

Table No. 3.19 C
Distribution of the Respondents According to
Development during last five year V/S Main Occupation

Development during last five year	Main Occupation				Total
	Farming	Business	Service	Agri Labour	
Nil	44	4	5	5	58
	75.9	6.9	8.6	8.6	100.0
1& 5	16	0	0	1	17
	94.1	0.0	0.0	5.9	100.0
2	8	0	0	1	9
	88.9	0.0	0.0	11.1	100.0
3&7	13	0	0	0	13
	100.0	0.0	0.0	0.0	100.0
4&6	10	0	0	0	10
	100.0	0.0	0.0	0.0	100.0
1+2+3+4+5	10	1	1	2	14
	71.4	7.1	7.1	14.3	100.0
All	2	0	0	1	3
	66.7	0.0	0.0	33.3	100.0
	103	5	6	10	124
	83.1	4.0	4.8	8.1	100.0

As regard to the development, one of the most important features is observed that more development is taking place among the farmers than the other occupational categories.

Table No. 3.19 D
Distribution of the Respondents According to
Availability of Drinking Water V/S Development during last five year

Availability of Drinking Water	Development during last five year							Total
	Nil	1& 5	2	3&7	4&6	1+2+3+4+5	All	
Yes	25	2	2	7	1	4	2	43
	58.1	4.7	4.7	16.3	2.3	9.3	4.7	100.0
No	13	11	3	3	4	5	1	40
	32.5	27.5	7.5	7.5	10.0	12.5	2.5	100.0
Sometime	20	4	4	3	5	5	0	41
	48.8	9.8	9.8	7.3	12.2	12.2	0.0	100.0
Total	58	17	9	13	10	14	3	124
	46.8	13.7	7.3	10.5	8.1	11.3	2.4	100.0

There is hardly any relationship between the development and availability of drinking water. It is observed that irrespective of availability of drinking water in various categories of the women.

3.17 Family Composition

Family composition indicates the demographic presentation of the village. Age-Sex ratio, male-female ratio, literacy rate, educational level, occupational pattern, marital status etc. are the various aspects can be explored by studying family composition. As regard to Watershed Development Programme, the population of the village has vital significance because how much resources are available and what is the population of the village, equality in the benefits and equitable distribution of resources are very important for Watershed Development Programme. Per Capita Consumption of Water and Per Capita need of the water are very critical in developmental activities. The density of population, topology of the village, availability of agricultural land, geographical condition of the village all these aspects are closely connected with Watershed Development Programme. These natural resources always remained underutilized due to inadequate capital investment. The affordability of the general population to explore these resources is very important. Therefore, the comprehensive study of the population becomes inevitable. Following are the various aspects of the family composition. The detail about the size of family of the women respondents is given in the following table:

Table no. 3.20

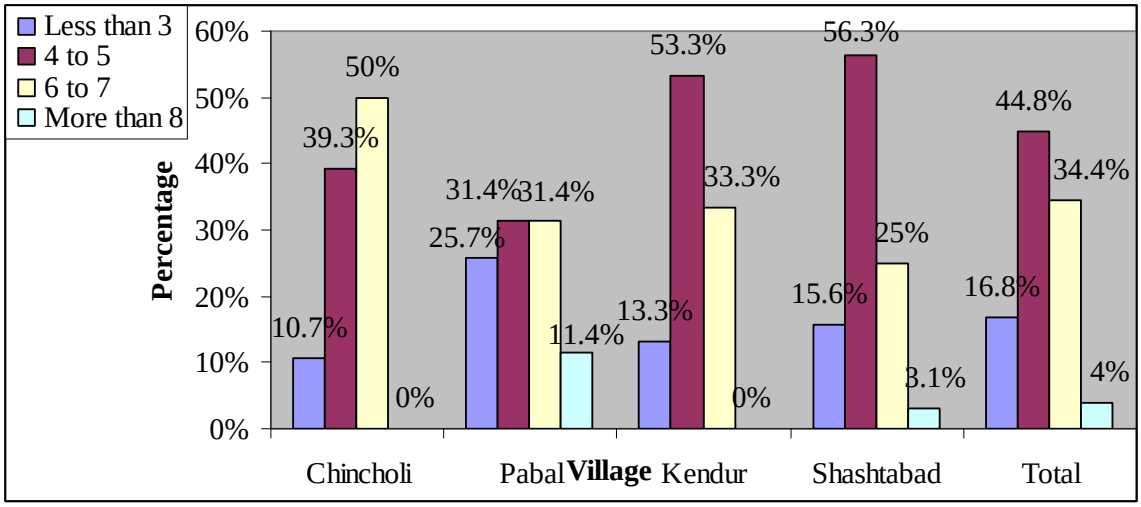
Distribution of the respondents

According to family size

Village	Family Size				Total
	<3	4-5	6-7	8+	
Chincholi	3	11	14	0	28
	10.7%	39.3%	50.0%	0.0%	100.0%
Pabal	9	11	11	4	35
	25.7%	31.4%	31.4%	11.4%	100.0%
Kendur	4	16	10	0	30
	13.3%	53.3%	33.3%	0.0%	100.0%
Shashtabad	5	18	8	1	32
	15.6%	56.3%	25.0%	3.1%	100.0%
Total	21	56	43	5	125
	16.8%	44.8%	34.4%	4.0%	100.0%

Figure No. 3.13

Family Size



According to the table above, the 44.8% women respondents are having member 4-5, followed by 34.4% women respondents have 6-7 family member, 16.8% have members less than 3 and 4% have members more than 8 people. No large variations have been identified in the villages regarding members in the family. There are no families having more than 8 members in Chincholi and Kendur, which is very less, 3.1% in Shashtabad

and 11.4% in Pabal. Similarly, the families having 4-5 members in Shashtabad is 56.3% followed by Kendur, i.e. 53.3%, Chincholi 39.3% and Pabal 31.4%. There are very less families who have members less than 3. It is 25.7% in Pabal, 15.6% in Shashtabad, 13.3% in Kendur and 10.7% in Chincholi. Half of the women respondents of Chincholi have 6-7 family members, 33.3% of Kendur, 31.4% of Pabal and 25% of Shashtabad have same family size. From these figure, one can conclude that the average family size is 5-6 members. There is a simple equation regarding the family size and agricultural occupation, i.e. more hands equals to more work and more work equals to more production and income.

Summary

In third chapter, socio-economic profiles of the study population have been given. The socio-economic condition of the women respondents have significant importance as there is a close relationship between impact of WSDP on day to day living conditions. Particularly, the agriculture development is mainly depending upon sources of irrigation and effective use of these sources. It always helps for improving economic condition of the population. The socio-economic condition is the general terminology used for describing the situation and the quality of life of the study population.

There are various factors related to socio-economic conditions, but the aspects which are closely associated with living conditions are considered in this chapter. This provides the age of women respondents. Usually it is observed that 25-60 is the age of women respondents who are heading their families. Almost in all villages, uniform picture is observed with slight variation. As regard to the education, even today it was found 28% of the women respondents are illiterate and 15% are literate or less educated up to 4^{th} Std. only. More than half of the women respondents are educated above 5^{th} Std. The distribution of the women respondents into various categories of the occupation, it was found that farming is the predominant occupation in all villages and the individuals those who do not have agriculture, they are working on other's farm as agricultural labourer. No variety of occupation was observed. As regard to the secondary occupation, it was

found farming, business, service, petty trading are the main categories, but 68% of the women respondents do no follow any secondary occupation. This might be due to they don't have any scope or may not be able to invest the money in secondary occupation. About 18% of the women respondents have annual income less than 25,000. About 40% have 25,000-50,000 and 43% have more than 50,000. This indicates that, there are considerably large number of the population which do not have adequate income. This shows poor economic conditions.

As regard to the various castes, it is observed that there is hardly 15% of the women respondents belong from Scheduled Caste, Scheduled Tribe and Other Backward Castes, whereas rest of them are from open category. In continuation of the caste almost 98% of the women respondents belong from Hindu Religion and only 2% from Islam religion. To stay in the farm is one of the most important characteristics of the rural population. It was observed that about 32% of the women respondents are staying in their own agricultural land and rest of them is staying at village settlement. When they stay at farm, the distance of house from the main road affects their quality of life as they are not able to afford their own transportation. It is observed that usually the area of house is quite a large. This is mainly due to land is not the problem to most of the villagers and usually it is observed that they keep domestic animals with them. Hence, the size of house is observed to be large in all the villagers. Though, the houses are very large, they are constructed in mud and stone or any other agricultural products. The proportions of thatched houses are observed to be more prominent in all the villages. In every family, either child or old people, they are engaged in some productive activities, either they work in their own agricultural land or they earn money by working on other's land. It was found that, about 40% of the families have more than 3 earners and rest of them have about 1-2 earner in the family.

It is known fact that agriculture does not possess any fix income. After harvesting, if they get good market price, then only they get money. If the women/family is engaged in some other money earning activities, they may get fix income. It was observed that about 30% families have regular income and 70% do not have any specific income. There is a

strong perception that the present income is not sufficient to meet their own needs. Naturally, they feel that that income is not sufficient. About 95% of the women respondents were from the same village. This indicates that there is hardly any migration and almost everyone has registered their name in Voter's list. About 97% of the women respondents possess Rationing Card. Among them, 80% have BPL Rationing Card.

As almost all population belongs from poor economic condition, there is hardly any development. About half of the women respondents have reported that there is no any development. About 80% of the women respondents have reported that their family size is about 5-7 womens, but one of the most prominent observation observed in these villages is that nuclear type of family is grossly absent.

CHAPTER IV
WOMEN AND DRINKING WATER: PRESENT SITUATION

4.0 Introduction

Women‘s are closely associated with drinking water. There are various sources of water, Green water which we get in form of rain and blue water which we get in the land or underground. Blue water is used for drinking purpose. In drought prone areas, green water has vital significance because the agriculture of this area is totally dependent upon rain fed water, whereas blue water can be utilized for for drinking and for domestic purposes. At several places, one can find blue water is being used for industrial purpose also.

Availability of water varies from season to season. During rainy season, we get plenty of run off water. If we fail to arrest this water, we may face the problems and difficulties. In winter, there is no problem of availability of water, but in summer we may face the problem of water scarcity. It is expected that, after implementation of Watershed Development Programme, there are adequate availability of drinking water which will help to reduce the drudgery of the women. Usually, at village level, the villagers get water from the tap. If water supply scheme is implemented in village, the water is lifted either from river or well and stored in reservoir, then it is distributed through taps.

Another source is a well. Well is the traditional source of drinking water. In every village, one finds that there is well from which all the villagers use to take water for drinking and domestic use. There are two three wells and particular community is taking water from particular well. The history of villagers shows that for the Scheduled Caste and Scheduled Tribe, they have separate well isolated from the main village community and they have to use the water from that well only. When the monsoon is adequate, well gets blue water throughout year, and if Monsoon is not sufficient, villagers have to face the water problem. It is expected that, after implementation of Watershed Development

Programme, all the wells in villages would get water throughout year. The detail about the same is discussed in following table.

Hand pump is one of the sources of drinking water. As population grows, villagers find difficulty to collect water from one well. And if there is inadequate water to that well, the problem further gets aggravated by scarcity. Considering this situation, Government of India has implemented Watershed Development Programme in various parts of the nation. Due to Watershed Development Programme, it is expected that the well water would get sufficient water throughout year. Considering the expansion and geographical condition of the village, government has also implemented the scheme of hand pumps for increasing accessibility of drinking water in villages. Therefore, Hand pump is also one of the sources for drinking water.

To overcome the problems of water scarcity, government is supplying water through the tankers in remote villages, where there is acute scarcity of drinking water. In hilly region, chances of scarcity of water are always there and government cannot implement water supply schemes in such villages due to scattered population, inadequate population, inadequate permanent source of water etc. Therefore, water is supplied through tanker to meet their daily necessities. One point is to be noted here that either tap, well, hand pump or tanker, the availability of water is expected to be more after implementation of Watershed Development Programme. All the detail about the various sources of water is discussed in following points.

Indian agriculture is characterized by vagaries of nature. The climatic conditions are not uniform throughout India and it is not uniform year to year also. In some year, villagers have to face acute scarcity of water in some year they face the problem of over rain. Either heavy rain or no rain, both are dangerous for agriculture and drinking purpose also. If the rain is adequate, villagers will get drinking water throughout year, but if rain is not adequate, then they have to face severe problems even for the drinking purpose. To overcome this situation, government is implementing various programme related to water conservation. Watershed Development Programme is one of them. This Watershed

Development Programme is expected to bring the changes in availability of water for drinking and for agriculture purpose. And for drinking purpose, government has implemented drinking water schemes in several villages that help easy accessibility of water throughout year. The following table shows availability and source of water.

4 .1 Type of Sources of Drinking Water

In rural areas there are various sources of drinking water. Bore well; River etc. are commonly used sources of drinking water. However, due to watershed development programme the availability of water has increased in all the villages. Naturally the tankers are not being used right now. Women's are closely associated with the sources of drinking water. Most of the time she spent to bring the water form well or river. During summer season when the water scarcity is very high she has to spent lot of energy and time to bring the water for finally. Along with the domestic used she has to bring the water for cattle's and domestic animals. The detail about the various sources of drinking water is given in following table.

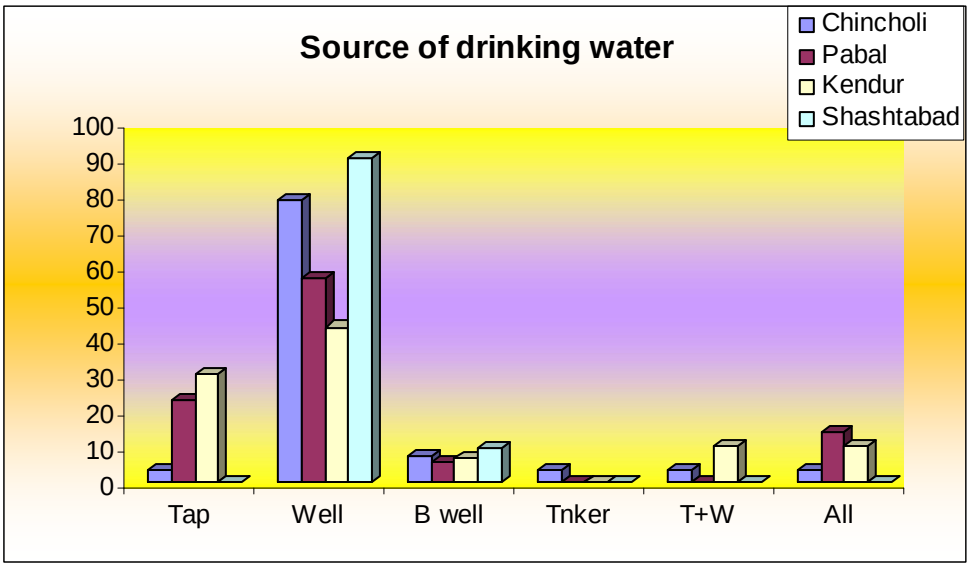
Table No.4.1

Distribution of Respondents according to Type of Sources of Drinking Water

	Sources of Drinking Water						
Villages	Tap	Well	Hand p.& B. Well	Tanker	2+3+4	All	Total
Chincholi	1	22	2	1	1	1	28
	3.6%	78.6%	7.1%	3.6%	3.6%	3.6%	100.0%
Pabal	8	20	2	0	0	5	35
	22.9%	57.1%	5.7%	0.0%	0.0%	14.3%	100.0%
Kendur	9	13	2	0	3	3	30
	30.0%	43.3%	6.7%	0.0%	10.0%	10.0%	100.0%
Shastabad	0	29	3	0	0	0	32
	0.0%	90.6%	9.4%	0.0%	0.0%	0.0%	100.0%
Total	18	84	9	1	4	9	125
	14.4%	67.2%	7.2%	0.8%	3.2%	7.2%	100.0%

Figure No 4.1

Type of Sources of Drinking Water



It is evident from the above table that very few households have access to individual tap water (14 %). Well is the single largest source of drinking water in all the villages i.e 67 %. Among these, 91% of households in Shastabad have access to well, followed by 79 % in Chincholi, 57 % in Pabal and 43 % in Kendur. However, Kendur has maximum access to all the households among all the study villages (14 %). It is clear that the considerable time is spent in fetching water from wells. But the advantage of wells is that the water is available throughout the day and can be fetched as required.

4.2 Availability of Drinking Water

During summer, water scarcity is observed in all the villages. Naturally, there are no summer season crops. Some of the farmers who have assured source of water can take summer crops such as groundnuts, sugarcane or vegetables. As the study area belongs from draught prone area, one may observe that scarcity of water during summer. During the scarcity of water, it was reported that they buy water tanker for entire village. It is expected that Watershed Development Programme may make the impact on availability of drinking water sources in study area.

Watershed Development Programme is implemented in such a condition that, the general population faces water scarcity either in winter or summer. Especially, in drought prone areas, the general people have to face the problem of scarcity of water even during winter period also. The detail about availability of water throughout year is discussed in following table.

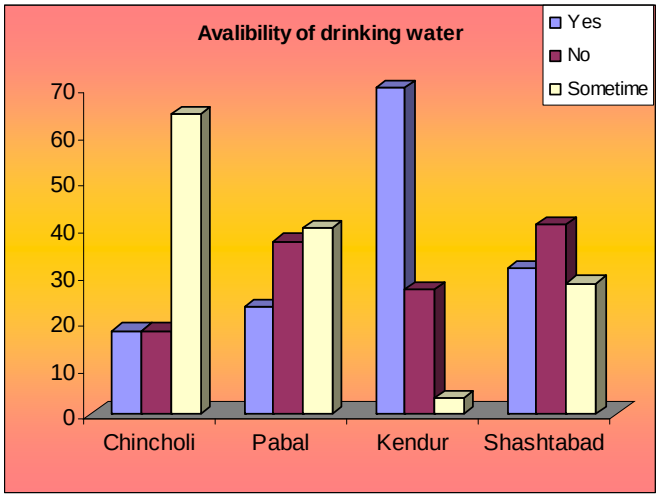
Table No. 4.2

Distribution of Respondents according to Availability of Drinking Water

Villages	Availability of Drinking Water			
	Yes	No	sometime	Total
Chincholi	5	5	18	28
	17.9%	17.9%	64.3%	100.0%
Pabal	8	13	14	35
	22.9%	37.1%	40.0%	100.0%
Kendur	21	8	1	30
	70.0%	26.7%	3.3%	100.0%
Shastabad	10	13	9	32
	31.3%	40.6%	28.1%	100.0%
Total	44	39	42	125
	35.2%	31.2%	33.6%	100.0%

Figure No 4.2

Availability of Drinking Water



It is seen from above table that the availability of drinking water throughout year is very less. 33% respondents has reported sometimes it is available throughout year while 35% as reported it is available throughout year. No large variations observed between villages. In Chincholi 17% and Pabal 23% has reported it is available throughout year while largest proportion is observed in Pabal and in Shastabad hardly 31%. It is to be noted here that even though implementation of water shed development programme project 1/3rd respondents are not able to say it is available for year.

4.3Location Source of drinking Water

In the villages, most of the people are dependent on the natural sources of water such as river, spout etc for daily usages. They go to the nearest place of water source, fetch water and use for their daily necessities. They even excavate the well in common place and fulfil their necessities. In some of the villages, the government has implemented Water Supply Scheme, in which they make a common place for fetching the water for the villagers. It is a type of public tap water, whereas in advance stage, the government or village panchayat has distributed tap water in all the houses of villages. In these cases, the people have distinct source of water or say they are accessible to the source of water, but it is not sure that they are accessible to water. The availability of the source of water doesn't denote the availability of water. The detail about the scheme of drinking water in the village is figured out in following table:

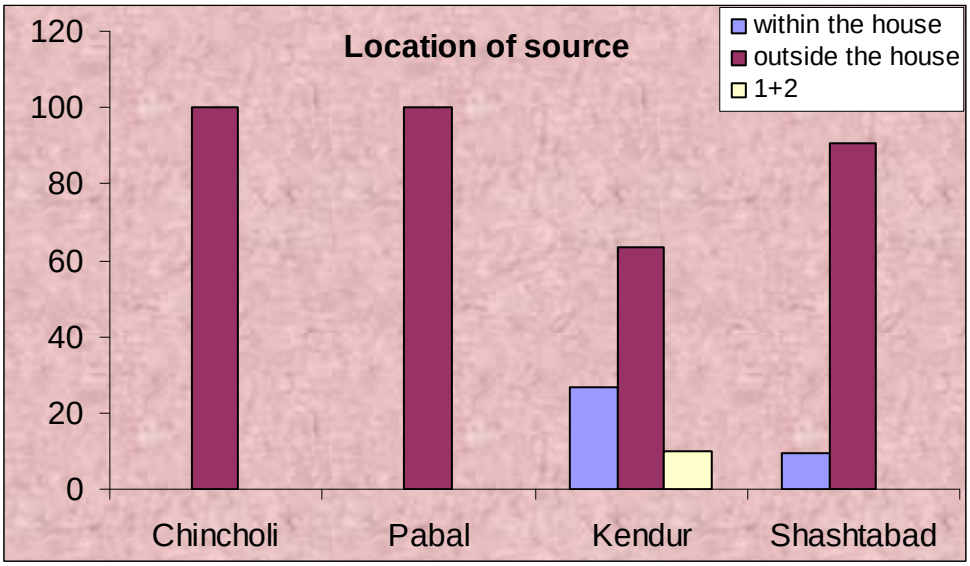
Table No. 4.3

Distribution of Respondents according to Source of drinking Water

	Location Source of drinking Water			
Villages	within the house	outside the house	1+2	Total
Chincholi	0	28	0	28
	0.0%	100.0%	0.0%	100.0%
Pabal	0	35	0	35
	0.0%	100.0%	0.0%	100.0%
Kendur	8	19	3	30
	26.7%	63.3%	10.0%	100.0%
Shastabad	3	29	0	32
	9.4%	90.6%	0.0%	100.0%
Total	11	111	3	125
	8.8%	88.8%	2.4%	100.0%

Figure No 4.4

Location Source of drinking Water



The above table indicates the source of drinking water. In villages the sources is always located outside the house in Chincholi, Pabal and Shastabad almost all respondents have reported it is available outside the house. Whereas in Pabal 63% respondents have reported it is available at outside. In this village the govt. water scheme implemented and water is made available through tap. Hence it is available in the houses.

4.4 Distance of source of drinking water

Usually, if it is away from the house, the source is located in nearby area. The distance varies from place to place but one observes that where there are cluster of houses there is a source of water. In this condition, they have to take the water from the distance for which they have to spend considerable time and considerable efforts also. The detail about the distance is given in following table:

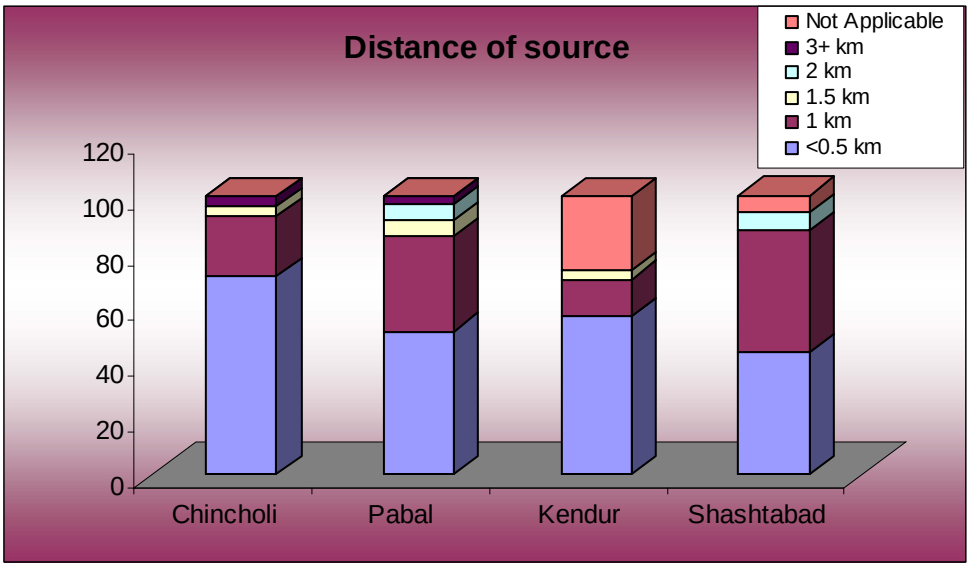
Table No. 4.4

Distribution of Respondents according to Distance of source of drinking water

Villages	Distance of source of drinking water (km)						Total
	<0.5	1 km	1.5 km	2 km	3+	Not Appli.	
Chincholi	20	6	1	0	1	0	28
	71.4%	21.4%	3.6%	0.0%	3.6%	0.0%	100.0%
Pabal	18	12	2	2	1	0	35
	51.4%	34.3%	5.7%	5.7%	2.9%	0.0%	100.0%
Kendur	17	4	1	0	0	8	30
	56.7%	13.3%	3.3%	0.0%	0.0%	26.7%	100.0%
Shastabad	14	14	0	2	0	2	32
	43.8%	43.8%	0.0%	6.3%	0.0%	6.3%	100.0%
Total	69	36	4	4	2	10	125
	55.2%	28.8%	3.2%	3.2%	1.6%	8.0%	100.0%

Figure No 4.4

Distance of source of drinking water



The data indicates that Chincholi has highest proportion of households with access to drinking water within radius of 0.5m. This is followed by 51% from Pabal, 57 % from Kendur and 44% from Shastabad. Thus, on an average, more than half of total sample households have access to drinking water within 500 m. It is also seen that the sources is present at a distance of more than 0.5 km but less that 1 km for average 29 % households. When associated in earlier on sources of drinking water, majority of the above sources are wells.

4.5 Persons bringing water

Indian Society is male dominated and patriarchal society. Males are given more privileges and in compare to that, females are given more household tasks. The entire household tasks are supposed to be done by the female members of the family. As regard to bringing water, either mother, or daughters or any one of the female member of the family is supposed to fetch the water and fulfil the necessity of whole house. The house does not include only family members but also the livestock such as cow, buffalo, bullock etc. The hardship of bringing water is depends upon the distance between house and the source of water and quantity of water the household consumes. The females are supposed to bring water even if they have deteriorated health. Sometime, even during

pregnancy and just after pregnancy without proper rest they arte busy with all these type of household chores. It not only affects on their present health condition, but also in later life. The cases of uterine prolepsis, any many other health complication occurs just due to excessive household chores and lack of rest. Only in few cases, the male member of the family brings water, but due to community's perception and stigma regarding the work done by the male member in the family, they don't approach even if they want to help the female members of the family in their work. The detail about the person bringing water in the household is described as follows:

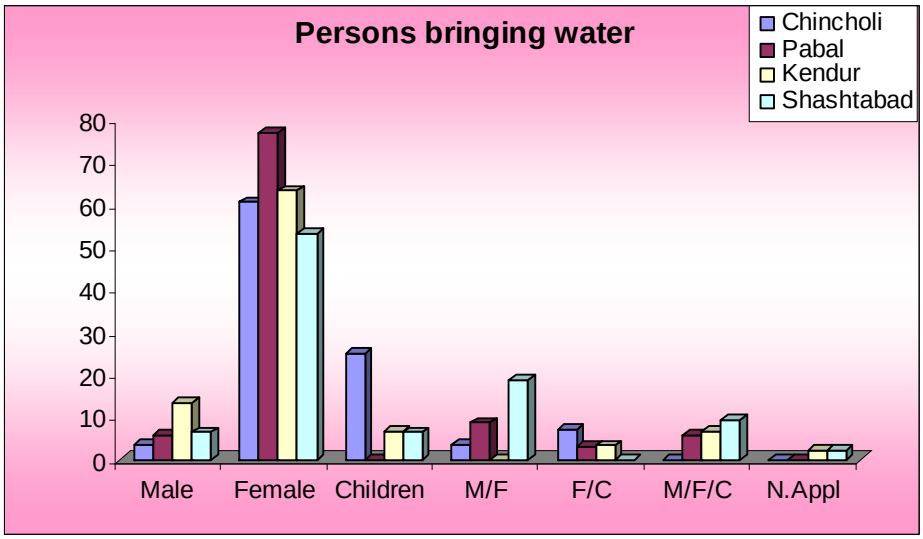
Table No. 4.5

Distribution of Respondents according to Persons bringing water

Villages	***Persons bringing water***							
	Male	Female	Children	Ml&Fl	Fl&Chil	All	NotApp.	Total
Chincholi	1	17	7	1	2	0	0	28
	3.6%	60.7%	25.0%	3.6%	7.1%	0.0%	0.0%	100.0%
Pabal	2	27	0	3	1	2	0	35
	5.7%	77.1%	0.0%	8.6%	2.9%	5.7%	0.0%	100.0%
Kendur	4	19	2	0	1	2	2	30
	13.3%	63.3%	6.7%	0.0%	3.3%	6.7%	6.7%	100.0%
Shastabad	2	17	2	6	0	3	2	32
	6.3%	53.1%	6.3%	18.8%	0.0%	9.4%	6.3%	100.0%
Total	9	80	11	10	4	7	4	125
	7.2%	64.0%	8.8%	8.0%	3.2%	5.6%	3.2%	100.0%

Figure No 4.5

Persons bringing water



The above table indicates in all villages women is the main person who brings water for the family about 65% of the women are bringing water for their families. The male i.e. head of family and children are very less in the proportion. In Chincholi 25% children and 60% women are bringing the water were as in Pabal 77% women are bring water. As regard to the Kendur 64% females and 7% children are bringing the water. The lowest proportion is observed in Shastabad. The overall situation shows that women is the predominant person at family level who brings water for the entire family. In brief it is to say that bringing water is the domestic chore is mainly the task of females in rural communities. It is seen that in 64% of families, it is the women who fetch water. The proportion is similar in all the villages except Shastabad where both and men and women fetch water (19%). Children fetch water in 9 % families, and proportion is highest in Chincholi (25 %).

4.6 Time Spend in Collecting Water

The time spent in bringing water is depend upon the number of persons in the family, purpose of use and distance between the source of water and house. In the villages, in agricultural families the numbers of members in the family are more as it is always considered more hands equals to more work and more work equals to more production.

But in case of fetching and bringing water only one or two female members of the family are engaged. The purpose of water is also considerable part. They use it for drinking, taking bath, preparing food, washing utensils and dishes, and also for animals. The more use of water makes female to bring more water and it takes more time. Generally, the distance between house and source of water is not so far as the villagers have plan in every community. But in the case of hilly area, there are not so many sources of water and fetching water in hilly areas are most complex tasks. The detail of the same is given in following table:

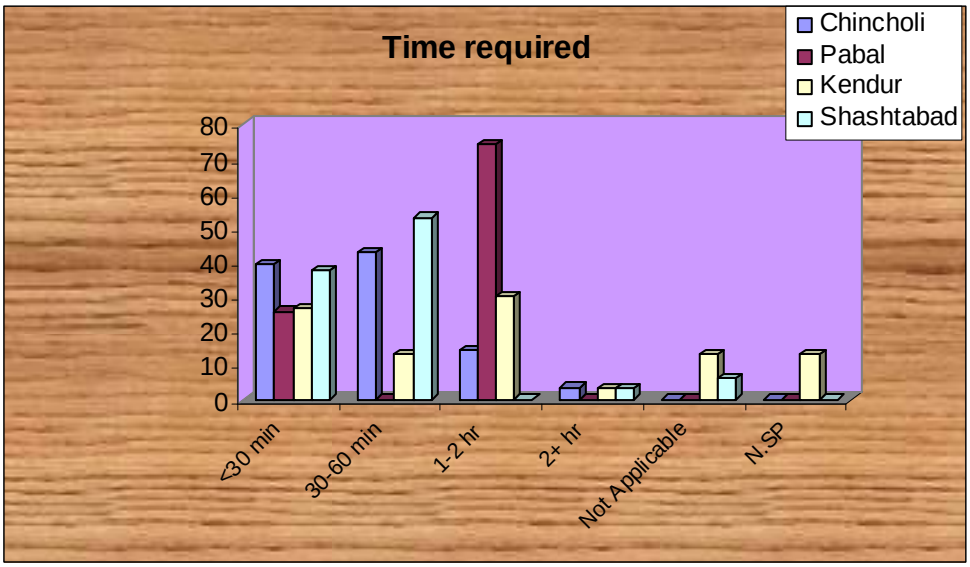
Table No. 4.6

Distribution of Respondents according to Time Spend in Collecting Water

Villages	Time Spend in Collecting Water						
	<30 min	30-60 min	1-2 hr	2+ hr	Not Applicable	7	Total
Chincholi	11	12	4	1	0	0	28
	39.3%	42.9%	14.3%	3.6%	0.0%	0.0%	100.0%
Pabal	9	0	26	0	0	0	35
	25.7%	0.0%	74.3%	0.0%	0.0%	0.0%	100.0%
Kendur	8	4	9	1	4	4	30
	26.7%	13.3%	30.0%	3.3%	13.3%	13.3%	100.0%
Shastabad	12	17	0	1	2	0	32
	37.5%	53.1%	0.0%	3.1%	6.3%	0.0%	100.0%
Total	40	33	39	3	6	4	125
	32.0%	26.4%	31.2%	2.4%	4.8%	3.2%	100.0%

Figure No 4.6

Time Spend in Collecting Water



According to 32% of total respondents, less than 30 min are required for fetching water. The proportion is similar in Chincholi and Shastabad (39% and 38 %). In case of 26 % families, 30 to 60 min are required to fetch sufficient water. Half of these are from Shastabad. Number of families spending 1 to 2 hours is 31% and the proportion is highest in Pabal i.e. 74 %. It is to be noted that the proportion of households with comparatively is also high in . It is an emerging fact that maximum number of women from Pabal have to take hard efforts for fetching drinking water.

4.7 Frequency of bringing water

The purpose of water and number of members in the family determines the frequency of bringing water. Generally, the female members of the family get up early in the morning and go to the water sources to fetch water. The morning water is used just for preparing food, cleaning household and also for the family members to clean up themselves. Then again, for washing dishes and utensils, they have to bring water. For the washing of clothes, they can consider as they go to nearest river to wash the clothes. For evening dinner preparation, they again have to rush out for water. In this way, generally, they go for thrice or more to bring water everyday. In addition, it depends upon the purpose and

requirement of the family members' everyday. The detail about the frequency of bringing water is explained in following table:

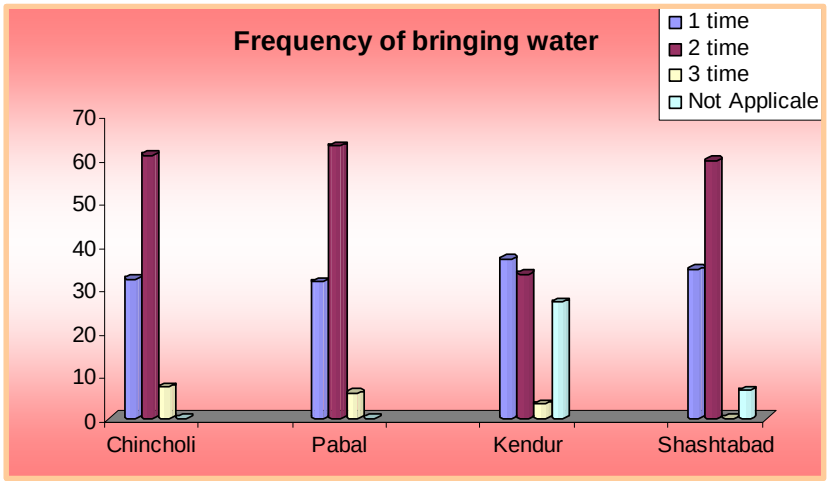
Table No.4.7

Distribution of Respondents according to Frequency of bringing water

Villages	How many time in a day				
	1 time	2 time	3 time	Not Applicale	Total
Chincholi	9	17	2	0	28
	32.1%	60.7%	7.1%	0.0%	100.0%
Pabal	11	22	2	0	35
	31.4%	62.9%	5.7%	0.0%	100.0%
Kendur	11	10	1	8	30
	36.7%	33.3%	3.3%	26.7%	100.0%
Shastabad	11	19	0	2	32
	34.4%	59.4%	0.0%	6.3%	100.0%
Total	42	68	5	10	125
	33.6%	54.4%	4.0%	8.0%	100.0%

Figure No 4.7

Frequency of bringing water



Proportion of families in all four villages able to fetch water in once in a day ranges between 32 % to 36 %. The table indicates that in more than half of the families, water has to be fetched twice a day, and as seen in previous table, the proportion is high in Pabal i.e. 63 %, followed by families in Chincholi (61 %) and Shastabad (60 %). Given the distance of source and time required to fetch water, Pabal faces maximum problems in accessing drinking water.

4.8 Information about water shed development programme

Watershed Development Programme is exclusively meant for coping water scarcity, bringing agricultural land under irrigation, protecting local environment for better climatic condition and for general socio-economic development. This program is exclusively community based program. It is expected that the community people will come together for the collective action to cope with the situation and the problems they are facing about water availability.

The Government of India has given several guidelines about the implementation of Watershed Development Programme at village level. The main focus of this program is equality of benefits and equitable distribution of natural resources. From this program, a poor person or the landless labourer or only agricultural labourer must get benefit either this or that form. Therefore, it is expected that all the villagers are aware about Watershed Development Programme that has been implemented in a village.

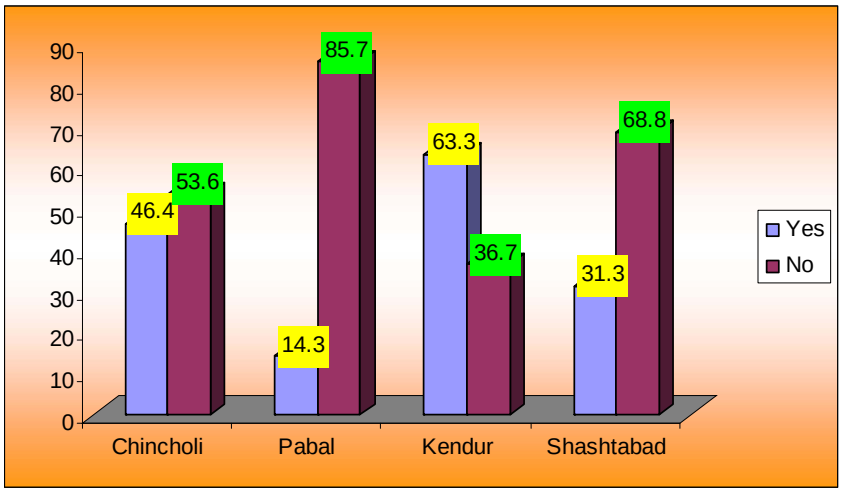
Table No.4.8

Distribution of Respondents according to Information about water shed development programme

Villages	*Information about water shed development programme*		
	Yes	No	Total
Chincholi	13	15	28
	46.4%	53.6%	100.0%
Pabal	5	30	35
	14.3%	85.7%	100.0%
Kendur	19	11	30
	63.3%	36.7%	100.0%
Shastabad	10	22	32
	31.3%	68.8%	100.0%
Total	47	78	125
	37.6%	62.4%	100.0%

Figure No 4.8

Information about water shed development programme



The above table indicate hardly 38% of the women in all villages have the information about water shed development programme and its various components large variations have been observed between villages in Pabal hardly 14% followed by Shastabad 31% women were aware about water shed development programme. As regard to the Chincholi 46% women knows the details about water shed development programme and

highest proportion is observed in Kendur i.e. 63.3%. The overall situation shows that there is a some developmental activities going on at village level but women folk hardly aware about these activities.

4.9 Duration of the year of Information

Water shed development programme is one of the major programme in rural development almost in all villages at national level govt. is implementing this programme. The main intention of this programme is to provide drinking water to the villagers and to generate employment at village level. water shed development programme is closely connected with the women it is expected that women in the villages will take active part at various levels in implementation of the programme naturally this will help to improve their status in the villages. Women empowerment is ultimate goal of this programme. In earlier table information about water shed development programme has been given in this table details about the duration i.e. years of information is given in detail.

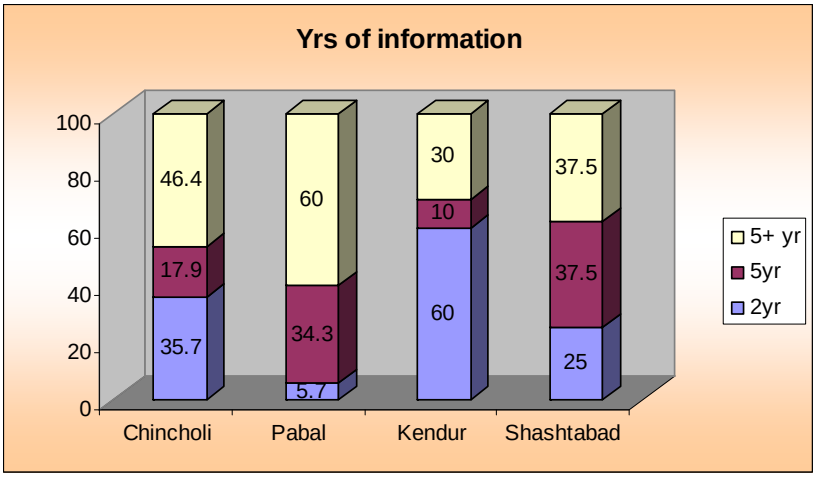
Table No.4.9

Distribution of Respondents according to Duration of the yr of Information

Villages	Duration of the yr of Information			
	2yr	5yr	5+ yr	Total
Chincholi	10	5	13	28
	35.7%	17.9%	46.4%	100.0%
Pabal	2	12	21	35
	5.7%	34.3%	60.0%	100.0%
Kendur	18	3	9	30
	60.0%	10.0%	30.0%	100.0%
Shastabad	8	12	12	32
	25.0%	37.5%	37.5%	100.0%
Total	38	32	55	125
	30.4%	25.6%	44.0%	100.0%

Figure No 4.9

Duration of the yr of Information



It is a general tendency of the villagers that though they have information they may not take the cognizance of the information. At village level water shed development programme project is implemented but it may not be informed to all villagers. Particularly those who are not getting any benefit they may not be interested in knowing details about the water shed development programme. Large variations have been observed in this regard between the villages. However, 30% respondents knows water shed development programme since last two years followed by 26% knows this programme since last five years. 44% of the respondents are aware about this programme since last five years. The chances of active participation by these respondents are more

4.10 Source of information

In village communities there are various sources of information. Face to face contact and mouth publicity is the main source to spread this information. However, in recent years the mass media has reached as route level where information is spread in the society very fast. Apart from mass media govt. officials, schools, audio visual aids, NJOs are also taking sustain efforts for spreading the information. To spread the information at village level is very essential for getting community involved in developmental project. Perhaps community participation is one of the important aspects of developmental process. Naturally govt. is making sustained efforts for spreading the information. The details of the sources of information is given in following table:

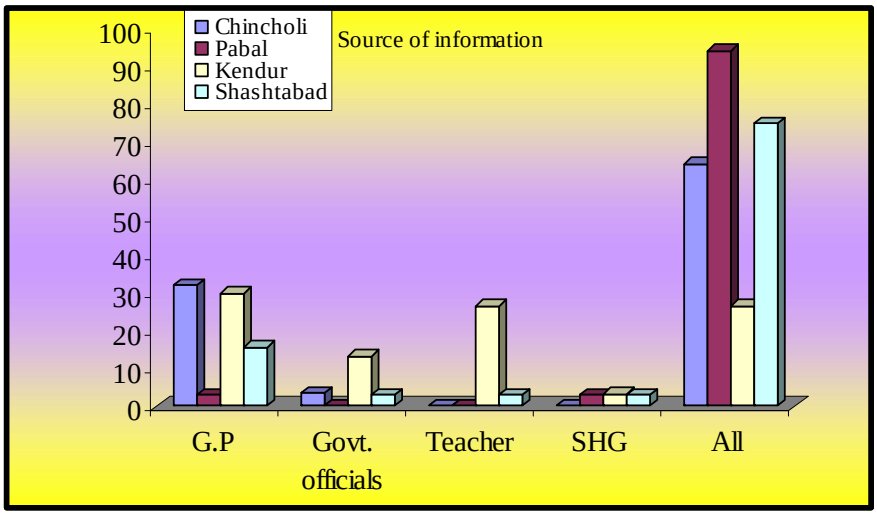
Table No.4.10

Distribution of Respondents according to Source of information

Villages	Source of information					
	G.P	Govt. officials	Teacher	SHG	All	Total
Chincholi	9	1	0	0	18	28
	32.1%	3.6%	0.0%	0.0%	64.3%	100.0%
Pabal	1	0	0	1	33	35
	2.9%	0.0%	0.0%	2.9%	94.3%	100.0%
Kendur	9	4	8	1	8	30
	30.0%	13.3%	26.7%	3.3%	26.7%	100.0%
Shastabad	5	1	1	1	24	32
	15.6%	3.1%	3.1%	3.1%	75.0%	100.0%
Total	24	6	9	3	83	125
	19.2%	4.8%	7.2%	2.4%	66.4%	100.0%

Figure No 4.10

Source of information



Data indicates that over 30% of respondents from Chincholi and Kendur have received information exclusively from Gram Panchayat. However, when Gram Panchayat is considered as inclusive source, the proportion is highest in Pabal (94 %) followed by Chincholi (64 %). This could be due to active dissemination of information by the Gram Panchayat. Rest of the villages have receive information from a combination of sources in addition to government officials, teachers and SHG members. It was found that 19%

respondents have reported Grampanchayat is the main source 5% reported Govt. officials, 7% reported teachers and hardly 2% reported SHG. The overall trends sows that women folk receives the information from various sources. Naturally there is a large variation between villages. Particularly in Chincholi 64% women get information from all sources followed by 75% in Shastabad and 94% in Pabal in Kendur the lowest proportion has been observed.

4.11 Transfer of information

In village community there is the face to face communication hence any news spreads in the village community is very fast. There are certain spots such as common sitting place (Chavadi), at river, at cloth washing place etc. serves the purpose of transfer of information. Usually all the women in village community have day to day contact any news if they get is transformed other very quickly thus there is a rapid transformation of the information at village level the details about the same is given following table.

Table No.4.11

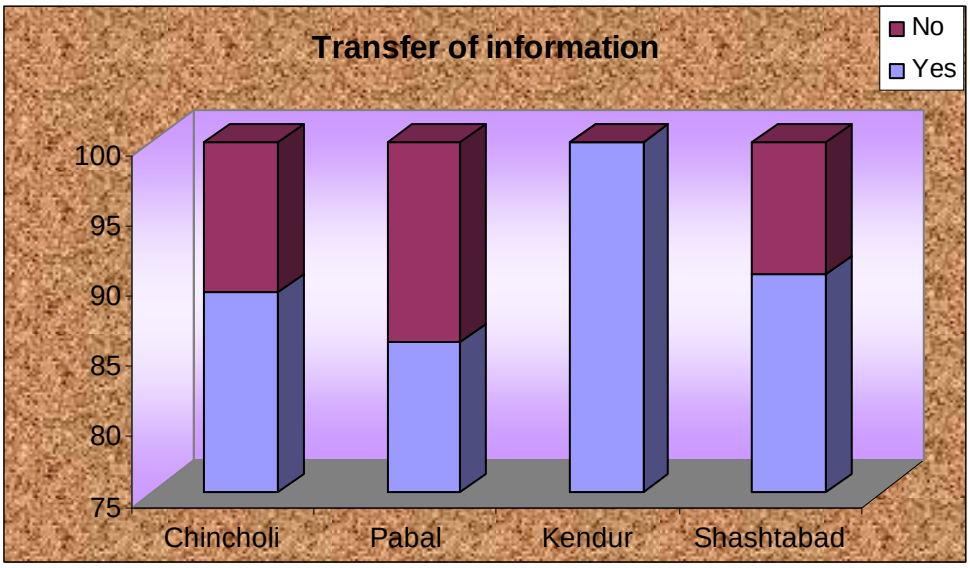
Distribution of Respondents according to

Transfer of information

Villages	Transfer of information		
	Yes	No	Total
Chincholi	25	3	28
	89.3%	10.7%	100.0%
Pabal	30	5	35
	85.7%	14.3%	100.0%
Kendur	30	0	30
	100.0%	0.0%	100.0%
Shastabad	29	3	32
	90.6%	9.4%	100.0%
Total	114	11	125
	91.2%	8.8%	100.0%

Figure No 4.11

Transfer of information



The above table indicates the information is transferred through face to face communication in rural areas the social relations are very closely linked with there activities. Among the females bringing water washing close or working in the farm theses are the activities where this information is transferred from one individual to another individual. This traditional communication channel is very strong in almost all villages. it was found that 91% women transfers the information they got to other women in Kendur almost every one helps to spread the information and rest of the Chincholi, Pabal and Shastabad more or less same trends i.e. about 90% of women transfers the information from one individual to another individual in brief it is to say that traditional channel of communication is very strong at village community. It can be inferred from this table that majority of the respondents i.e. 91 % have transferred information regarding water shed development programme to other villagers. Among them, proportion is lower by 5 % in Pabal which also corresponds to the finding that overall level of awareness itself is less in Pabal .

4.12 Perception about impact of Water Shed Development Programme on women

73rd constitutional amendment has helped to improve the women status in the villages. 30% reservation has been provided in the Grampanchayat the women have enough opportunities to take active part in village developmental activities. Apart from this self help group and women's co-operative societies are also helping to take active part at community level. water shed development programme is one of the major programme for improving women status at village level. It is mandatory that women must take active part at planning implementation and evaluation process. In the various committees of water shed development programme there are women representatives. The women representative expresses their concerned about the developmental programmes in these committees as well as Grampanchayat also. The overall scenario shows there is a favorable condition for improving women status in different ways at village level. Therefore, the perception about the impact of water shed development programme of women status is discussed in detail in following table.

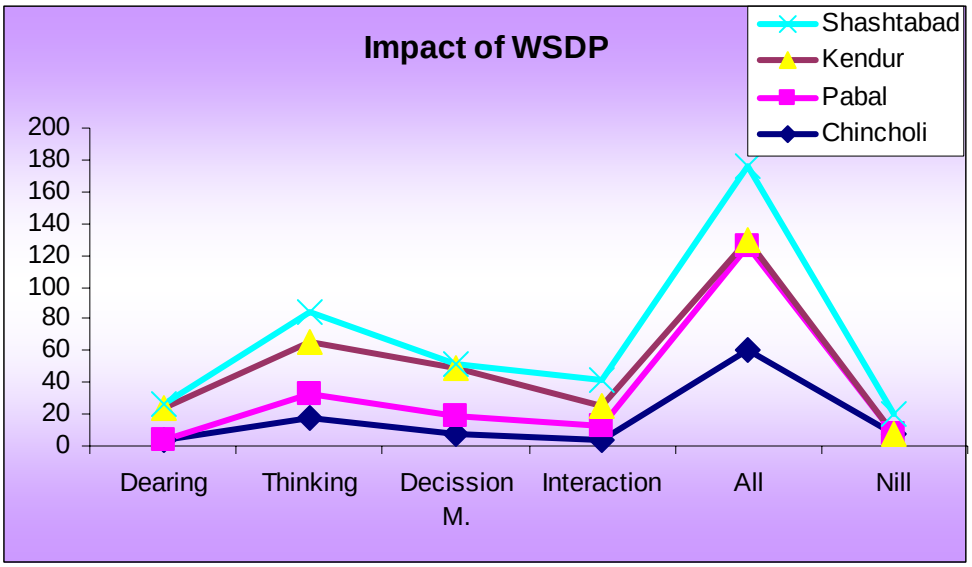
Table No.4.12

Distribution of Respondents according to Perception about Impact of Water Shed Development Programme on womens

Villages	Perception about impact of Water Shed Develop0ment Programme on womens						
	Dearing	Thinking	Decission M.	Interaction	All	Nill	Total
Chincholi	1	5	2	1	17	2	28
	3.6%	17.9%	7.1%	3.6%	60.7%	7.1%	100.0%
Pabal	0	5	4	3	23	0	35
	0.0%	14.3%	11.4%	8.6%	65.7%	0.0%	100.0%
Kendur	6	10	9	4	1	0	30
	20.0%	33.3%	30.0%	13.3%	3.3%	0.0%	100.0%
Shastabad	1	6	1	5	15	4	32
	3.1%	18.8%	3.1%	15.6%	46.9%	12.5%	100.0%
Total	8	26	16	13	56	6	125
	6.4%	20.8%	12.8%	10.4%	44.8%	4.8%	100.0%

Figure No 4.12

Perception about impact of Water Shed Develop0ment Programme on womens



Perception about impact of water shed development programme. The above table shows the various dimensions of the impact of water shed development programme programme on women's status. 6% women have reported they have increased their Dearing in discussing various matters with villagers. Whereas 20% women have reported they improved their thinking as there is a chance to get involved in village development activities 13% women have reported they have improved their decision making capacity and 10% have reported they have increased here interaction. There is hardly any variation about the responses except Kendur in Chincholi and Pabal more or less same trend with marginal variation in Shastabad.According to 45 % of total respondents, the water shed development programme has positive impact on all the factors in the table. Among these, proportion is highest in Pabal i.e. 66%.

In case of Kendur, 33% responded that involvement in water shed development programme has encouraged independent thinking and 30% responded that it has improved decision making capacity. Positive impact exlusively on interaction was mentioned by 16 % respondents from Shastabad. Overall impression is that the water shed development programme has influenced the factors related to women empowerment in project area.

Summary

In this chapter women and drinking water is described in detail. It is known fact that as village level drinking water is the task of women. Therefore, availability of the water is concerned with the women activity. As the study areas is the located in drought prone area women in respective villages are facing lot of difficulties in bringing water. However, water shed development programme has helped substantially to reduced their drudgery. In this chapter details about type of sources of drinking water availability drinking water throughout year location and distance of sources of drinking water. The person bringing the water and time spent in bringing water is discussed in detail. The frequency of bringing water information of water shed development programme it source and transfer of information is also discussed in details. To summarize the results of this chapter it is to state that though water shed development programme programme is implemented well water remained. The predominant sources of drinking water number of bore well have been increased substantially which has helped to reduced the drudgery of the women. About 1/3rd of the respondents have reported that water available thought year no large variations have been observed except in Kendur. If there is a good mansoon in that year water is available throughout year is report by substantial proportion of the respondents.

89% of the respondents have reported the water source is located outside the house i.e at the public places if the tap water is available or if women has to bring water from well it is also located at the certain distance. Usually it is observed that distance of the source of drinking water ranges between 0.5 to 1 Km. Usually females and the children are the prominent persons who brings a water for the family. This show that women place very prominent role to bring a water for the family and it is observed that she has to spent about 1 hour to carry the water on her head. The families who have the source inside the house need not to spent any time. However, the family is staying the longer distance they have to spend consideration time to bring the water. It is also observed that every women is bringing water atleast twice in a day. Thus she has to spent minimum two hours to bring the water for her family.

As regard to the information about water shed development programme it is observed that only 1/3rd women folk in the village are aware about the water shed development programme programme and majority of them are not aware. This clearly indicates that though there is a strong communication system women are not very conscious about the village developmental activities. About 44% of the respondents are aware about water shed development programme since 5 years ago followed by 25% 5 years and 30% 2 years. It is also observed that there are several source of the information they received mainly from the Grampanchayat Govt. officials, teachers and self help group these are the prominent sources of information. Whatever the information they got are usually transferred to other through mouth to mouth publicity. One of the most significance observation is that almost all the respondents from all villages are of the opinion there is a positive impact of water shed development programme on women status at village level. To conclude this chapter it is to say that even though water shed development programme programme is implemented water is not made available at family which helps to reduced the drudgery of women. However, due to various activities are water shed development programme women got an opportunity to interact, to discuss and to exchange their thoughts which help to improve their social status in general.

CHAPTER V
PARTICIPATION OF WOMEN

5.0 Introduction

In the general population women constitutes 50% proportion. Since last decade there was hardly any opportunitively to get involved in the community affairs. The 73rd constitutional amendment has given excellent opportunitively to the women to take part in village development activities. 30% reservation is provided at Grampanchayat level for the women. This helps to take active part in village developmental activities.

There are several studies which have shown the active participation at the women leads success of the project. The increased educational level, impact of mass media and spread of advanced technology at village level has helped to cross the boundaries of cultural barriers at village level. Therefore, now women's are taking very active part in village developmental activities.

The Govt. policy related to women empowerment indicates that there are special programmes for women development at village level. If all village women come together and took any decision for the development of village the Grampanchayat cannot neglect their decision. At the Gramsabha women are taking very dominating role for various activities as they perceived for development. If there is the injustice on women all women come together and can give the complain in the police station. In this way the collective strength of women is one of the active force in most of the villages.

In several villages where women is the Sarpanch these Grampanchayat are functioning very efficiently. The earlier misunderstanding about their strength has been now removed and now it is looked as one of the predominant active force at village level for the village developmental activities.

5.1 Collective thinking Among Women

If women all women think there is a need of development all women come together they interact with each other and proposed the developmental activities to Grampanchayat. Equally in the distribution of benefits of development is now closely being monitored by village women. In most of the cases women come together they take their own decision and forced to take the action to village authorities thus one finds that there is a strong collective thinking among the women at village level. The detailed the information in this regard is given in following table.

Table No.5.1

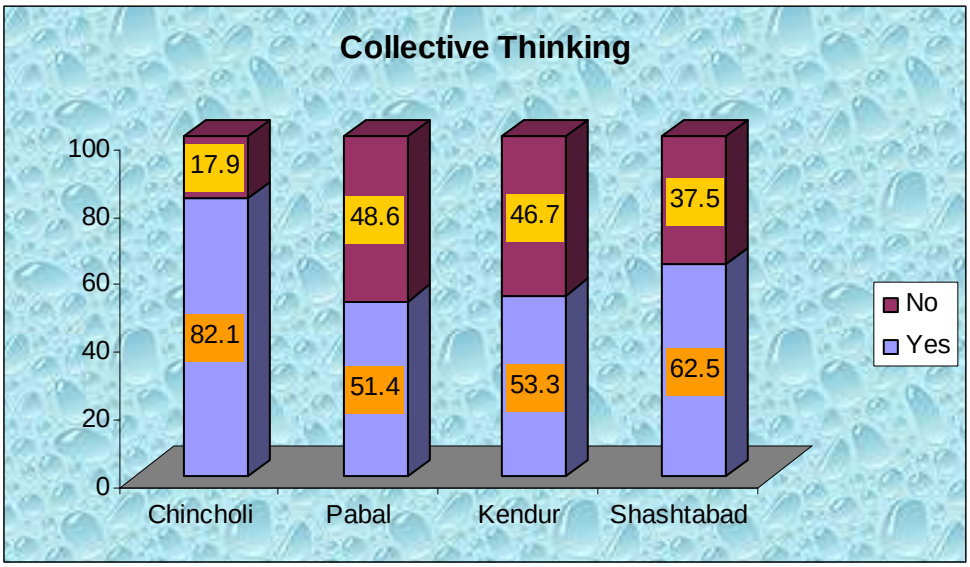
Distribution of Respondents according to

Collective thinking Among Women

Villages	Collective thinking Among Women		
	Yes	No	Total
Chincholi	23	5	28
	82.1%	17.9%	100.0%
Pabal	18	17	35
	51.4%	48.6%	100.0%
Kendur	16	14	30
	53.3%	46.7%	100.0%
Shastabad	20	12	32
	62.5%	37.5%	100.0%
Total	77	48	125
	61.6%	38.4%	100.0%

Figure No 5.1

Collective thinking Among Women



Women folk usually gather at certain places for their day-to-day activities. The above table indicates that 62% women do undertake collective thinking about village development. In Pabal and Kendur about 53% women have reported that they do collective thinking about their own family or village problems. In Shastabad 63% and the highest proportion is observed in Chincholi i.e. 82%. In brief it is to say that there is a substantial thinking collectively about village development which leads individual's development as well as development as village community. Total 96 % of them responded that it there has been very high positive impact and the proportion is large in all the villages i.e. above 90 %.

5.2 Extent of collective thinking

Village community has several barriers among the women folk castism, stratification based on economic condition, groupism based on social status etc. grossly affects their involvement in village developmental activities. There are certain issues where women can contribute significantly but there are certain areas where the women cannot do any contribution. As regard to Water Shed Development Programme there is a statutory provision for getting women's involvement at various levels of the Water Shed Development Programme. Naturally the govt. or NGOs has to take their help in

implementation process. One can observe that the women those who are going to get maximum benefit of Water Shed Development Programme their participation is always very high. However, those who are not getting the benefit they may not participate in any one of the activity. The details about women's participation in village developmental activities are given in following table.

Table No.5.2

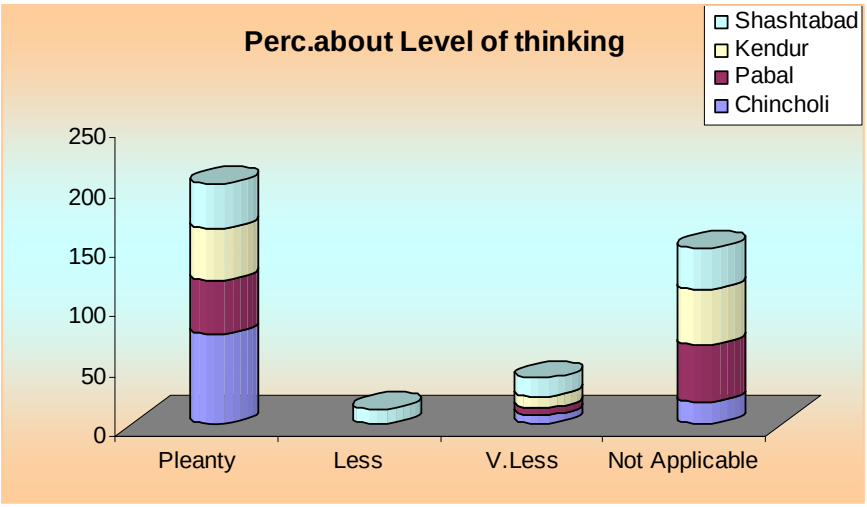
Distribution of Respondents according to

Extent of collective thinking

Villages	If yes, How much				
	Plenty	Less	V.Less	Not Applicable	Total
Chincholi	21	0	2	5	28
	75.0%	0.0%	7.1%	17.9%	100.0%
Pabal	16	0	2	17	35
	45.7%	0.0%	5.8%	48.6%	100.0%
Kendur	13	0	3	14	30
	43.3%	0.0%	10.0%	46.7%	100.0%
Shastabad	12	4	5	11	32
	37.5%	12.5%	15.7%	34.4%	100.0%
Total	62	4	12	47	125
	49.6%	3.2%	9.6%	37.6%	100.0%

Figure No 5.2

Extent of collective thinking



Attempt to understand the relative proportion of impact on collective thinking of women indicates that half of total respondents think that the influence is very high. Quantification of collective thinking is present in above table. In all the villages it is observed that about half of the women feels that they discuss various issues of community as well as family at high level in Chincholi highest proportion i.e. 75% is observed followed by Pabal and Kendur about 45% and in Chincholi hardly 38%. The overall trends show that almost in all villages the women folk discusses all the matters related to village community substantially. This corresponds with previous data reflecting comparatively higher level of awareness and active dissemination of information also. 3/4th among them is from Chincholi. According to the 34 % respondents from Shastabad, the influence is very less.

5.2 Women's participation in village Activities

Reduction in school dropout rate, improving in enrollment rate, 100% coverage of immunization or 100% institutionalized deliveries; these are some of the indicators where women can take the active part in village development. As regard to Water Shed Development Programme women can decide the location, women can decide the distribution; women can monitor the progress and also can keep the control on expenses. In such activities women's participation has a vital significance. The details about women’s participation in village developmental activities are given in following table.

Table No.5.3

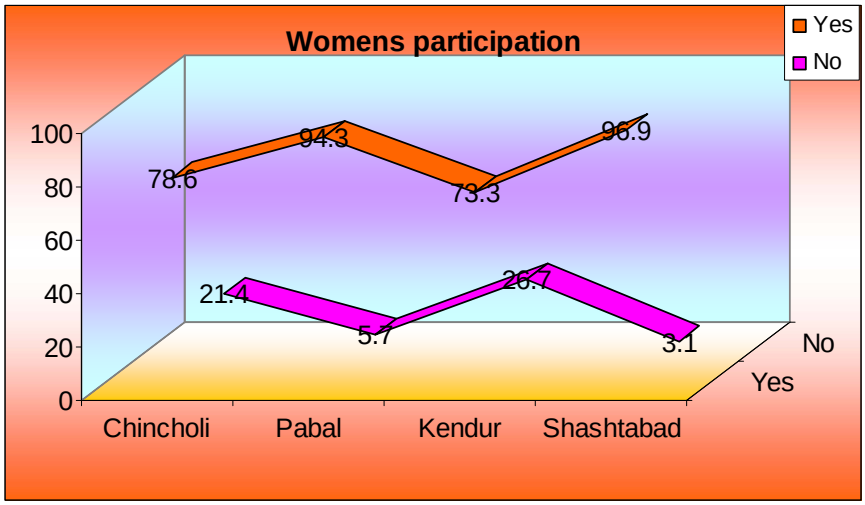
Distribution of Respondents according to

Women's participation in village Activities

Villages	Women's participation in village Activities		
	Yes	No	Total
Chincholi	22	6	28
	78.6%	21.4%	100.0%
Pabal	33	2	35
	94.3%	5.7%	100.0%
Kendur	22	8	30
	73.3%	26.7%	100.0%
Shastabad	31	1	32
	96.9%	3.1%	100.0%
Total	108	17	125
	86.4%	13.6%	100.0%

Figure No 5.3

Women's participation in village Activities



The above table shows about 873% of the women participates in village development activities. The highest proportion is observed in Pabal and Shastabad followed by Chincholi and Kendur. The level of their participation may vary from one village to another village but there is a strong awareness about participation at village level

activities amongst the women folk. This also indicates that they are thinking about village development which is concerned for their own development also. Lack of active participation of women in village activities is very high (86 %) the proportion is highest among respondents in Shastabad (97 %). According to the respondents from Kendur, 27% of women participate actively.

5.3 Attendance in Gramsabha

73rd constitutional amendment has made strong provision that there should be Gramsabha at least four times in a year. The Gramsabha is the platform where all the voters can perceive their ideas of development of village as well as can suggest new programmes of the development. In the Gramsabha there is active participation of women in almost all villages. The village women spread the message of Gramsabha and also motivates to each other for taking active part in Gramsabha. So that they can present their difficulties on the common platform the details about the attendance in Gramsabha is given in following table.

Table No.5.4

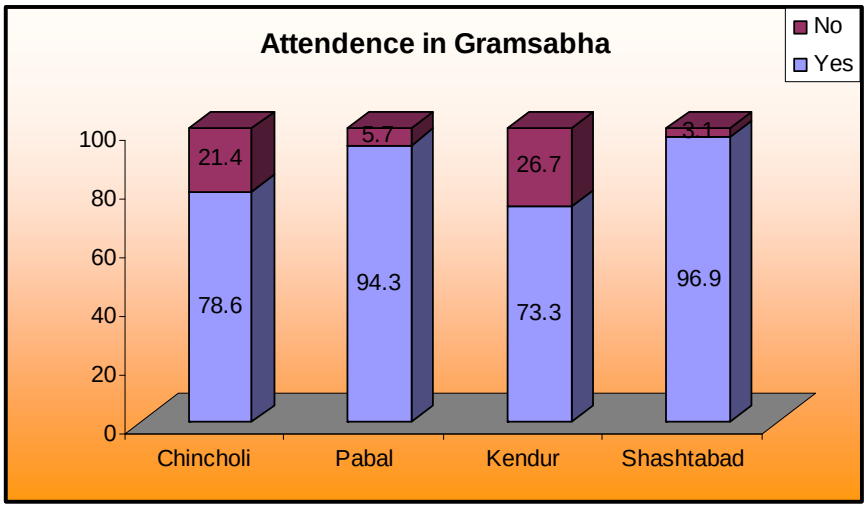
Distribution of Respondents according to

Attendance in Gramsabha

Villages	Attendance in Gramsabha		
	Yes	No	Total
Chincholi	22	6	28
	78.6%	21.4%	100.0%
Pabal	33	2	35
	94.3%	5.7%	100.0%
Kendur	22	8	30
	73.3%	26.7%	100.0%
Shastabad	31	1	32
	96.9%	3.1%	100.0%
Total	108	17	125
	86.4%	13.6%	100.0%

Figure No 5.4

Attendance in Gramsabha



The table shows highest participation of women in Pabal and Shastabad i.e. about 95%. Whereas in Chincholi and Kendur about 75% to attend the Gramsabha is very crucial as regard to women empowerment. Gramsabha is the place where she gets an opportunity to interact with other women govt. officials and the members of the Grampanchayat also. There is thinking about their own development as well as the development of the village which are closely associated with day-to-day life. Therefore, attendance in the Gramsabha is very crucial for village women. This leads improving their social status in their community. It is clear from the data that over 86 % of total 125 respondents attend Gram Sabha's and the proportion is highest among those from Shastabad (97 %). The proportion is lowest among respondents from Kendur (27 %).

5.4 Extent of participation

Active participation, passive participation and neutral participation are the three main type of participation of the community in development activities. Those who are to get the more benefit are actively participated in village development. Thos who are not get the any benefit they may not take active role and responsibilities in village development. For any developmental process their should be active involvement of the women which will help to complete the project in a prescribed period. The significance of women's participation is that they can shoulder the responsibilities as efficiently as men in almost

all feels of the development. Therefore, their participation at planning implementation and monitoring is very significance in Water Shed Development Programme. The information collected on the extend the of women participation at various levels of the project is given in following table.

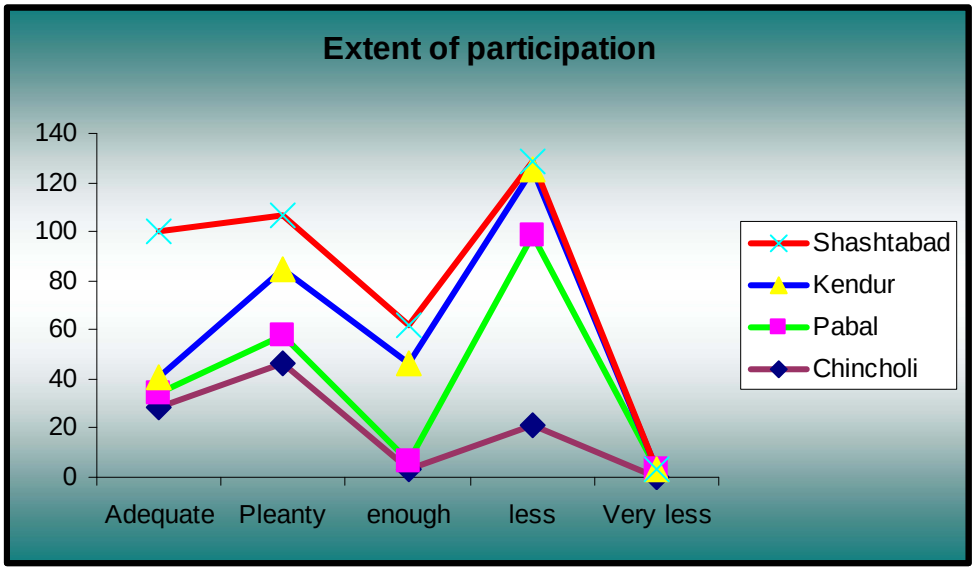
Table No.5.5

Distribution of Respondents according to Extent of participation

Villages	Extent of participation					Total
	Pleanty	Adequate	Enough	Less	Very less	
Chincholi	13	8	1	6	0	28
	46.4%	28.6%	3.6%	21.4%	0.0%	100.0%
Pabal	4	2	1	27	1	35
	11.4%	5.7%	2.9%	77.1%	2.9%	100.0%
Kendur	8	2	12	8	0	30
	26.7%	6.7%	40.0%	26.7%	0.0%	100.0%
Shastabad	7	19	5	1	0	32
	21.9%	59.4%	15.6%	3.1%	0.0%	100.0%
Total	32	31	19	42	1	125
	25.6%	24.8%	15.2%	33.3%	0.8%	100.0%

Figure No 5.5

Extent of participation



The above table indicates the levels of participation in Water Shed Development Programme programme about 50% of the respondents in all villages have reported that they have participated in this programme fully. Whereas 15% have reported they have enough participation and 33% have reported they have less participation in Shastabad 60% have reported they have participated fully and 22% have reported they have participated adequately. Between villages variation shows the awareness about Water Shed Development Programme programme for the benefit of common man. In Pabal 77% despondence which is highest among all the other villages has reported they have very less participation in Water Shed Development Programme.

5.5 Women are taken into confidence

Though women are not in power the Grampanchayat members and the govt. officials has to take women folk into confidence about the proposed development. Taking the women in confidence is an indication of homogeneity of the community. This also reflects into the approach of working together all the problems and developmental activities are discussed with village women and their opinions are sought for implementation of the programme. Women can suggest different approach, different methods or different techniques in implementation of the programme. Therefore, there is a necessarily to take women into the confidence.

The level of confidence mainly depends upon the interest of govt. officials of the Grampanchayat officials. They should give the opportunity to all women for representing their opinion in the way they want. If they want any change or they want different programme the Grampanchayat members should think about their views accordingly they should take the decision. The details about taking women folk into confidence and its level is given in following tables.

Table No.5.6

Distribution of Respondents according to

Womens are taken into confidence

Villages	Women are taken into confidence		
	Yes	No	Total
Chincholi	27	1	28
	96.4%	3.6%	100.0%
Pabal	27	8	35
	77.1%	22.9%	100.0%
Kendur	24	6	30
	80.0%	20.0%	100.0%
Shastabad	27	5	32
	84.4%	15.6%	100.0%
Total	105	20	125
	84.0%	16.0%	100.0%

Women's are taken into confidence : It is seen from above table that in Chincholi 96% respondents have reported that almost all women's are taken into the confidence by Grampanchayat as well as the male folk in Kendur 80% in Shastabad 84% have also given the same response. This clearly indicates that the women are directly or indirectly participating in various activities of the village development. Indeed due to collective thinking and their active participation in the Gramsabha has created the situation that unless women are taken into confidence development will never take place. The table also shows that majority women are consulted before decisions are taken in the family. 84 % of them are taken into confidence and proportion is highest in Chincholi (96 %). The proportion is lowest in Pabal where 23 % women are not taken in confidence at all.

Table No.5.7

Distribution of Respondents according to If Yes, how much

Villages	If Yes, how much					
	Adequate	Pleanty	Enough	Less	Very less	Total
Chincholi	2	1	8	5	12	28
	7.1%	3.6%	28.6%	17.9%	42.9%	100.0%
Pabal	7	9	9	7	3	35
	20.0%	25.7%	25.7%	20.0%	8.6%	100.0%
Kendur	5	5	13	3	4	30
	16.7%	16.7%	43.3%	10.0%	13.3%	100.0%
Shastabad	4	3	14	6	5	32
	12.5%	9.4%	43.8%	18.8%	15.6%	100.0%
Total	18	18	44	21	24	125
	14.4%	14.4%	35.2%	16.8%	19.2%	100.0%

The above table shows the level of confidence. There is different perception among the women. 14% feels they are adequately taken into confidence whereas 14% have reported they have been taken into confidence at highest level no large variation have been observed between villagers. However, in Pabal almost 92% have expressed women's are taken into confidence in varying degrees. The overall situations indicate subjective observation of the women folk about interaction with villagers. The overall situation evident from the above data is that according to the respondents, through majority are taken into confidence in decision making, actual involvement is very moderate (35 %). However, the proportion of respondents agreeing to this both from Kendur and Shastabad is above 43 %. The lowest involvement is seen among those from Chincholi, wherein 43 % are not taken in confidence. On the contrary, 26% from Pabal responded that according to them, they are taken in confidence in plenty occasions.

5.8 Active part in Public Festival

At village level there are several public activities in various seasons for example village fair, celebration of national festivals, celebration of cultural activities of the traditional festivals. Those some of the festivals are concerned with women the decision related to

celebration i.e. the policy decision about cultural aspect of the village must be discussed with villager especial with women. The details about the active part in policy formulation at village level are discussed in following table.

Table No.5.8

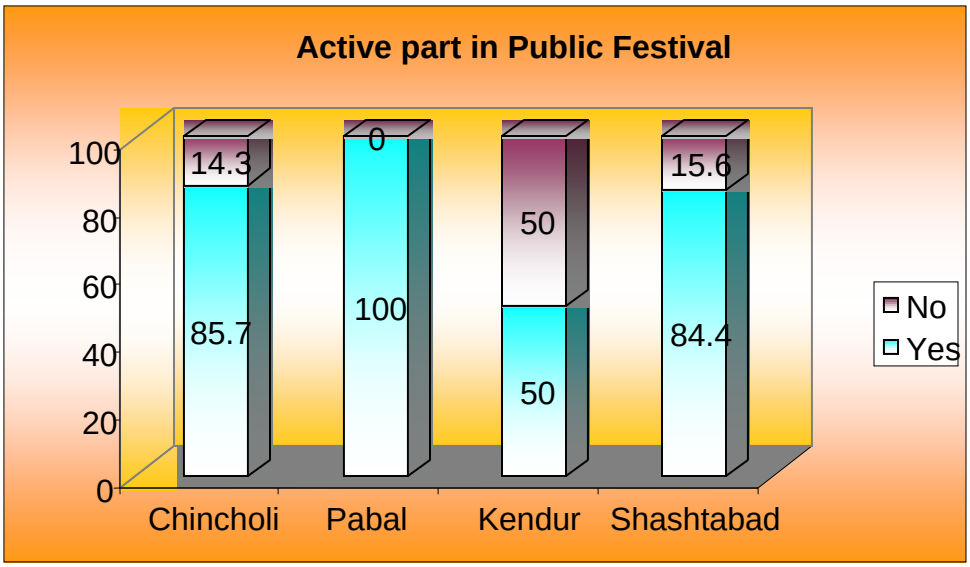
Distribution of Respondents according to

Active part in Public Festival

Village	Yes	No	Total
Chincholi	24	4	28
	85.7%	14.3%	100.0%
Pabal	35	0	35
	100.0%	0.0%	100.0%
Kendur	15	15	30
	50.0%	50.0%	100.0%
Shastabad	27	5	32
	84.4%	15.6%	100.0%
Total	101	24	125
	80.8%	19.2%	100.0%

Figure No 5.6

Active part in Public Festival



The above table shows that in Chincholi 86% and Shastabad 85% have reported they take very active part in public festival. In Pabal all the respondents have reported they active part and in Kendur hardly 50% have reported they take active part. These observations are highly subjective as the respondents do not have conceptual clarity about the active participation in public festival... According to the data in the above table, only 19% respondents do not participate actively in public festival, and 81 % attend such meeting regularly. It is also seen that in Kendur village, according to the respondents, half of the women (respondents) attending public festival. Participate actively in the proceedings. Kendur indicates lowest attendance in public festival, compared to other villages but active participation is highest (50%). This indicates possibility of more effective role of the respondents in the public festival, and consequently in the village activities though proportion of overall participants may be low.

5.9 Meeting with officials

For any developmental activity govt. officials are taking lead for implementation of the project. Usually it is observed that the govt. officials discussed all the matters with only Grampanchayat members or the Gramsevak but they hardly makes the efforts to meet women folk. The govt. guidelines for implementation of the developmental plan at village level indicates that unless there is a active involvement of the women one cannot implement the programmes efficiently. Hence the tendency to take meetings with the village women is increased. As result of this situation govt. officials are taking regular meetings with women folk about village development. The details about the meetings with officials are given in following table.

Table No.5.9

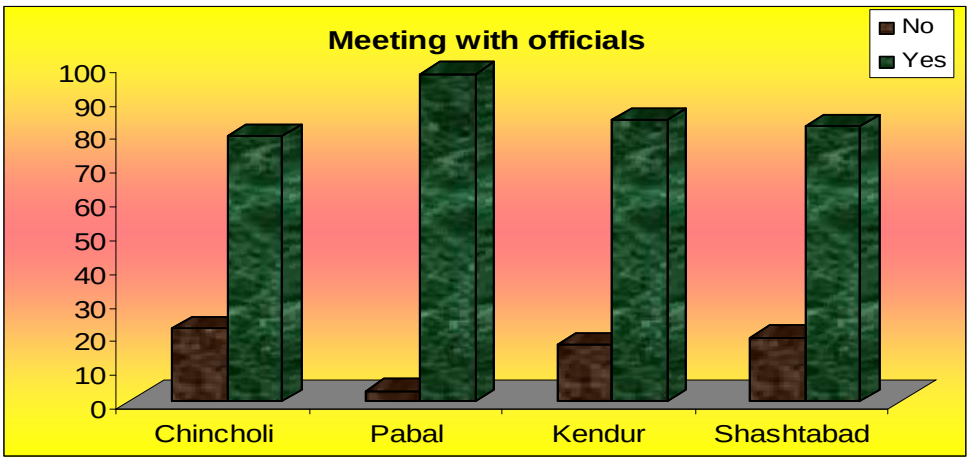
Distribution of Respondents according to

Meeting with officials

Villages	Yes	No	Total
Chincholi	22	6	28
	78.6%	21.4%	100.0%
Pabal	34	1	35
	97.1%	2.9%	100.0%
Kendur	25	5	30
	83.3%	16.7%	100.0%
Shastabad	26	6	32
	81.3%	18.8%	100.0%
Total	107	18	125
	85.6%	14.4%	100.0%

Figure No 5.10

Meeting with officials



The table above indicates in Pabal 97% women have very close interaction about village development with govt. officials whereas in Chincholi and Kendur and Shastabad about 80% have reported they have good interaction with govt. officials for village developmental activities. In brief it is to say that the interaction of the women with govt.

officials itself is an indication of active participation of women in not only village development but the development of the all women in the community. This situation always creates a good platform for empowering themselves in various dimensions.

5.10 Collective thinking about village problems

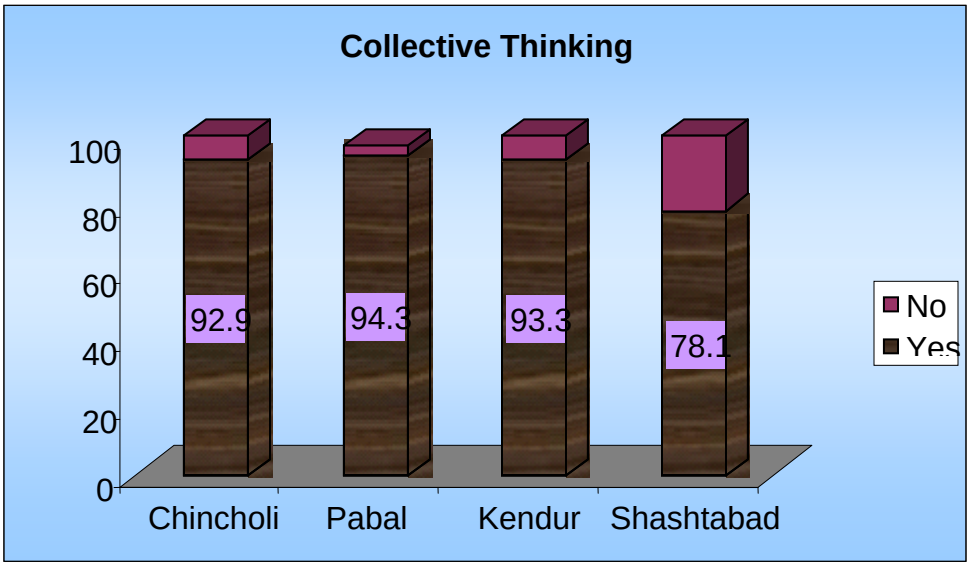
The perception about the problems of villages varies between males and females. Sources of drinking water, approach road, drainage system, availability of health facilities etc. some of the crucial areas where women folk is closely connected. Therefore, the problem the women folk face is different perception among the males. Indeed the gravity of the problems is very serious among the females than the male. One of the important aspects is that Indian society is the main dominated society at village level women does not have independent status. However, the changing situation and overall development now makes it possible to think about their own development as well as the development of their community also. The details about collective thinking about village problems are given in detail in following table.

Table No.5.10 Distribution of Respondents according to Collective thinking about village problems

Villages	Collective thinking about village problems			
	Yes	No	Some times	Total
Chincholi	26	2	0	28
	92.9%	7.1%	0.0%	100.0%
Pabal	33	1	1	35
	94.3%	2.9%	2.9%	100.0%
Kendur	28	2	0	30
	93.3%	6.7%	0.0%	100.0%
Shastabad	25	7	0	32
	78.1%	21.9%	0.0%	100.0%
Total	112	12	1	125
	89.6%	9.6%	0.8%	100.0%

Figure No 5.8

Collective thinking about village problems



The above table indicates that about 93% of the women in Chincholi, Pabal and Kendur have reported that they have collective thinking about various problems of the village. Such as internal roads, health services, drinking water, etc. de addiction is one of the major areas where there is a very strong collective thinking among the women folk. In all villagers the trend is more or less same.

5.10A Membership of SHG

Self help group is the moment which is accepted by the govt. and has made the policy for empowerment of women through self help group. In rural area this provides an opportunity to come together and get the solution to their problem of day-to-day life. Exchange of thoughts and interaction helps them for the development and also develops the decision making capacity related to family matter. Therefore, govt. is supporting rural women for developing self help even at route level. The detail about the membership of the SHG is given in following table. It is a formal process that the women come together, collect the money and form a group. The collected money is kept in bank account on joint men and thus the formal SHG starts.

Table No.10A

Distribution of Respondents according to Membership of SHG

Villages	Membership of SHG		Total
	Yes	No	
Chincholi	16	12	28
	57.1%	42.9%	100.0%
Pabal	6	29	35
	17.1%	82.9%	100.0%
Kendur	15	15	30
	50.0%	50.0%	100.0%
Shastabad	6	26	32
	18.8%	81.3%	100.0%
Total	43	82	125
	34.4%	65.6%	100.0%

Table shows that only 34 % of total respondents are members of SHGs. The proportion is comparatively better at Chincholi (57%) and least in Pabal (17%). Given the fact that SHGs are an important intervention in the project, it is expected that maximum women should have membership of SHGs, this picture is not very positive.

5.11 Meeting of SHG

Self help group is one of the common platform where women can come together to share their happiness and their worries. Women can interact with each other and can get the solution to their personal problems. Women can collectively think about the common problems that they face at village level and they can overcome their own problems with the help of other women. Self help group provides and excellent opportunities to women folk to have such types of interaction which helps to improve their own status.

Monthly savings is a nominal activity of the SHG but interaction and exchange of thoughts for collective thinking and overcoming the problems they face is more significant than the monthly saving. Of course, a women can take her own decision about the financial matters in the family is possible now only due to SHG. Almost in all

villages there is a very strong network of self help group. Almost majority of the women's of the members of self help group the women come together either fortnightly or monthly to contribute the money and also distribute the money those who are in need of. Therefore, the attendance of the meeting of SHG is one of the opportunities to all women to interact to each other. The details about the meeting of SHG are given in following table.

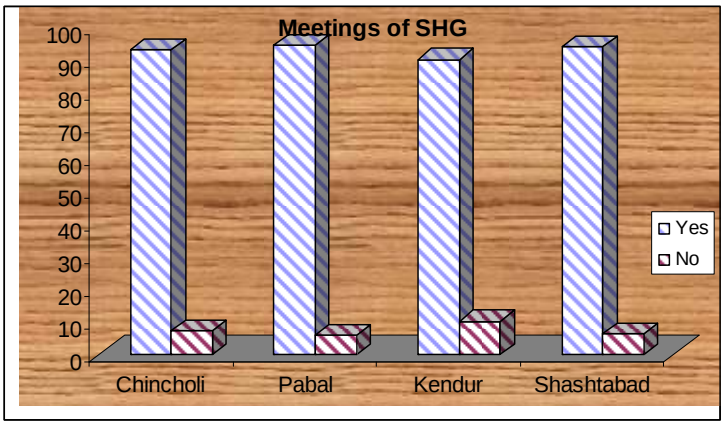
Table No.5.11

Distribution of Respondents according to Meeting of SHG

Villages	Meeting of SHG		Total
	No	Yes	
Chincholi	2	26	28
	7.1%	92.9%	100.0%
Pabal	2	33	35
	5.7%	94.3%	100.0%
Kendur	3	27	30
	10.0%	90.0%	100.0%
Shastabad	2	30	32
	6.3%	93.8%	100.0%
Total	9	116	125
	7.2%	92.8%	100.0%

Figure No 5.9

Meeting of SHG



The above table shows that about 93% of the respondents have reported they attend meeting of SHG very regularly. In Kendur 10% followed by Chincholi 7% in Shastabad 6% and Pabal 5% have reported they do not attend the meetings of SHG on various grounds. One of the most important aspects of the meeting of SHG is that there is a continuous interaction of the women about the family matters.

If some families are facing some problem the women come together at community level to solve their problems. In brief it is to say that almost all respondents are attending the meetings of SHG very regularly. The overall proportion of respondents (93 %) responded that the meetings in their SHGs are not conducted regularly. Since regular meetings are very essential both for proper functioning of SHG itself and empowerment of its members, the above responses indicate that this process may not be effective in this stage. This also affects the involvement of respondents in village level activities and representation in local bodies.

5.12 Frequency of the Meeting

The frequency of meeting of SHG varies from group to group. If there is a need to take urgent meeting women can get together within very short time. Usually all the decision about collection of money and distribution of money is taken in the meetings. The women can decide the priority areas for giving the loan the details about the frequency of the meeting is given in following table.

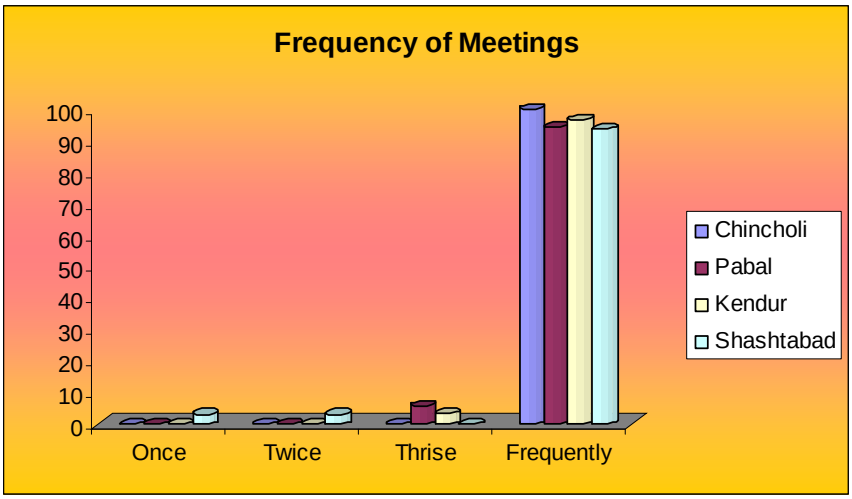
Table No.5.12

Distribution of Respondents according to Frequency of the Meeting

Villages	Frequency of the Meeting				
	Once	Twice	Thrice	Frequently	Total
Chincholi	0	0	0	28	28
	0.0%	0.0%	0.0%	100.0%	100.0%
Pabal	0	0	2	33	35
	0.0%	0.0%	5.7%	94.3%	100.0%
Kendur	0	0	1	29	30
	0.0%	0.0%	3.3%	96.7%	100.0%
Shastabad	1	1	0	30	32
	3.1%	3.1%	0.0%	93.8%	100.0%
Total	1	1	3	120	125
	0.8%	0.8%	2.4%	96.0%	100.0%

Figure No 5.10

Frequency of the Meeting



The above table indicates the frequency of meeting one point is to be noted here though there is particular schedule of meetings but as and when the women folk feels there is a need of meeting they conduct the meeting. About 96% of the women have reported that there are frequent meetings of the SHG and they take active part in almost all meetings. A probing question ask about the interaction and its impact it was found that is the SHG

is the platform where they an ventilate their problems and seek the guidance or help from other women.

5.13 Family Level Help of the SHG

Self help group is one of the forms of financial institution in informal sector. It works as a mini bank the women saves the money per month in a small amount for a year and whatever the amount is collected is being distributed among the women those who are in need of. There are several occasions at family level where a woman has to take the help from others. Day to day illness, school fees, unexpected expenses, fertilizers/ seeds in the agriculture etc. are some of the areas where a women need money. Most of the villagers are not willing to take the loan from cooperative bank or the nationalize banks mainly due to compilation of the documents as per their requirement. It may take longer time by the time the need of the women is already over. Thus there is a significance contribution of the SHG for family level help. The details in this regard are given in following table.

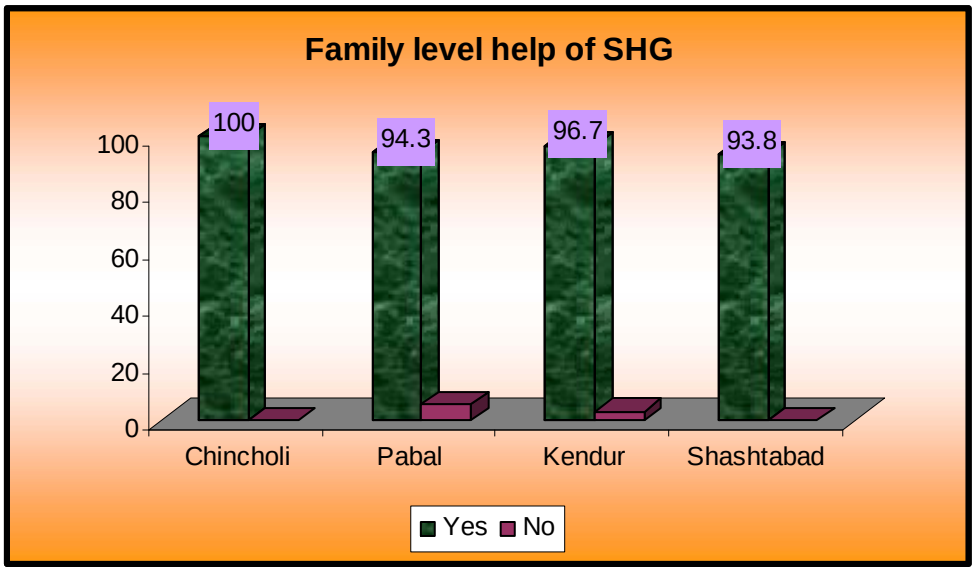
Table No.5.13

Distribution of Respondents according to Family Level Help of the SHG

Villages	Family Level Help of the SHG			
	Yes	No	Sometimes	Total
Chincholi	28	0	0	28
	100.0%	0.0%	0.0%	100.0%
Pabal	33	2	0	35
	94.3%	5.7%	0.0%	100.0%
Kendur	29	1	0	30
	96.7%	3.3%	0.0%	100.0%
Shastabad	30	0	2	32
	93.8%	0.0%	6.3%	100.0%
Total	120	3	2	125
	96.0%	2.4%	1.6%	100.0%

Figure No 5.11

Family Level Help of the SHG



As discuss in earlier part there are several ways through which self help group and the traditional Mahila Mandal is helping to the family during economic crises. The above table indicates the perception about family level help of SHG. About 91% of the respondents in all villages have reported that SHG helps at various levels in the family matter in Chincholi 100% respondents have expressed SHG helps substantially in Pabal, Pabal and Shastabad about 95% respondents have expressed that there is a substantial help through various ways at family level. The overall situation shows that there is a substantial help in family matters.

5.10B Attendance of the Meeting of Mahila Mandal

Along with the SHG the traditional organization is the Mahila Mandal. In rural communities Mahila Mandal also place a significance role in women development. They celebrate various festivals the organizes various cultural activities and also takes active part at village level in celebration of village fair. The sports competition and their help to the school is the emerging trade in some of the villages in Maharashtra. These Mahila Mandals helps Grampanchayat to take appropriate decision to solve the problem of the women control on illicit liquor is the task where majority of the Mahila Mandal has got success. Such Mahila Mandal organizes the regular meeting for discussion on the various

issues of the villager. To attend this meeting is not obligatory but usually most of the women attend this meeting. The details about the attendance of the meeting g of Mahila Mandal are given in following table.

Table No.5.10B

Distribution of Respondents according to Attendance of the Meeting

Villages	Attendance of the Meeting			
	Yes	No	Sometimes	Total
Chincholi	10	0	18	28
	35.7%	0.0%	64.3%	100.0%
Pabal	29	0	6	35
	82.9%	0.0%	17.1%	100.0%
Kendur	15	1	14	30
	50.0%	3.3%	46.7%	100.0%
Shastabad	26	0	6	32
	81.3%	0.0%	18.8%	100.0%
Total	80	1	44	125
	64.0%	0.8%	35.2%	100.0%

Regarding attendance of meetings of the SHGs, the situation doesn't appear to be very positive. It was found that only 64 % respondents attend meetings regularly and 35 % attend intermittently. The rest do not attend meetings at all but they have retained membership of the SHG.

5.14 Perception about Impact on Social Status

Social status is a very comprehensive concept to get the respect in the society and to get the honour to word these is the two main indicators of social status. It is known fact that women have the secondary status in the family in almost all villages. All the decisions related to the family are taken by the male member who is the head of family. The male member never considers the opinion of women in the family. Therefore, there is a feeling

of status less life in the family. The Water Shed Development Programme programme has taken the care to improve the women status to the extent that if they decide not to implement the programme the Grampanchayat cannot implement it. The collective thinking of all women always operates as a pressure group at village level. This situation leads to improve women social status in the community. As regard to the programme that has been implemented in all villages has definitely helped to improve the social status of the women. However, their perception about the improve in social status is discussed in following table.

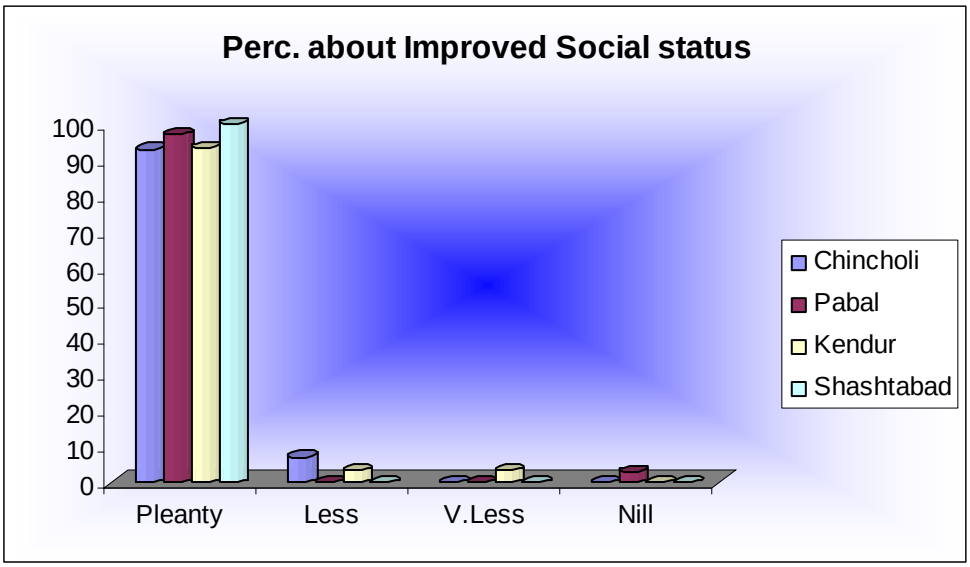
Table No.5.14

Distribution of Respondents according to Perception about Impact on Social Status

Villages	Perception about Impact on Social Status				
	Plenty	Less	Very Less	Nil	Total
Chincholi	26	2	0	0	28
	92.9%	7.1%	0.0%	0.0%	100.0%
Pabal	34	0	0	1	35
	97.1%	0.0%	0.0%	2.9%	100.0%
Kendur	28	1	1	0	30
	93.3%	3.3%	3.3%	0.0%	100.0%
Shastabad	32	0	0	0	32
	100.0%	0.0%	0.0%	0.0%	100.0%
Total	120	3	1	1	125
	96.0%	2.4%	0.8%	0.8%	100.0%

Figure No 5.12

Perception about Impact on Social Status



It is very difficult to quantify the level of perception of the impact of developmental programmes on women. However, the above table indicates their own level of perception. It shows that 96% of the respondents from all villages have reported that there is a plenty of impact on social status of SHG hardly 2% have reported less impact. The overall trend shows that almost all the women are of the opinion that the SHG has helped to improve their status either at community level or at individual level.

5.15 Perception about Impact on Economical Status

Self help group has helped substantially to develop the economic status. Monthly savings for the certain years has given the strength to the women to take the decisions related to economical conditions of the family. They have money and as and when the family needs they can avail the loan from SHG. Thus there is a assured source of loan in a minimal rate of interest leads, to improve the economical status of the women in villages. Though the women get less wages and she do not get any money at her hand for family expenses the self help group has helped to provide them the assurance of economical assistance leading towards improving economical status of the women. The details about the perception about impact on economical status are given in following table.

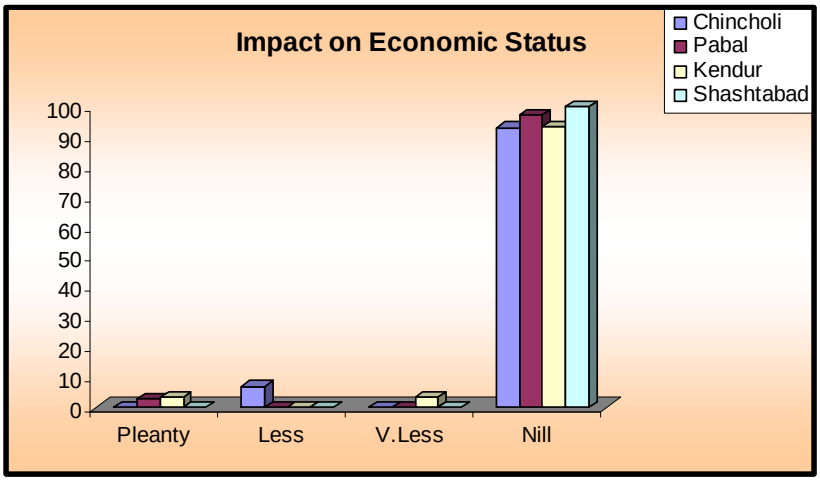
Table No.5.15

Distribution of Respondents according to Perception about Impact on Economic Status

Villages	Perception about Impact on Economical Status				
	Pleanty	Less	V.Less	Nil	Total
Chincholi	0	2	0	26	28
	0.0%	7.1%	0.0%	92.9%	100.0%
Pabal	1	0	0	34	35
	2.9%	0.0%	0.0%	97.1%	100.0%
Kendur	1	0	1	28	30
	3.3%	0.0%	3.3%	93.3%	100.0%
Shastabad	0	0	0	32	32
	0.0%	0.0%	0.0%	100.0%	100.0%
Total	2	2	1	120	125
	1.6%	1.6%	0.8%	96.0%	100.0%

Figure No 5.13

Perception about Impact on Economical Status



The in continuation of the earlier table No. 5.15 shows the perception of women on improving their economic status very surprisingly it was found that there is a no impact of economic status. In Shastabad 100% respondent followed by Pabal 97% in Kendur 93% and Chincholi 92% where of the opinion that there is a no impact on economic status. Majority of the women have also reported that all the decisions related to

economics their husband or male member in the family takes the decision. In brief it is to say that thought there are several developmental activities at community level but there is a hardly any impact on women's economic status.

5.16 Perception about Impact on Decision Making Capacity

When a women takes active part in village developmental activities, attends the meeting with govt. officials, decides the priority of development etc. are the outcome of strengthening or enhancing her decision making capacity. When there is a certain amount of assurance of financial support the women can take the decision on her own and can decide the priority to solve the problems. Deciding the priority is very difficult takes of the men. However, the Water Shed Development Programme has help substantially to increased decision making capacity among the women. The details in this regard in the following table.

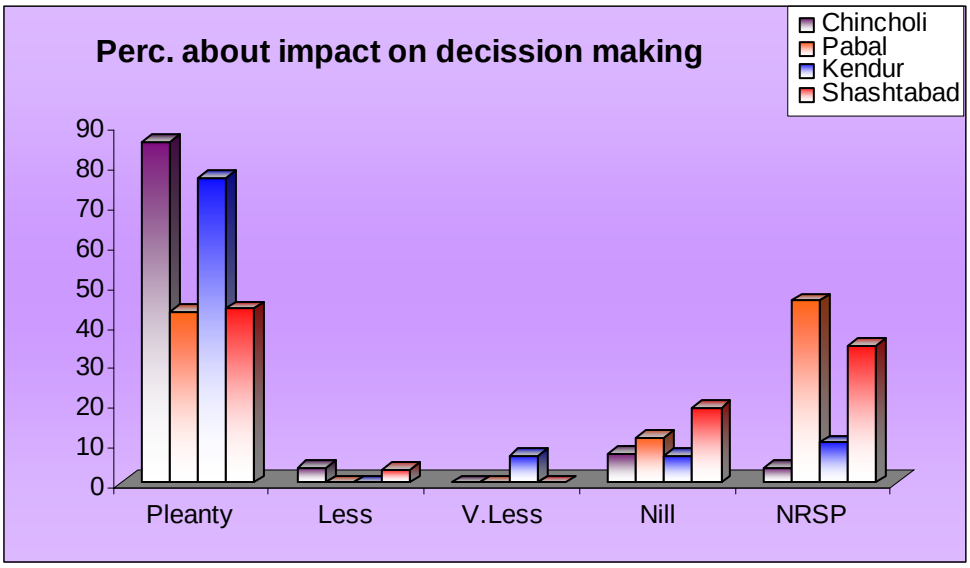
Table No.5.16

Distribution of Respondents according to Perception about Impact on Decision Making Capacity

Villages	Perception about Impact on Decision Making Capacity					Total
	Plenty	Less	Very Less	Nil	NRSP	
Chincholi	24	1	0	2	1	28
	85.7%	3.6%	0.0%	7.1%	3.6%	100.0%
Pabal	15	0	0	4	16	35
	42.9%	0.0%	0.0%	11.4%	45.7%	100.0%
Kendur	23	0	2	2	3	30
	76.7%	0.0%	6.7%	6.7%	10.0%	100.0%
Shastabad	14	1	0	6	11	32
	43.8%	3.1%	0.0%	18.8%	34.4%	100.0%
Total	76	2	2	14	31	125
	60.8%	1.6%	1.6%	11.2%	24.8%	100.0%

Figure No 5.14

Perception about Impact on Decision Making Capacity



The above table shows the perception of women folk about the impact on development of decision making capacity among women. It was found that in Chincholi 86% respondents feel that there is a plenty of impact i.e. they have developed their decision making capacity at family level in Kendur 77% women have expressed the same opinion. In Pabal and Shastabad hardly 43% women have expressed that they have developed their decision making capacity due to village developmental activities large variation between villagers are mainly due to the inputs they get from the other agencies. In brief it is to say that decision making capacity is improved but not as anticipated.

Summary

Water Shed Development Programme is one of the significance aspects of rural development sponsored by central govt. While implementing Water Shed Development Programme govt. has given the specific guidelines for getting the involvement of women in various activities of the Water Shed Development Programme., Accordingly in this chapter details about the impact of active participation of women on improving women status is discussed in detail. This includes the various processes that are being taken place at village level. Among them**,** Collective thinking Among Women, Extent of collective thinking, Women's participation in village Activities, Attendance in Gramsabha, Extent of participation, Womens are taken into confidence, Active part in Gramsabha, Meeting with officials, Collective thinking about village problems, Meeting of SHG, Frequency of the Meeting, Family Level Help of the SHG, Perception about Impact on Social Status, Perception about Impact on Economical Status, Perception about Impact on Decision Making Capacity, are some of the important. To summarize the results of this chapter it is to say that about 2/3rd respondents are thinking collectively for village development and they extent collective thinking is substantial. This indicates that almost all women folk are thinking either to monitor or to supervise the village developmental activities. It is observed that 86% of the women have active participation in village development activities and there are several ways and means to take active part for village development. Gramsabha is one of them where they can express their problems about 86% respondents have reported that the attends regularly the Gramsabha and also takes very active role and responsibilities in carrying out the developmental activities.

About 84% women are of the opinion that the women's are always taken into confidence before planning the development activities and the extent of confidence is considerably in high in all villagers. In the Gramsabha 80% of women expressed that they can established the dialogue with Grampanchayat officials as well as villagers too. 85% of respondents have expressed that they can conduct the meetings of the govt. officials for the discuss of village development and the equal proportion of the women have expressed that women's are thinking collectively to find out the solution of the problem. About the 34% of the respondents are the members of formal organization i.e. self help group and almost 64%

of the respondents attends the meeting of Mahila Mandal very regularly. 92% of the respondents have reported that they attained the meeting of SHG very regularly and almost all respondents have reported there are frequent meetings as per the need and demand from the village women.

96% of the women were of the opinion that the self help group helps substantially for various issues of the family. Particularly when family is facing the crises of money self help group is the support from which they can sick the help and solve the problem. Almost all respondents are of the opinion that there is the very strong impact of Water Shed Development Programme on improving women's status at various levels. Particularly they have reported that they can take their independence decisions they can decide propriety of their needs, they can give attention towards their children and also there is a strong awareness about health.

The overall situation shows that the various activities that has been carried out in Water Shed Development Programme programme has made the impact on rural women in several ways especially they are more open minded, they are more talkative, they are more generous and are able to think about the problems of their family as well as of their village. There is a frequently interaction with govt. officials which has help to get the current information about various programmes and policies of the village development.

CHAPTER VI

WOMEN, GRAMPANCHYAT AND COMMUNITY

6.0 Introduction

The traditional rule of the women is to care and rare the children and the family members. She always works with her husband and farm. She takes care of cattle's, she takes care of senior citizens in the family. Inspire of her significance contribution at all levels her status is considerably neglected at family level. She does not have any voice at family level in financial matters or any other major decisions of the family. The statutory provision has made her empowered by giving equal share in the parent’s property. Thus, her status is accepted by the law in society.

The 73rd constitution amendment has given 1/3rd reservation for women in all Grampanchayat since 1994 onward the women who had never crossed the boundaries of her family is now participating in the Grampanchayat and decisions making process at village level. The collective thinking of the women is now started for village development and identifying village problems. The trained of women's active participation at Grampanchayat level shows fruitful results in terms of rural development.

Increased level of education, impact of mass media and strong connectivity with urban or advanced areas has helped in several ways to think herself and to take her own decisions. The traditional concept of women as a care taker is being disappearing and new concept is emerging. Now she is looked as a responsible person either at family level at community level. Therefore, more responsibilities are shouldered on her whom she is fulfilling very successfully.

In this chapter the women Grampanchayat and community interrelationship and inter-dependence is discuss the in various relations especially the cooperation of Grampanchayat members and govt. officials, cooperation of other women's etc. are viewed very critically. As discussed in the earlier part the active part in village

development and responsible role in cultural activities are discussed in detail the problem faced by women in coordinating various developmental activities along with her family activities have being described in this chapter.

The areas in which she is taking independent decisions, the control on the family resources the strength of cooping problems and awareness about self esteem are of vital significance to elaborate her role as a organizer, manager and monitor at community level. Therefore, her participation in Water Shed Development Programme at various levels i.e. in planning management, implementation, monitoring, supervision and post implementation management are of vital significance. How far she has a freedom in participating in village level whether there are restrictions from her husband or family members etc. have been discussed in detail as follows:

6.1 Perception about Co-operation of GP Members

The new Panchayat Raj system has regulated the elections of Grampanchayat for every five year. There is reservation for SC/ST along with reservation for women as usual the members of Grampanchayat are being elected by the voters in majority of the votes. One finds that there are very strong party politics which are creating problems in the developmental process at Grampanchayat level party politics plays very predominant role in decision making process. This process is usually undertaken at Grampanchayat levels in its monthly meetings. The women members may have opportunity to take active part in the discussion about various problems of the village. However, as a women folk one finds that her opinion is not considered or neglected. Therefore she presents herself only physically in the Grampanchayat meeting making any significant contribution this is mainly takes placed due to non cooperation from the Grampanchayat members. The details about her perception about the cooperation are given in following table.

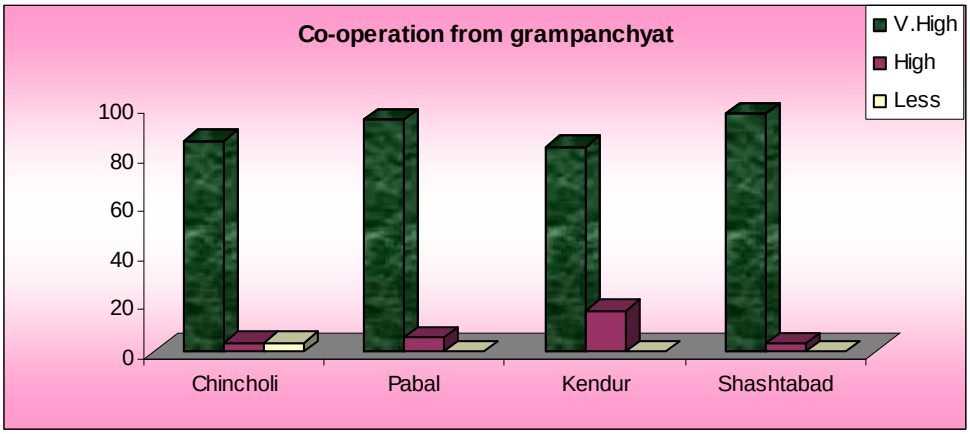
Table No.6.1

Distribution of Respondents according to Perception about Co-operation of Gram Panchayat Members

Villages	Perception about Co-operation of GP Members				
	V.High	High	Less	NRSP	Total
Chincholi	24	1	1	2	28
	85.7%	3.6%	3.6%	7.1%	100.0%
Pabal	33	2	0	0	35
	94.3%	5.7%	0.0%	0.0%	100.0%
Kendur	25	5	0	0	30
	83.3%	16.7%	0.0%	0.0%	100.0%
Shastabad	31	1	0	0	32
	96.9%	3.1%	0.0%	0.0%	100.0%
Total	113	9	1	2	125
	90.4%	7.2%	0.8%	1.6%	100.0%

Figure No 6.1

Perception about Co-operation of GP Members



It is seen from the above table that the respondents have expressed the level of their perception about cooperation of the Grampanchayat Members. However, in all villages it is observed that 94% respondents have reported that there is a cooperation of GP member at very high level. This indicates there is a hardly any gender bias. Hardly 7% have reported high level and very negligible proportion of the respondents have expressed

there is a less cooperation. This table indicates there is a substantial opportunity to participate in the Grampanchayat activities for the women.

6.2 Perception about Co-operation of Govt. officials

Govt. officials are the key person in planning and implementation of the project. For preparation o the project the Grampanchayat has to collect several documents and contributes significantly in terms of money of labour. Submitting the proposal to the govt. officials arranging discussion with officials convincing them about the need getting sanction from them etc. involves initiative and leadership qualities. A women member of the Grampanchayat may not have such type of qualities naturally they never come on the horizon of the village development. There are women those who take initiative in this regard gets good opportunities to participate the village development activities are very few. Detailed information about perception about cooperation of govt. officials in terms of response is collected and given in following table.

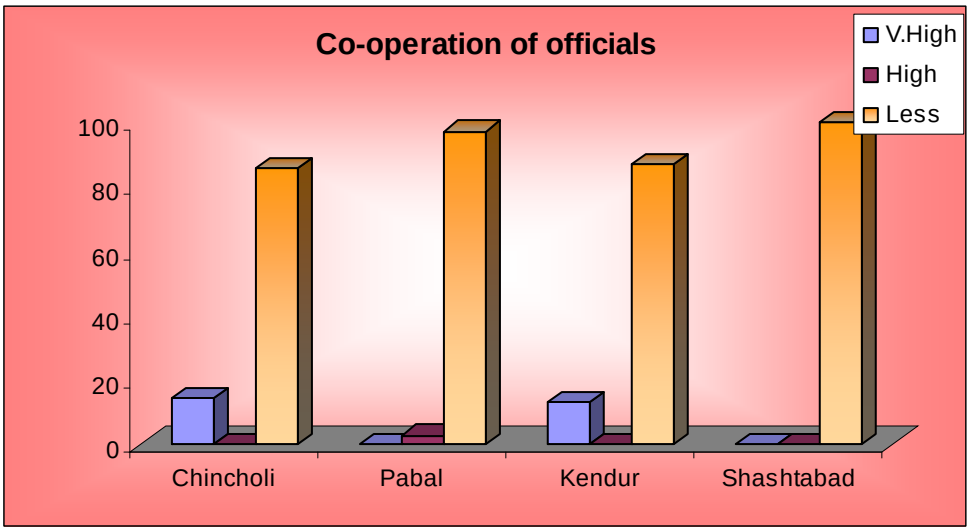
Table No.6.2

Distribution of Respondents according to Perception about Co-operation of Govt. officials

Villages	Perception about Co-operation of Govt. officials			
	V.High	High	Less	Total
Chincholi	4	0	24	28
	14.3%	0.0%	85.7%	100.0%
Pabal	0	1	34	35
	0.0%	2.9%	97.1%	100.0%
Kendur	4	0	26	30
	13.3%	0.0%	86.7%	100.0%
Shastabad	0	0	32	32
	0.0%	0.0%	100.0%	100.0%
Total	8	1	116	125
	6.4%	0.8%	92.8%	100.0%

Figure No 6.2

Perception about Co-operation of Govt. officials



The above table shows opposite picture to the table No.6.1. The Grampanchayat member very cooperative to the women whereas govt. officials are very less cooperative is reported by 93% of the respondents in Pabal and Shastabad about 98% respondents have expressed that there is a less cooperation followed by Chincholi and Pabal i.e. 85% reported very less cooperation. The overall trend shows that there is a less cooperation from the govt. officials rather Grampanchayat members.

6.3 Co-operation of other women

Cooperation of the Grampanchayat members and cooperation of the govt. officials are important but more important is the strong support of the women of the same village. The women who are taking active part in various activities especially the activity related to Water Shed Development Programme must be getting strong support and cooperation from other women of the village. Indeed this hope to develop the leadership qualities among the women the details about the cooperation other women of the village is given in the following table.

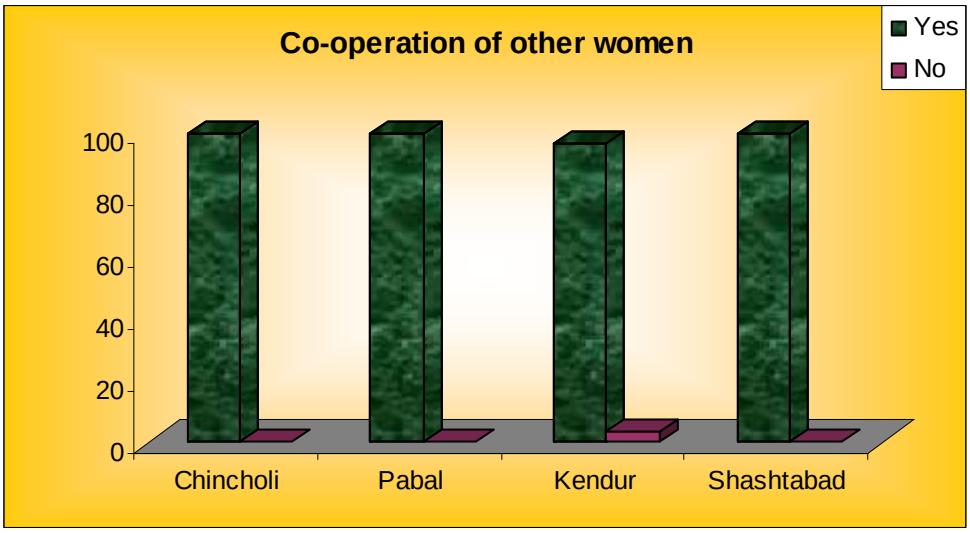
Table No.6.3

Distribution of Respondents according to Co-operation of other women

Villages	Co-operation of other women		Total
	Yes	No	
Chincholi	28	0	28
	100.0%	0.0%	100.0%
Pabal	35	0	35
	100.0%	0.0%	100.0%
Kendur	29	1	30
	96.7%	3.3%	100.0%
Shastabad	32	0	32
	100.0%	0.0%	100.0%
Total	124	1	125
	99.2%	0.8%	100.0%

Figure No 6.3

Co-operation of other woman



The above table provides the information about the cooperation of all women in village development activities. The women who are taking very active part in Water Shed Development Programme whether other women are helping or cooperating them is

reported in above table. It is seen that almost all respondents have expressed that all other women from the village are very cooperative and they help in organizing various activities at village level the all villagers have shown same trend

6.4 Active Part in Village Development

As discussed in earlier part women can diagnose the village problems very effectively and can also find the solutions to them very effectively. The natural tendency is to used the resources very consciously thus even though we have limited resources we can implement the developmental activities which will be beneficial to all. In this regard the information related to active participation, and its nature in various developmental activities related to conservation of the resources and finding the solution to the village problems is collected and given in following table.

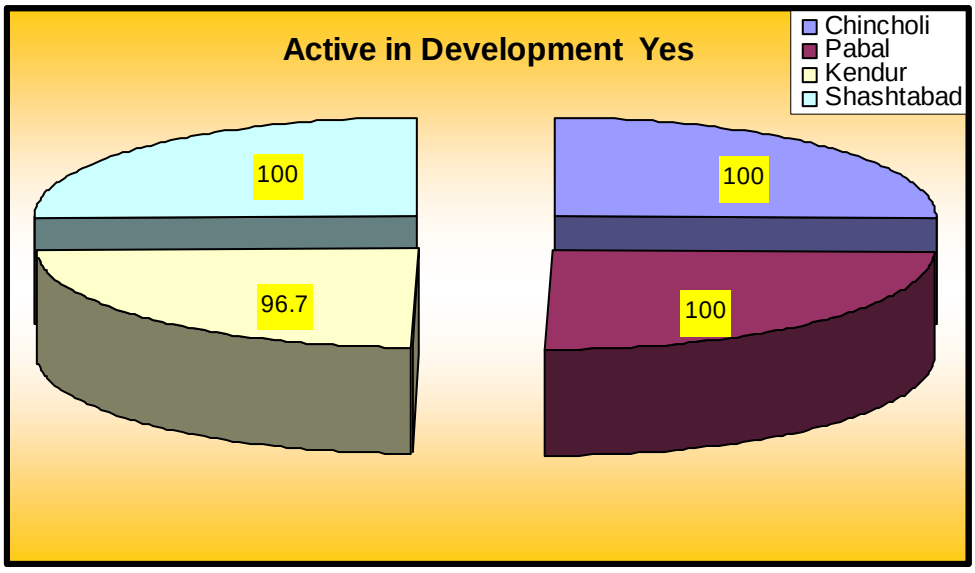
Table No.6.4

Distribution of Respondents according to Active Part in Village Development

Villages	Active Part in Village Development		Total
	Yes	No	
Chincholi	28	0	28
	100.0%	0.0%	100.0%
Pabal	35	0	35
	100.0%	0.0%	100.0%
Kendur	29	1	30
	96.7%	3.3%	100.0%
Shastabad	32	0	32
	100.0%	0.0%	100.0%
Total	124	1	125
	99.2%	0.8%	100.0%

Figure No 6.4

Active Part in Village Development



In continuation of the earlier table this table shows active part in village development. Almost all respondents from all villagers have expressed that barring few women in the villagers most of the women do take active part in village development activities. This indicates that there is an active involvement of women in village developmental activities.

6.5 Active Part in Cultural Activities

Cultural activities have the great history in Indian society. There are particular festivals of women on that day the women folk of the village come together and they celebrate. This cultural aspect proves and opportunity interacts with each other, to discuss the various mattes either or family related or community related or to sick the solutions to the problems they are facing. Thus it is the informal social support system which is very strong and dynamic. The details about the active part in the cultural activities are discussed in the following table.

Table No.6.5

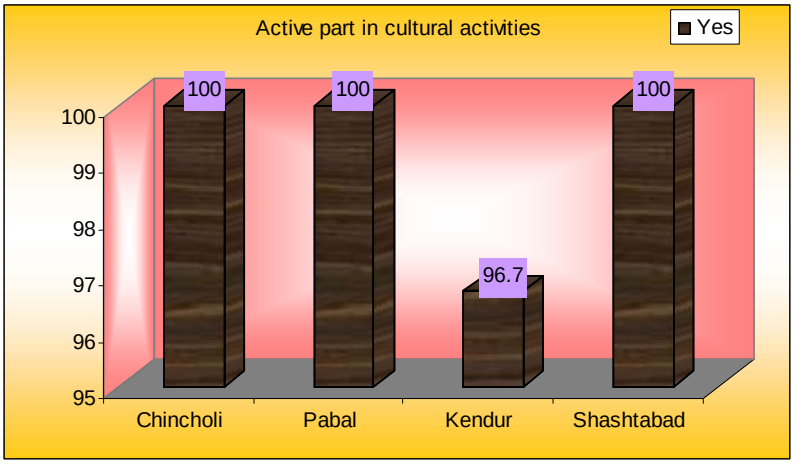
Distribution of Respondents according to

Active Part in Cultural Activities

Villages	Active Part in Cultural Activities		Total
	Yes	No	
Chincholi	28	0	28
	100.0%	0.0%	100.0%
Pabal	35	0	35
	100.0%	0.0%	100.0%
Kendur	29	1	30
	96.7%	3.3%	100.0%
Shastabad	32	0	32
	100.0%	0.0%	100.0%
Total	124	1	125
	99.2%	0.8%	100.0%

Figure No 6.5

Active Part in Cultural Activities



Along with the village developmental activities which are exclusively based on the cooperation from Grampanchayat or the cooperation from govt. officials village women do celebrate the cultural activities on the occasion of various festivals. In Indian society there are certain festivals such as Nagpanchami, Sankranti etc. which are exclusively for the women. On this occasion all women come together and performed the traditional

pooja at village level. All the respondents from all the villages have reported that they do take active part in celebration of cultural activities at village level.

6.6 Perception about Decision Making Capacity

Decision making capacity depends upon the influence of culture, educational level, family support, leadership quality and intellectual ability. Due to the general social development the overall status of the women has been increased substantially leading towards developing the decision making capacity either at community level or at family level. At family level she can take the decision about the education of her children, marriage of the daughters, health care of the family members and any other financial matter which will affect the social status of the family. The details about the perception about decision making capacity is collected and given in following table.

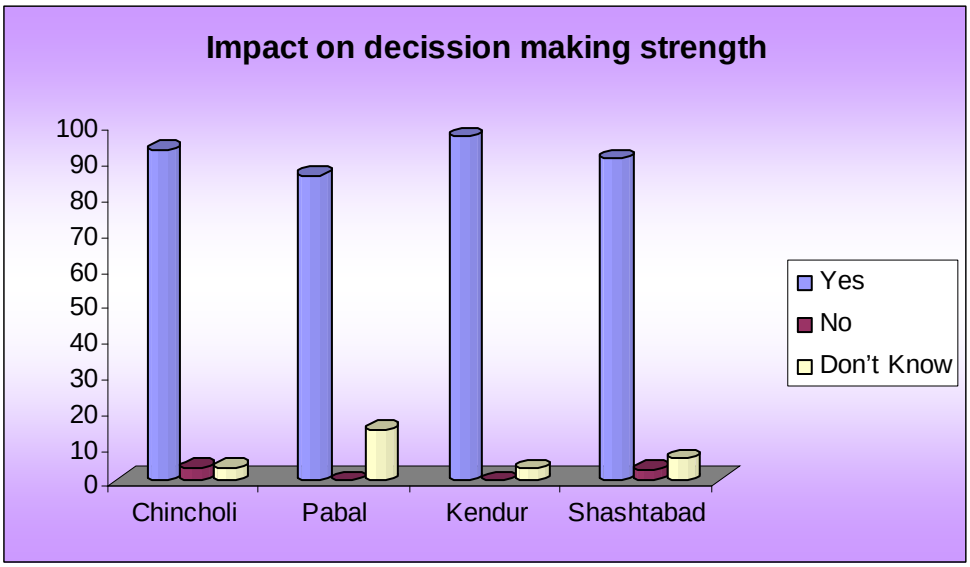
Table No.6.6

Distribution of Respondents according to Perception about Decision Making Capacity

Villages	Perception about Decision Making Capacity			
	Yes	No	Don't Know	Total
Chincholi	26	1	1	28
	92.9%	3.6%	3.6%	100.0%
Pabal	30	0	5	35
	85.7%	0.0%	14.3%	100.0%
Kendur	29	0	1	30
	96.7%	0.0%	3.3%	100.0%
Shastabad	29	1	2	32
	90.6%	3.1%	6.3%	100.0%
Total	114	2	9	125
	91.2%	1.6%	7.2%	100.0%

Figure No 6.6

Perception about Decision Making Capacity



The interaction of the women either with other women or the Grampanchayat members or the govt. officials has helped to strengthen their decision making capacity which is shown in the above table. About 91% respondents have reported that they have increased their decision making capacities due to active participation in village activities. In Kendur about 97% followed by Chincholi 93% and Shastabad 91% respondents have expressed that they have developed their decision making capacity which they experience at family level. About 7% of the respondents are not able to express their views in this regard.

6.7 Control on Family resources

The Indian literature on the social sciences clearly spelt out the rural women does not possess any status either at family level or at community level. Her advice or her contributing is overlook by the family members. In spite of her sustained efforts for family development and family welfare she always remained on the back bench in among the family member. She do not have any controlled on the family resources and also do not proposed any new aspect of development at family level. She always remained under the influence of either mother in law or father in law. Therefore the details about control on the family resources are given in following tables.

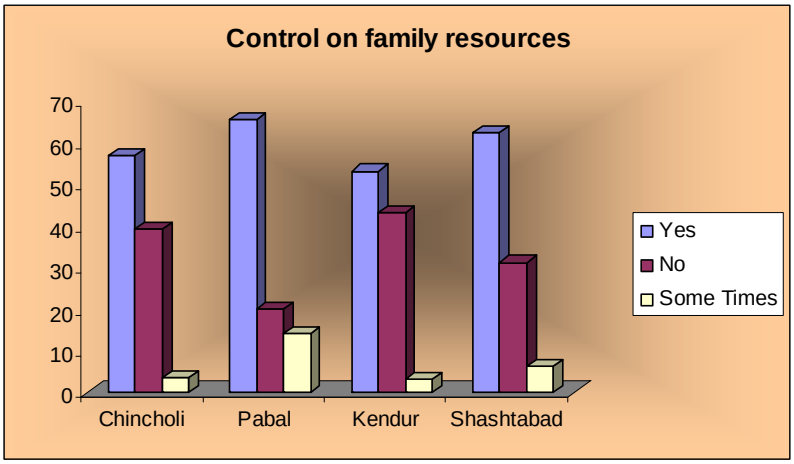
Table No.6.7

Distribution of Respondents according to Control on Family resources

Villages	Control on Family resources			
	Yes	No	Some Times	Total
Chincholi	16	11	1	28
	57.1%	39.3%	3.6%	100.0%
Pabal	23	7	5	35
	65.7%	20.0%	14.3%	100.0%
Kendur	16	13	1	30
	53.3%	43.3%	3.3%	100.0%
Shastabad	20	10	2	32
	62.5%	31.3%	6.3%	100.0%
Total	75	41	9	125
	60.0%	32.8%	7.2%	100.0%

Figure No 6.7

Control on Family resources



The above table shows the control on family resources by the women at family level. It is seen that 60% of the respondents feels that they have control on the family resources whereas 33% feels they do not have any control. 7% respondents have expressed they have control for sometimes only. In Chincholi and Kendur more or less same trend is observed ranging from 53-57% followed by Pabal 62% and Shastabad 62%. This indicates that even though women are educated they are taking part at village development activities but at family level they do not have control on the family resources. This an indication of male domination at family level

6.8 Strength of coping problems

Strength of cooping problems, overcoming problematic situation, finding the appropriate solutions to the problem, mobilizing the resources and effective use of the resources etc. are the personality traits of the rural women. Perhaps she is the best manager, best organizer and best monitor. In any difficult circumstances or in the difficult situation she never loose her temper but things logically the critical way to overcome the problem. Therefore her strength of cooping the problem is much stronger than the strength of male in the family. The details about the strength of cooping problem are given in following table.

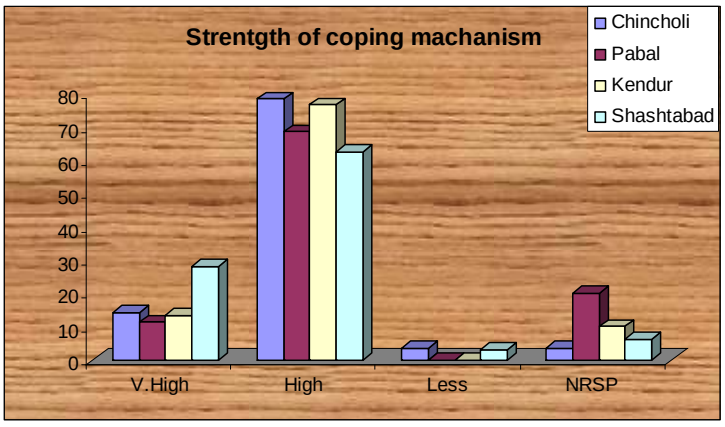
Table No.6.8

Distribution of Respondents according to Strength of coping problems

Villages	Strength of coping problems				
	V.High	High	Less	NRSP	Total
Chincholi	4	22	1	1	28
	14.3%	78.6%	3.6%	3.6%	100.0%
Pabal	4	24	0	7	35
	11.4%	68.6%	0.0%	20.0%	100.0%
Kendur	4	23	0	3	30
	13.3%	76.7%	0.0%	10.0%	100.0%
Shastabad	9	20	1	2	32
	28.1%	62.5%	3.1%	6.3%	100.0%
Total	21	89	2	13	125
	16.8%	71.2%	1.6%	10.4%	100.0%

Figure No 6.8

Strength of coping problems



In continuation of table No.6.6 and 6.7 the above table indicates the strength of cooping mechanism at family level the rural women faces several problems. How far she is able to cope with the situation is explained in table No. 6.8 only 17% of the respondents from all villagers have expressed that they have enhanced the strength of cooping the problem. Chincholi, Pabal and Kendur have shown almost the same trend whereas in Shastabad considerably high proportion of respondents have expressed that they have very high strength to cope the problem. 72% respondents from all villages have expressed that they can cope with the problems and 10% of the respondents have not given any response to this question. It is expected that the women who is taking active part in village development activities must develop her strength to overcome her problems either at family level or at personal level.

6.9 Awareness about Self Esteem

The overall social development and general improvement in the social status has increased the awareness about self esteem among the women the impact of mass media availability of new technology and access to advanced knowledge has helped to create impact to develop the awareness about self esteemed. The 73rd statutory provision has given full protection to the women in public life. Now those who are the member of Grampanchayat or in active politics are aware about their self esteem. In the study area the details about awareness about self esteem is described in following table.

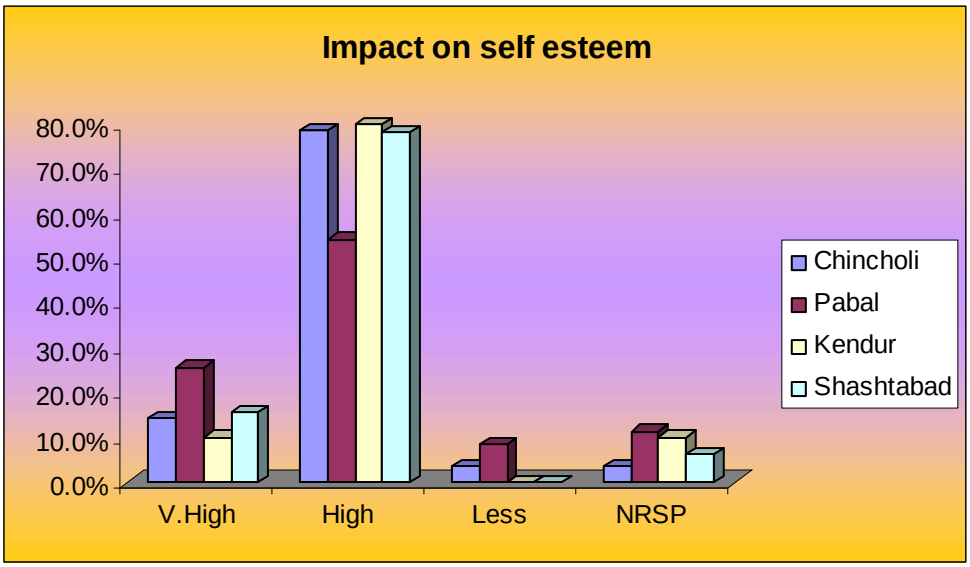
Table No.6.9

Distribution of Respondents according to Awareness about Self Esteem

Villages	Awareness about Self Esteem				
	V.High	High	Less	NRSP	Total
Chincholi	4	22	1	1	28
	14.3%	78.6%	3.6%	3.6%	100.0%
Pabal	9	19	3	4	35
	25.7%	54.3%	8.6%	11.4%	100.0%
Kendur	3	24	0	3	30
	10.0%	80.0%	0.0%	10.0%	100.0%
Shastabad	5	25	0	2	32
	15.6%	78.1%	0.0%	6.3%	100.0%
Total	21	90	4	10	125
	16.8%	72.0%	3.2%	8.0%	100.0%

Figure No 6.9

Awareness about Self Esteem



Self esteem is an essential part of the personality. How far women are about their self esteem is given in the above table. Only 17% respondents have expressed that they have very high self esteem followed by 72% expressed they have high self esteem. 8% respondents are not able to answer this question and 3% respondents have expressed they have less self esteem. Large various have been observed between the villagers in the perception i.e. very high and high level. In Pabal the proportion of responses to very high is more as compared to other villages whereas hardly 54% respondents have expressed they have high self esteem, Chincholi, Kendur and Shastabad have given more or less same response in this regard.

6.10 Membership of other organization

Govt. is making the sustain efforts for improving women status especially the social status by providing various schemes and financial assistance to them. Self help group is one of the platforms where the women can expressed their own ideas their own thoughts about her own development as well as development of the family. The membership has self help group or cooperative society provides this opportunity to all women. In the cooperative society seeking cooperation from the other and coordinating the activities is a

challenging takes. The details about the members of either cooperative society or self help group are given in following tables.

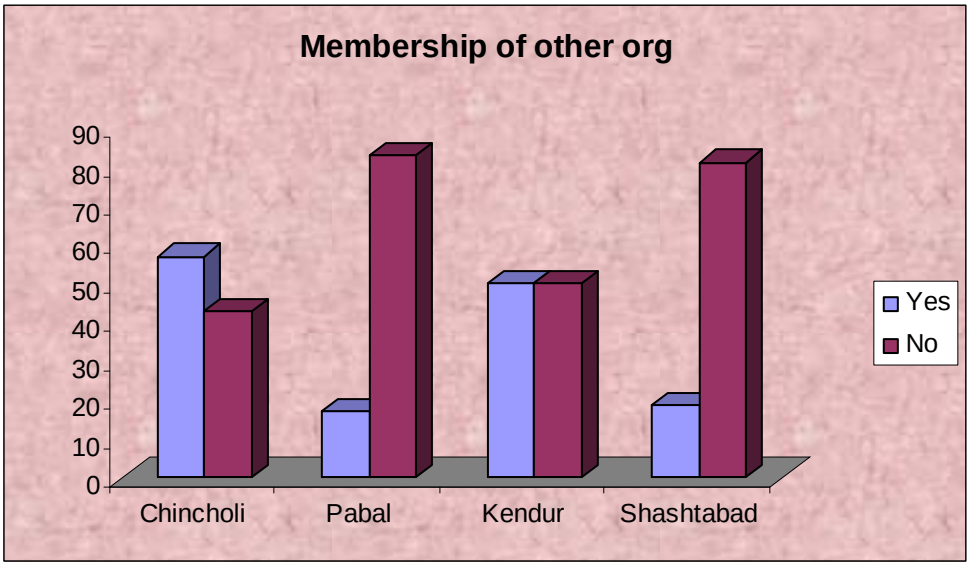
Table No.6.10

Distribution of Respondents according to Membership of other organization

Villages	Membership of other organization		Total
	Yes	No	
Chincholi	16	12	28
	57.1%	42.9%	100.0%
Pabal	6	29	35
	17.1%	82.9%	100.0%
Kendur	15	15	30
	50.0%	50.0%	100.0%
Shastabad	6	26	32
	18.8%	81.3%	100.0%
Total	43	82	125
	34.4%	65.6%	100.0%

Figure No 6.10

Membership of other organization



Apart from the SHG and Mahila Mandal there are some other organizations such as cooperative society, Bhisi Mandal or Bhajan Mandal the above table indicates the details about the membership of other organizations. Hardly 1/3rd of the respondents from all the villagers are the members of various organizations. In Chincholi and Shastabad more than half of the respondents have expressed that they are members of various organizations working either in their village or in nearby villages. The overall situation shows that the women do not have association with other organization related to education, development or employment etc.

6.11 Attendance of the Meeting of other organization

The members of the self help group cooperative society always have an opportunity to think their own problems as well as the problems of the community. The monthly meetings of SGH or society enhance the opportunity related to exchange of thoughts about the village community. Therefore, attendee of the women for such meetings has a greater significance. The details are given in the following table.

Table No.6.11

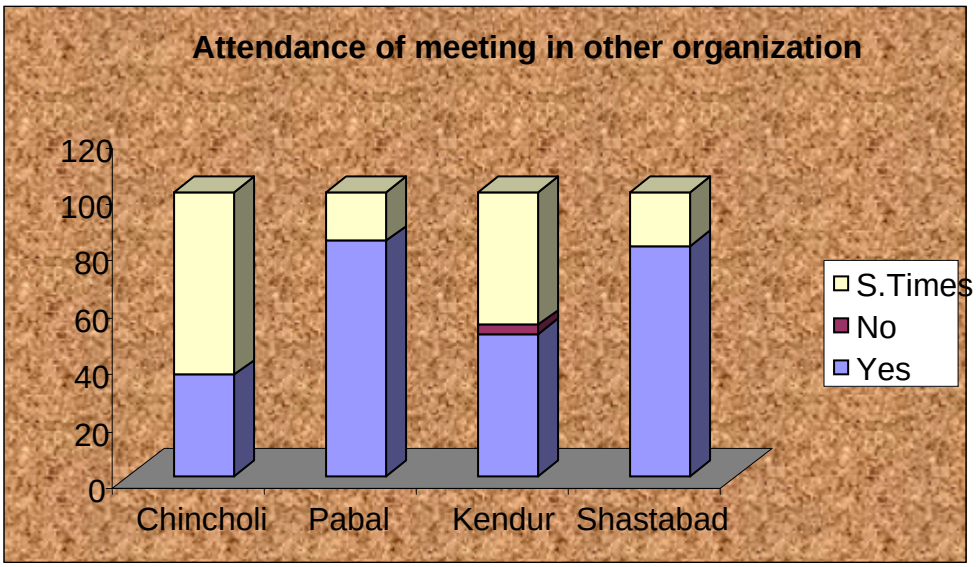
Distribution of Respondents according to

Attendance of the Meeting in other organization

Villages	Attendance of the Meeting			
	Yes	No	S.Times	Total
Chincholi	10	0	18	28
	35.7%	0.0%	64.3%	100.0%
Pabal	29	0	6	35
	82.9%	0.0%	17.1%	100.0%
Kendur	15	1	14	30
	50.0%	3.3%	46.7%	100.0%
Shastabad	26	0	6	32
	81.3%	0.0%	18.8%	100.0%
Total	80	1	44	125
	64.0%	0.8%	35.2%	100.0%

Figure No 6.11

Attendance of the Meeting of other organization



The above table shows the details about attendance of the meeting in other villages. It is a known fact that any organization working at route level has very strong association with other members of the same organization in different villages. 1/3rd respondents have reported that they usually attend the meetings either in nearby village or at Taluka place as and when the programme is organized. Large variation have been observed to the response to the attending the meeting. Pabal and Shastabad have shown more or less same response whereas Chincholi has shown lowest response i.e. 36% in Shastabad more than 81% respondents have expressed that they active part in the meeting with other members.

6.12 Participation in WSD

Water scare city is one of the major problems in drought prone area. To conserve the natural water which will be used for drinking as well as agriculture, the govt. of India has prepared the long term plan of conservation of natural water. This programme is popularly known as Water Shed Development Programme. It is expected that the entire village should active part from the beginning of the project till post implementation management. Unless the is a awareness about the village problems and the problems created due to water scare city villagers will never take active part in Water Shed

Development Programme. The general community participation is very essential in Water Shed Development Programme. The details about the participation of women in Water Shed Development Programme are discussed in following table.

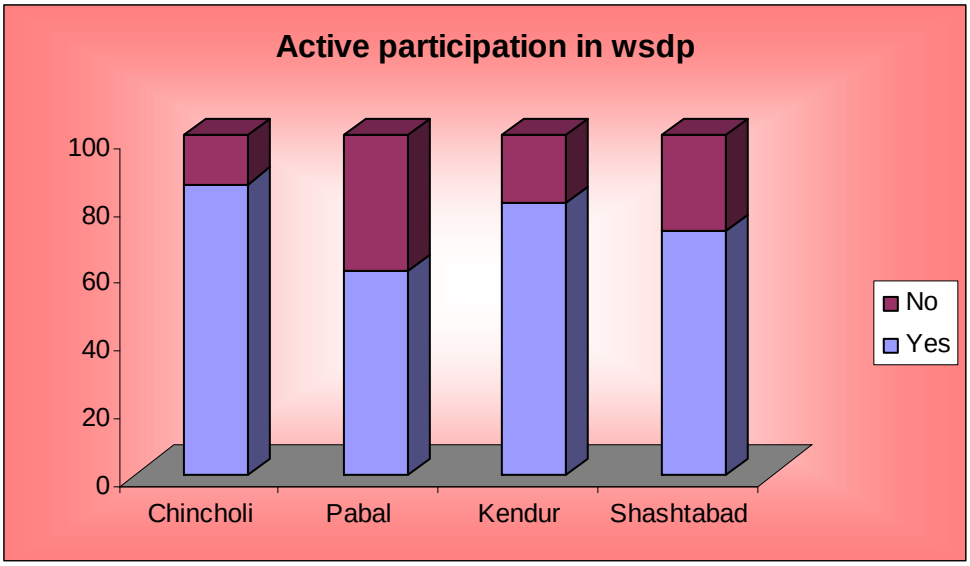
Table No.6.12

Distribution of Respondents according to Participation in WSD

Villages	Participation in WSD		Total
	Yes	No	
Chincholi	24	4	28
	85.7%	14.3%	100.0%
Pabal	21	14	35
	60.0%	40.0%	100.0%
Kendur	24	6	30
	80.0%	20.0%	100.0%
Shastabad	23	9	32
	71.9%	28.1%	100.0%
Total	92	33	125
	73.6%	26.4%	100.0%

Figure No 6.12

Participation in WSD



The overall situation shows that about 3/4th respondents from villages have taken active part in various programmes and activities of Water Shed Development Programme. In Chincholi and Shastabad about 80% and 85% respondents have reported that they were actively participated in Water Shed Development Programme whereas in Pabal and Chincholi comparatively less participation i.e. 60% and 72% respectively have been observed. In overall situation 26% of the respondents have not taken active part in Water Shed Development Programme. This clearly indicates to find out the reasons for known participation.

6.13 Participation in planning

Planning of any developmental activities has a crucial significance in rural development. One should take care that there should be development of common man and the benefits of the development should be equally distributed among all the villagers. Indeed the programme should be aimed at equal distribution among all the villagers of the benefits. Therefore, active participation in the planning is of vital significance. The details about the participation in the planning process in discussed in the following tables.

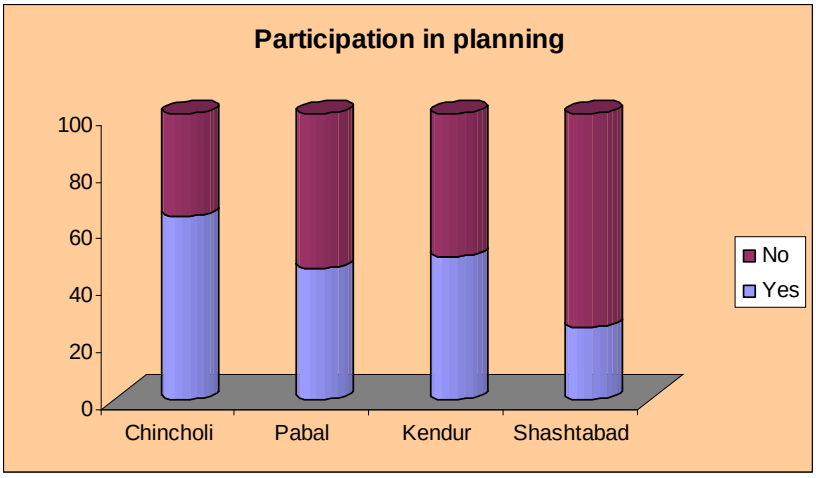
Table No.6.13

Distribution of Respondents according to Participation in planning

Villages	Participation in planning		Total
	Yes	No	
Chincholi	18	10	28
	64.3%	35.7%	100.0%
Pabal	16	19	35
	45.7%	54.3%	100.0%
Kendur	15	15	30
	50.0%	50.0%	100.0%
Shastabad	8	24	32
	25.0%	75.0%	100.0%
Total	57	68	125
	45.6%	54.4%	100.0%

Figure No 6.13

Participation in planning



In continuation of the earlier table out of the 74% of the respondents how many respondents have taken the part in planning process is given in the above table. It is seen that about 46% respondents of all the villagers have been taken the active part in planning of Water Shed Development Programme programme. The highest proportion of the participation at planning stage is observed in Chincholi followed by Kendur 50%, Pabal 45% and Shastabad 25%. One of the point is to be mentioned here that if the women are not aware that the impact of Water Shed Development Programme on village development they may not take active part in the developmental activities. Therefore, at the beginning they may not be aware or they may not be acquainted with the process of planning. Hence there is no participation.

6.14 Participation in management

Along with the planning implementation and management is also equally important. The village can plan but could not manage the development will never be called rural development. Therefore, the management should be very effective, transparent and to be undertaken by the local people. As regard to the women folk the active participation of the management is very crucial because, they are the citizens who can manage the village affairs within minimum resources with effective control. The details about the active participation in the management of the Water Shed Development Programme programme are given in the following table.

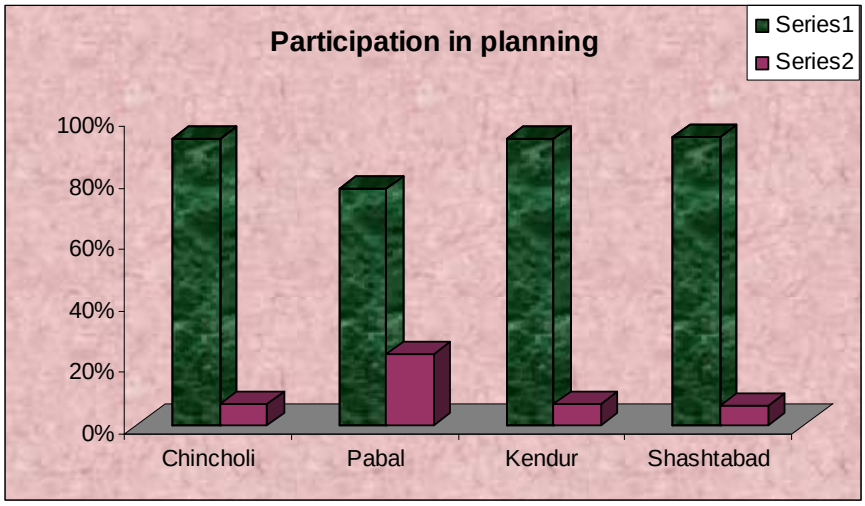
Table No.6.14

Distribution of Respondents according to Participation in management

Villages	Participation in management		
	Yes	No	Total
Chincholi	26	2	28
	92.9%	7.1%	100.0%
Pabal	27	8	35
	77.1%	22.9%	100.0%
Kendur	28	2	30
	93.3%	6.7%	100.0%
Shastabad	30	2	32
	93.8%	6.3%	100.0%
Total	111	14	125
	88.8%	11.2%	100.0%

Figure No 6.14

Participation in management



In continuation of the earlier table this table indicates the active part in management of various activities of Water Shed Development Programme. As compared to planning stage more women are have been participated in management level. This clearly indicates that from planning to management there is a development of positive impact on the women about to think about village problems. In Chincholi, Pabal and Shastabad 93% of the respondents have being participated in management almost same trend is observed in these three villages. Whereas in Pabal 77% women were participated in management of the activities.

6.15 Husband's permission for participation in public programme

Very strong retractions of the family are the cultural aspects of the life of women. In rural areas, there are number of restrictions from the family members. This might due to cultural barriers and the social status. They have at the village level general it is considered that the women should take care of the family members only and should not interfere in the village affairs. This especially the situation among high cast people women's are not allow to take the active part in the community activities. Therefore, she has to take the permission from her husband or from her in-laws for participation in development. The details about the husbands' permission for participation are discussed in following table.

Table No.6.15

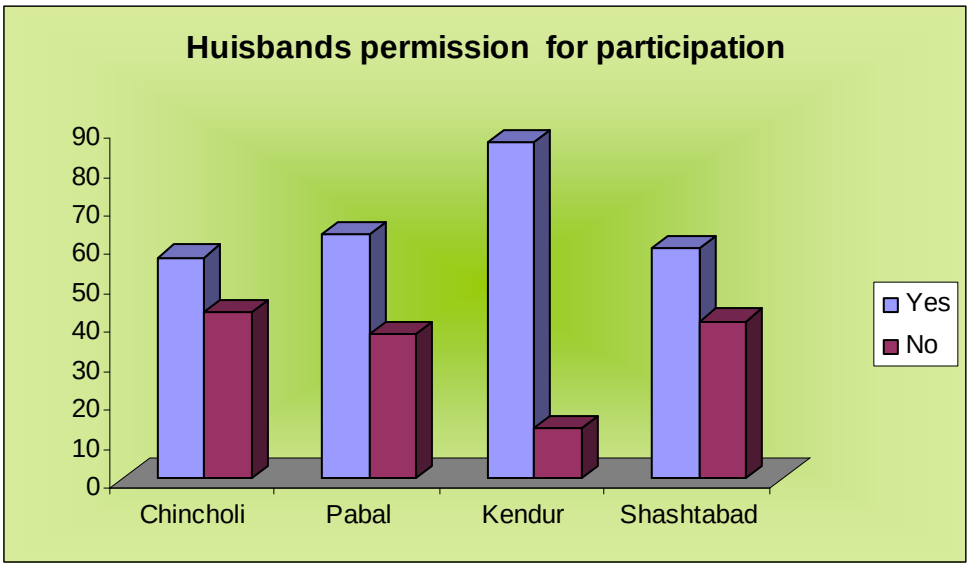
Distribution of Respondents according to

Husband's permission for participation

Villages	Husband's permission for participation		
	Yes	No	Total
Chincholi	16	12	28
	57.1%	42.9%	100.0%
Pabal	22	13	35
	62.9%	37.1%	100.0%
Kendur	26	4	30
	86.7%	13.3%	100.0%
Shastabad	19	13	32
	59.4%	40.6%	100.0%
Total	83	42	125
	66.4%	33.6%	100.0%

Figure No 6.15

Husband's permission for participation



As discuss the introductory part there are several restrictions on the activities of women at family level. She has to take the permission from her husband for taking part in various activities at village level. The details about the permission for participation of husband are given in following table. It shows that 2/3rd respondents from all villagers have to take permission from their husband. Large variations have been observed between villagers. In Kendur about 87% respondents have reported they have to take permission from their husband without permission they can not participate in any of the activities. In Chincholi, Pabal and Shastabad almost same trend have been observed that about 58-60% of the women have to take permission from their husband. This table also clear the indicates that though the women folk is interested for participation in village activities which helps them to develop their owns strength and capacities the cultural aspects or the barriers are not allowing them to take active part in such activities.

6.16 Decision about Children's Education

The decision making capacity is discussed in the earlier part. In view of the improved the status and better control it would be interesting to see the decisions about the Childs education. How she perceives the significance of her chides educations and what efforts she makes to sustain their education is described in the following table.

Table No.6.16

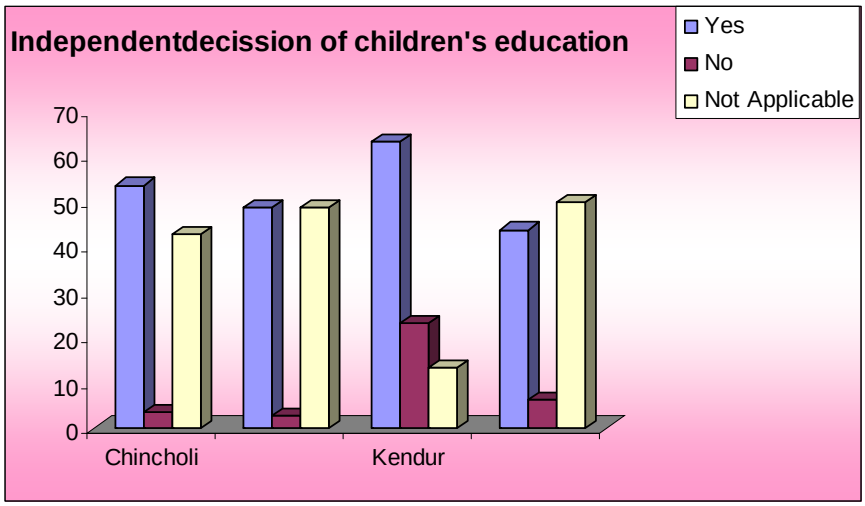
Distribution of Respondents according to

Decision about Children's Education

Village	Decision about Children's Education			
	Yes	No	Not Applicable	Total
Chincholi	15	1	12	28
	53.6%	3.6%	42.9%	100.0%
Pabal	17	1	17	35
	48.6%	2.9%	48.6%	100.0%
Kendur	19	7	4	30
	63.3%	23.3%	13.3%	100.0%
Shastabad	14	2	16	32
	43.8%	6.3%	50.0%	100.0%
Total	65	11	49	125
	52.0%	8.8%	39.2%	100.0%

Figure No 6.16

Decision about Children's Education



There are several areas where women has to take the decision especially the Childs education about half of the respondents have expressed that they are able to take the decision related to their children and their education. The highest proportion of the respondents i.e. 63% have been reported in Pabal followed by Chincholi 54% Pabal 48% and Shastabad 44% hardly 9% of the respondents have reported that they are not able to take the decisions related to their children's education. The overall situation shows that the women are competent enough at least to take the decision about her children.

6.17 Restrictions in Family

The Indian societies have the history of joint family system. Head of family usually text the decision related to all family matters without considering the opinion of family members. In such conditions there are several restrictions on the women. Her contribution is grossly neglected she is always treated as an asset of the family rather support of the family. Therefore, there are number of the restrictions and it is obligatory for following this restriction in the family. The details about the perception about restrictions in the family are discussed in detailed in following table.

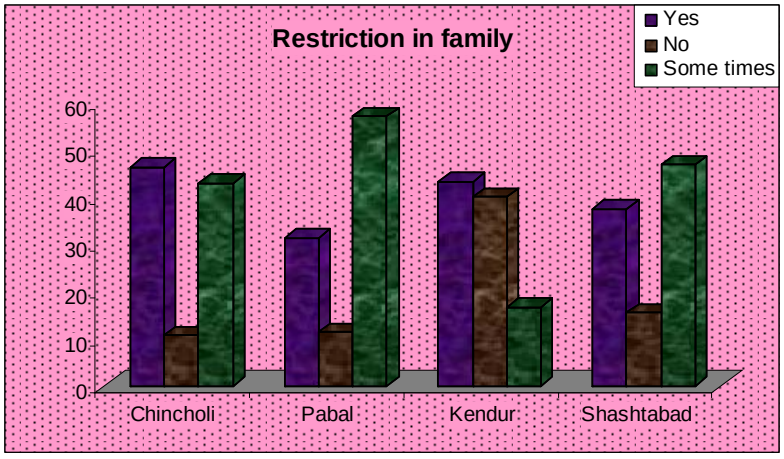
Table No.6.17

Distribution of Respondents according to Restrictions in Family

Villages	Restrictions in Family			Total
	Yes	No	Sometimes	
Chincholi	13	3	12	28
	46.4%	10.7%	42.9%	100.0%
Pabal	11	4	20	35
	31.4%	11.4%	57.1%	100.0%
Kendur	13	12	5	30
	43.3%	40.0%	16.7%	100.0%
Shastabad	12	5	15	32
	37.5%	15.6%	46.9%	100.0%
Total	49	24	52	125
	39.2%	19.2%	41.6%	100.0%

Figure No 6.17

Restrictions in Family



In continuation of the table No. 6.15 a probing question was asked about the restrictions in the family it is observed that 40% respondents have expressed that there are restrictions in the family. No large variations have been observed between the villages. However, in Chincholi and Kendur about 44% respondents have expressed that there are strong restrictions at family level all the time whereas in Chincholi and Pabal and Shastabad about the 35% respondents expressed that there are strong restrictions in the family.

6.18 Control on family income

Family properties are usually owned by all members. All the family members have the equal share in family property or in family income. However, the share of females is not accepted and practiced even today there hardly any controlled on the family income by women. She is not aware about how much income her family gets and it sources. It is assumed that she will not interfere in any of the matters related to family property and family income. Their perception about the control on family income is given in following table.

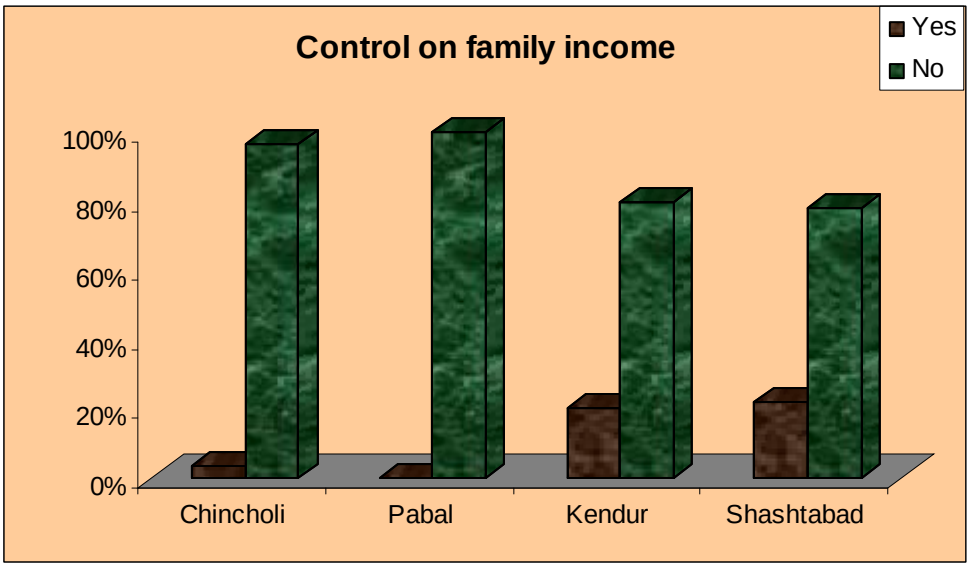
Table No.6.18

Distribution of Respondents according to Control on family income

Villages	Control on family income		
	Yes	No	Total
Chincholi	1	27	28
	3.6%	96.4%	100.0%
Pabal	0	35	35
	0.0%	100.0%	100.0%
Kendur	6	24	30
	20.0%	80.0%	100.0%
Shastabad	7	25	32
	21.9%	78.1%	100.0%
Total	14	111	125
	11.2%	88.8%	100.0%

Figure No 6.18

Control on family income



As regard to control on the family resources i.e. economic condition is given in the above table. It shows that hardly 12% respondents have expressed that they have controlled and 88% respondents have reported they do not have any control on family resources. In Kendur and Shastabad 20% respondents expressed they have control whereas very negligible proportion i.e. less than 1% in Chincholi and Pabal have expressed that they have no control. This clearly indicates that though women are taking active part in development of the family member she has now any control on family resources.

6.19 Active part in family decision making process

If the women is educated and she is earning she gets status in the family. Financial she is a self supporting. Therefore it is not need that she should take the consent/ permission from other family members. However, she takes very active part in the decision making forces of the family. The details about the active part in the family decision making process is given in following table.

Table No.6.19

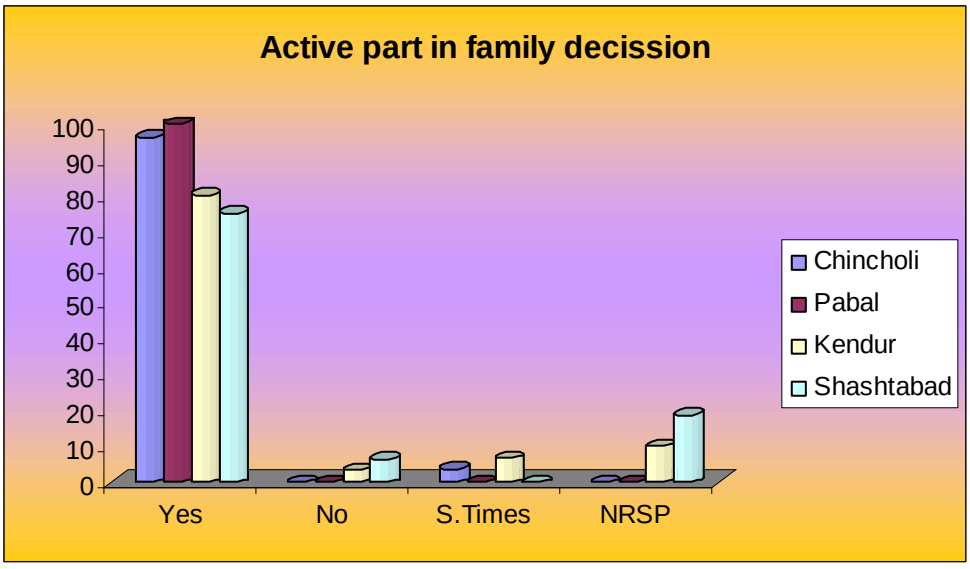
Distribution of Respondents according to

Active part in family decision making process

Villages	Active part in family decision making process				Total
	Yes	No	Sometimes	NRSP	
Chincholi	27	0	1	0	28
	96.4%	0.0%	3.6%	0.0%	100.0%
Pabal	35	0	0	0	35
	100.0%	0.0%	0.0%	0.0%	100.0%
Kendur	24	1	2	3	30
	80.0%	3.3%	6.7%	10.0%	100.0%
Shastabad	24	2	0	6	32
	75.0%	6.3%	0.0%	18.8%	100.0%
Total	110	3	3	9	125
	88.0%	2.4%	2.4%	7.2%	100.0%

Figure No 6.19

Active part in family decision making process



In continuation of the earlier tables the above table indicates the active part in decision making process. Though 88% of the respondents have expressed that they take active part in decision making process but this decision are mainly of day-to-day life. But not definitely concerned with the development of the family. In Chincholi and Pabal almost all families have expressed that they participate in major decisions of the family. Whereas in Kendur and Shastabad hardly 80% respondents expressed that they take part but not active. 7% of the respondents for all villagers have not given any response to this question.

6.20 Opinion About freedom

Freedom is a very comprehensive concept. It varies from family to family culture to culture and village to village. Education women always feel she is a free from everybody and can take her won decision. As regard to the rural women she is always influenced by the family matters, cultural aspects, traditional and customs etc. In spite all this things what her perception about the freedom to take active part either in village development activities or in family development activities is discussed in the following tables.

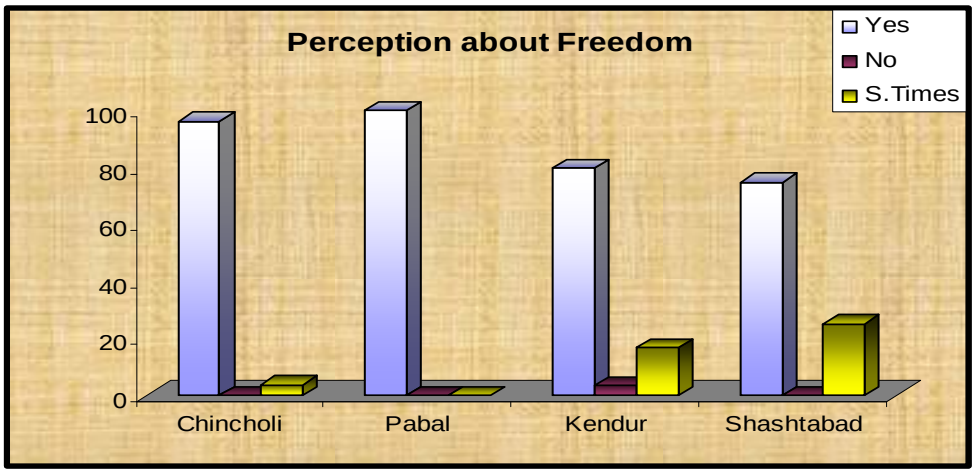
Table No.6.20

Distribution of Respondents according to Opinion About freedom

Villages	Perc. About freedom			
	Positive	Negative	Both	Total
Chincholi	27	0	1	28
	96.4%	0.0%	3.6%	100.0%
Pabal	35	0	0	35
	100.0%	0.0%	0.0%	100.0%
Kendur	24	1	5	30
	80.0%	3.3%	16.7%	100.0%
Shastabad	24	0	8	32
	75.0%	0.0%	25.0%	100.0%
Total	110	1	14	125
	88.0%	0.8%	11.2%	100.0%

Figure No 6.20.

Perception About freedom



The above table indicates that 88% of the respondents feel that they have freedom at family level to take decisions as well as to take active part in various activities. No large variations have been observed between the villagers however 11% of the respondents have reported some times they get freedom and sometimes they do not get any freedom. This clearly shows that their freedom is concerned with only family matters of day to day life but not in long run.

Summary

For women empowerment role of community and role of Grampanchayat is very significant. Unless conducive atmosphere is not created there will not be women empowerment. The approach for implementation of the women development programmes is more important. Therefore in this chapter the role of Grampanchayat and community in women empowerment is discussed in detail. This aspect includes. Perception about Co-operation of GP Members and Govt. officials, Co-operation of other women, Active Part in Village Development, Active Part in Cultural Activities, Perception about Decision Making Capacity, Control on Family resources and Strength of coping problems have been discussed in details. Awareness about Self Esteem, Membership of SHG, Attendance of the Meeting, Participation in WSD, Participation in planning, Participation in management, Husband's permission for participation, Decision about Children's Education , Restrictions in Family, Control on family income, Active

part in family decision making process, Perception About freedom also discussed in details.

To summarize the results of this chapter it is to say that there is very high cooperation from Grampanchayat members whereas there is a very less cooperation from the govt. officials. Unless the govt. officials makes the changes in their approach in implementation of the programmes related to women empowerment the rural women will not be empowered. There is a very strong support and cooperation from other women's of the village. Most of the women are taking very active role in village developmental activities as well as the cultural activity at community level.

Almost all respondents feels that they have developed the strength to take their own decision or decision making capacities is enhanced due to this programme majority of the respondents have expressed that they have strong control on family resources which has helped to develop the cooping strength among the women folk. There is a very high awareness about self esteem and it is an outcome of interaction with several other sections of the society. Almost 2/3rd of the women are not member of the any other organization. Whereas almost all women reported they attend the regular meeting in other villagers.

The active participation in Water Shed Development Programme in planning managements, monitoring and supervision has helped substantially for improving their social status. Thought there are restrictions at family level they can take the decision related to Childs education. Hardly any control on financial mattes is observed whereas they are activities participating in decision making process of the families almost all women are of opinion that they have full freedom in the family for participation in various activities.

CHAPTER VII
SUMMARY CONCLUSION AND RECOMMENDATIONS

7.1 Introduction

In first chapter, theoretical framework review of literature present situation of water and relation of water with women empowerment is discussed. The review of literature related to each one of the aspect is also given in detail. The natural source which has close connections with the echo system is discussed in the introductory part as a main source of clear livelihood. In village communities water is important for agriculture even today in rural communities 90% families are dependent all agriculture and without water agricultural is very difficult. It also generates the employment opportunities which absorb unskilled human resources at village community. The increasing trend of extraction of water from the earth has created several problems and water scarcity is now No.1 problem. Therefore how to regenerate these sources have also been discussed in this chapter. The govt. is making sustained efforts for regenerating water resources which will be helpful to rural communities however, going population and massive use is gating major set back to these efforts.

Equitable access to the water is one of the significant aspects in rural development. Inclusive growth and development is exclusively based on equitable distribution of the benefit of water shade development programme. In this chapter the water pricing subsidy and the role of the state is also discussed in detail. While considering the various dimensions of water shade development programme the participation of the community and democratization the powers related to equitable distribution is discussed in detail.

7.2 Summary

Unless village community s is actively involved in regenerating water resources the govt. will never get success in water conservation. There is a tendency to use maximum water in agricultural naturally this leads the waste of precious resource. Therefore

accountability of the natural resource has also been discussed in detail. In Water conservation the role of outsiders i.e. NGO's various sources of water and its significance in view of agro climatic profile of Maharashtra is discussed in detail. There prevalent irrigation system and droughts have also discussed thoroughly. The Bacchavat Ayog which has greatest significance in water monitoring is discussed thoroughly various aspects related to the delivery system of water securing various rights of the water. Participatory process in conserving the natural resources is also discussed in the detail. The 73 constitutional amendments, policy initiatives in Maharashtra and state water policy is also discussed in detail. The users' participation and participation of private sector have been discussed in detailed.

The second chapter is about methodology of the study which consists of study area, study population, sampling design, criteria of selection of sample, criteria of selection of target population, tools of data collection, method of data collection, analysis and interpretation of data, etc. Accordingly the Hypothesis of the study is watershed development programme leads to reduce the drudgery of rural women, watershed development programme helped to enhance the participation of women in village development activities, Based on the hypothesis the objectives of the study are to study socio-economic condition of the women beneficiaries of watershed development project ,to explore the factors associated with the participation of the women in village development activities, to study the impact of watershed development Programme on reducing drudgery of women, to study the role of women in implementation of the watershed development programme

In third chapter, socio-economic profiles of the study population have been given. The socio-economic condition of the women respondents have significant importance as there is a close relationship between impact of Water Shed Development Programme on day to day living conditions. Particularly, the agriculture development is mainly depending upon sources of irrigation and effective use of these sources. It always helps for improving economic condition of the population. The socio-economic condition is the general

terminology used for describing the situation and the quality of life of the study population.

There are various factors related to socio-economic conditions, but the aspects which are closely associated with living conditions are considered in this chapter. This provides the age of women respondents. Usually it is observed that 25-60 is the age of women respondents who are heading their families. Almost in all villages, uniform picture is observed with slight variation. As regard to the education, even today it was found 28% of the women respondents are illiterate and 15% are literate or less educated up to 4^{th} Std. only. More than half of the women respondents are educated above 5^{th} Std. The distribution of the women respondents into various categories of the occupation, it was found that farming is the predominant occupation in all villages and the individuals those who do not have agriculture, they are working on other's farm as agricultural labourer. No variety of occupation was observed. As regard to the secondary occupation, it was found farming, business, service, petty trading are the main categories, but 68% of the women respondents do no follow any secondary occupation. This might be due to they don't have any scope or may not be able to invest the money in secondary occupation. About 18% of the women respondents have annual income less than 25,000. About 40% have 25,000-50,000 and 43% have more than 50,000. This indicates that, there are considerably large numbers of the population which do not have adequate income. This shows poor economic conditions.

As regard to the various castes, it is observed that there is hardly 15% of the women respondents belong from Scheduled Caste, Scheduled Tribe and Other Backward Castes, whereas rest of them are from open category. In continuation of the caste almost 98% of the women respondents belong from Hindu Religion and only 2% from Islam religion. To stay in the farm is one of the most important characteristics of the rural population. It was observed that about 32% of the women respondents are staying in their own agricultural land and rest of them are staying at village settlement. When they stay at farm, the distance of house from the main road affects their quality of life as they are not able to afford their own transportation. It is observed that usually the area of house is quite a

large. This is mainly due to land is not the problem to most of the villagers and usually it is observed that they keep domestic animals with them. Hence, the size of house is observed to be large in all the villagers.

Though, the houses are very large, they are constructed in mud and stone or any other agricultural products. The proportions of thatched houses are observed to be more prominent in all the villages. In every family, either child or old people, they are engaged in some productive activities, either they work in their own agricultural land or they earn money by working on other's land. It was found that, about 40% of the families have more than 3 earners and rest of them have about 1-2 earner in the family.

It is known fact that agriculture does not possess any fix income. After harvesting, if they get good market price, then only they get money. If the women/family is engaged in some other money earning activities, they may get fix income. It was observed that about 30% families have regular income and 70% do not have any specific income. There is a strong perception that the present income is not sufficient to meet their own needs. Naturally, they feel that that income is not sufficient. About 95% of the women respondents were from the same village. This indicates that there is hardly any migration and almost everyone has registered their name in Voter's list. About 97% of the women respondents possess Rationing Card. Among them, 80% have BPL Rationing Card.

As almost all population belongs from poor economic condition, there is hardly any development. About half of the women respondents have reported that there is no any development. About 80% of the women respondents have reported that their family size is about 5-7 womens, but one of the most prominent observation observed in these villages is that nuclear type of family is grossly absent.

In fourth chapter women and drinking water is described in detail. It is known fact that as village level drinking water is the task of women. Therefore, availability of the water is concerned with the women activity. As the study area is the located in drought prone area women in respective villages are facing lot of difficulties in bringing water. However, Water Shed Development Programme has helped substantially to reduce their drudgery.

In this chapter details about type of sources of drinking water availability drinking water throughout year location and distance of sources of drinking water. The person bringing the water and time spent in bringing water is discussed in detail. The frequency of bringing water information of Water Shed Development Programme it source and transfer of information is also discussed in details. To summarize the results of this chapter it is to state that though Water Shed Development Programme programme is implemented well water remained. The predominant sources of drinking water number of bore well have been increased substantially which has helped to reduced the drudgery of the women. About 1/3rd of the respondents have reported that water available thought year no large variations have been observed except in Kendur. If there is a good mansoon in that year water is available throughout year is report by substantial proportion of the respondents.

89% of the respondents have reported the water source is located outside the house i.e at the public places if the tap water is available or if women has to bring water from well it is also located at the certain distance. Usually it is observed that distance of the source of drinking water ranges between 0.5 to 1 Km. Usually females and the children are the prominent persons who bring water for the family. This show that women place very prominent role to bring water for the family and it is observed that she has to spend about 1 hour to carry the water on her head. The families who have the source inside the house need not to spend any time. However, the family is staying the longer distance they have to spend consideration time to bring the water. It is also observed that every woman is bringing water at least twice in a day. Thus she has to spend minimum two hours to bring the water for her family.

As regard to the information about Water Shed Development Programme it is observed that only 1/3rd women folk in the village are aware about the Water Shed Development Programme programme and majority of them are not aware. This clearly indicates that though there is strong communication system women are not very conscious about the village developmental activities. About 44% of the respondents are aware about Water Shed Development Programme since 5 years ago followed by 25% 5 years and 30% 2

years. It is also observed that there are several source of the information they received mainly from the Grampanchayat Govt. officials, teachers and self help group these are the prominent sources of information. Whatever the information they got are usually transferred to other through mouth to mouth publicity. One of the most significance observations is that almost all the respondents from all villages are of the opinion there is a positive impact of Water Shed Development Programme on women status at village level. To conclude this chapter it is to say that even though Water Shed Development Programme programme is implemented water is not made available at family which helps to reduce the drudgery of women. However, due to various activities are Water Shed Development Programme women got an opportunity to interact, to discuss and to exchange their thoughts which help to improve their social status in general.

In fifth chapter Water Shed Development Programme is one of the significance aspect of rural development sponsored by central govt. While implementing Water Shed Development Programme govt. has given the specific guidelines for getting the involvement of women in various activities of the Water Shed Development Programme., Accordingly in this chapter details about the impact of active participation of women on improving women status is discussed in detail. This includes the various processes that are being taken place at village level. Among them**,** Collective thinking Among Women, Extent of collective thinking, Women's participation in village Activities, Attendance in Gramsabha, Extent of participation, Womens are taken into confidence, Active part in Gramsabha, Meeting with officials, Collective thinking about village problems, Meeting of SHG, Frequency of the Meeting, Family Level Help of the SHG, Perception about Impact on Social Status, Perception about Impact on Economical Status, Perception about Impact on Decision Making Capacity, are some of the important. To summarize the results of this chapter it is to say that about 2/3rd respondents are thinking collectively for village development and them extent collective thinking is substantial. This indicates that almost all women folk is thinking either to monitor or to supervise the village developmental activities. It is observed that 86% of the women have active participation in village development activities and there are several ways and means to take active part for village development. Gramsabha is one of them where they can express their

problems about 86% respondents have reported that they attend regularly the Gramsabha and also takes very active role and responsibilities in carrying out the developmental activities.

About 84% women are of the opinion that the women's are always taken into confidence before planning the development activities and the extent of confidence is considerably in high in all villagers. In the Gramsabha 80% of women expressed that they can established the dialogue with Grampanchayat officials as well as villagers too. 85% of respondents have expressed that they can conduct the meetings of the govt. officials for the discuss of village development and the equal proportion of the women have expressed that women's are thinking collectively to find out the solution of the problem. About the 34% of the respondents are the members of formal organization i.e. self help group and almost 64% of the respondents attends the meeting of Mahila Mandal very regularly. 92% of the respondents have reported that they attained the meeting of SHG very regularly and almost all respondents have reported there are frequent meetings as per the need and demand from the village women.

96% of the women were of the opinion that the self help group helps substantially for various issues of the family. Particularly when family is facing the crises of money self help group is the support from which they can sick the help and solve the problem. Almost all respondents are of the opinion that there is the very strong impact of Water Shed Development Programme on improving women's status at various levels. Particularly they have reported that they can take their independence decisions they can decide propriety of their needs, they can give attention towards their children and also there is a strong awareness about health.

The overall situation shows that the various activities that has been carried out in Water Shed Development Programme programme has made the impact on rural women in several ways especially they are more open minded, they are more talkative, they are more generous and are able to think about the problems of their family as well as of their village. There is a frequently interaction with govt. officials which has help to get the current information about various programmes and policies of the village development.

In sixth chapter for women empowerment role of community and role of Grampanchayat is very significant. Unless conducive atmosphere is not created there will not be women empowerment. The approach for implementation of the women development programmes is more important. Therefore in this chapter the role of Grampanchayat and community in women empowerment is discussed in detail. This aspect includes. Perception about Co-operation of GP Members and Govt. officials, Co-operation of other women, Active Part in Village Development, Active Part in Cultural Activities, Perception about Decession Making Capacity, Control on Family resources and Strength of coping problems have been discussed in details. Awarness about Self Esteem, Membership of SHG, Attendence of the Meeting, Participation in WSD, Participation in planning, Participation in management, Husband's permission for participation, Decission about Children's Education , Restrications in Family, Control on family income, Active part in family decission making process, Perception About freedom also discussed in details.

To summarize the results of this chapter it is to say that there is very high cooperation from Grampanchayat members whereas there is a very less cooperation from the govt. officials. Unless the govt. officials makes the changes in their approach in implementation of the programmes related to women empowerment the rural women will not be empowered. There is a very strong support and cooperation from other women's of the village. Most of the women are taking very active role in village developmental activities as well as the cultural activity at community level.

Almost all respondents feels that they have developed the strength to take their own decision or decision making capacities is enhanced due to this programme majority of the respondents have expressed that they have strong control on family resources which has helped to develop the cooping strength among the women folk. There is a very high awareness about self esteem and it is an outcome of interaction with several other sections of the society. Almost 2/3rd of the women are not member of the any other

organization. Whereas almost all women reported they attend the regular meeting in other villagers.

The active participation in Water Shed Development Programme in planning managements, monitoring and supervision has helped substantially for improving their social status. Thought there are restrictions at family level they can take the decision related to Childs education. Hardly any control on financial mattes is observed whereas they are activities participating in decision making process of the families almost all women are of opinion that they have full freedom in the family for participation in various activities.

7.3 Conclusions

1. Form the data it can be concluded that majority of the respondents that are above 40 years of age having 8^{th} to 12^{th} std education. This indicates that the education of the rural women is considerably low. Considerable numbers of women are observed to be illiterate.
2. In rural areas there are hardly any opportunity for other occupation hence agriculture and farming is the main occupation.
3. Dairy business or agriculture business is the prominent secondary occupation. The economic condition are considerably low as per capita income is observed to very low hence one find that their is a very low development among the women.
4. In village development activity participation of women is very low. Hindu is the prominent religion in all villages.
5. The farmers prefer to stay in their own farm where the approach road and the other basic services are grossly lacking. Poor housing and inadequate facilities in house is creating poor living conditions.
6. The area of house is considerably large and in family everyone works in agriculture. There is no fix income hence majority of them are very poor.
7. Naturally they fill insufficiency of the income which is observed to be poor in the study population. All the respondents are from same village having enlisted in

voters list and rationing card. Almost all families of villages are staying below poverty line. Naturally there is no development at family level.

8. Family size is observed to be considerably large and the sex ratio is almost equal to national level.
9. As regard to the sources of drinking water women has to fetch the water from well and water is not available through out year. Hence they have to carry water from long distance.
10. The location of water is considerably at distance and they have to carry the water at the distance of 1-2 km. Mainly the women are bringing water and children are helping them. They have to spend 1-2 hours to bring the water per twice in a day.
11. Considerable number of the women have watershed development programme.
12. In village community face to face communication is very strong and information is transfer from one individual to another individual from oral discussion.The school and gram Panchayat is the main source is the main source of information and the social relation is the media of transforming the message from one individual to another.
13. Most of the women feel there is a positive impact of watershed development and community as they observed that availability of water in a year is increased.
14. There is a strong collective thinking among women about development activities especially water problem.
15. Women have got substantial opportunity in taking active part in village development through collective thinking. This indicates that there is active participation in development process. At various stages they are taking active part and their opinion is considered by the Grampanchayat for village development.
16. The women folk is always taken into confidence while implementation of development plans.
17. The cultural activities have pivotal place in their daily life. All women come together to celebrate the cultural activity. In Public the women are taking active role. This shows that their traditional status is improved substantially.

18. Now the women are keeping dialog with government officials and also thinking about village development. This is an indicator of positive impact of developmental activity of women status.
19. The village women think collectively during the meetings of SHG. Therefore the SHGs are the best instrument for bring the change among village women.
20. Attendance in regular meeting of SHG indicates the women have very sound relation in village community. The SHG is helping substantial in development of women attitude. The active part in Mahila Mandal is observed to be prominent among women. This situation is persuaded by women is a positive development of various activity. Improved status has helped them to perform active role in family life also.
21. Due to SHG women have economic support and now they are taking decision related to financial matters. This indicates that they have developed the decision making capacity at various levels.
22. There is a very healthy cooperation from the Grampanchayat members to all women in various activities and government officials are also cooperating them substantially. Almost all women are cooperating themselves each other and play active role in village development.
23. Now the women can organize various programmes and can play the effective role in cultural and social activities.
24. Most of the women feels that they have strong control on family resources which is the indication of empowerment. They have developed the coping mechanism and developed the self esteem at family level as they are participating in various activities.
25. Womens are participating in planning, implementation and management of village activities.
26. There are number of restrictions which are creating hurdles in their empowerment process. For participating at community level they have to obtain permission from their husband this indicated the cultural barriers in empowerment process.

27. There are several dimensions of active role at family level as their role considered as a secondary level in all respect. This is indicated through they do not have full freedom to take their own decisions.

7.4 Recommendations

1. There should be special training of employment opportunities to make them financial self supporting.
2. Collective efforts are needed for improving women status at family and at community level.
3. The government schemes of women empowerment are to be implemented very effectively.
4. Women's need are to be considered on priority basis while planning village development.
5. There should be encouragement from the families for active participation of women in various developmental work.
6. The cooperative activities should be started for women development.
7. Women should be considered for education and social development on priority basis.
8. There should be sustained efforts for reducing drudgery of the women.
9. Government programme should be aimed at getting involvement of women in all activities of development process.
10. Government should implement the special scheme for women empowerment especially for employment generation.
11. Government should make the efforts for reducing gender discrimination at village level.
12. For improving there social status villager should come forward for collective activities.
13. SHGs should be strengthened for women empowerment activities.

Appendix II

Bibliography

1. Mehta R. (2005) "*An Analysis of Crop Diversification*" Theme Presentation in National Conference on Agriculture for Kharif Campaign 2005, Ministry of Agriculture, Government of India 22nd - 23rd March 2005, New Delhi. http://agricoop.nic.in/KHARIF%202005/Crop%20Diversification-05.ppt
2. Singh R.B. (2001) "Crop Diversification in the Asia Pacific Region" Address at FAO-RAP Seminar, Bangkok , RAP Publication: 2001/03.
3. Adolph, B. and Turton, C. (1998). Community Self Help Groups and Watersheds. Partnerships and Policies Programme Series. London: Overseas Development Institute.
4. Agarwal, Anil et al. Making Water Everybody's Business: Practice and Policy of Water Harvesting; Centre for Science and Environment, New Delhi. 363. (2001).
5. Alsop, R., Gilbert, E., Farrington, J. and Khandelwal, R. (2000). Coalitions of Interest: Partnerships for Processes of agricultural Change. New Delhi: Sage.
6. Annual Report; Bharat Nirman through Rural Development, Ministry of Rural Development, Government of India. (2007-2008).
7. Arya Swarn Lata. Women and Watershed Development in India: Issues and Strategies. Indian Journal of Gender Studies, Vol. 14, No. 2, 199-230 (2007)
8. Arya, S., J. S. Samra and S. P. Mittal. (1998). Rural Women and Conservation of Natural Resources: Traps and Opportunities, Gender, Technology and Development, 2 (2): 167-185.
9. Arya, Swarn Lata and Sarma, J.S. (1996, December). Participatory process and watershed management: A study of the Shiwalik foothill villages in Northern India. Asia- pacific Journal of Rural development, 5 (2). 35-57 p.
10. Arya, Swarn Lata and Sarma, J.S. 1994. Determinants of People's Participation in Watershed Development and Management- An Exploratory Case Study in Shiwalik Foothill Villages in Haryana. Journal of Rural Development. 13 (3). Pp 411-422.

11. Arya, Swarn Lata et.al. (2001, Jully). Contribution of beneficiary participation in project effectiveness in watershed management projects: A case study in Shivalik foothill region in Northern India. Asia- pacific Journal of Rural Development, 11(1).
12. Arya, V. (1998).Collaboration for Innovation in Participatory natural Resources Management: The PAHAL Project in Dungarpur District. Srijan, New Delhi.
13. Ballabh, V. and Ujjwal Pradhan. (2000). India's Water Crises and Institutional Challenges: An Overview. http://129.79.82.45/IASCP/Abstracts/ballabhv040400.pdf. (Accessed on 27/12/2002).
14. Baumann, P. (1998). Panchayati Raj and Watershed Management in India: Constraints and Oppourtunities. Overseas Development Institute, Portland House, Stag Place, London. http://www.odi.org.uk/publications/working_papers/wp114.pdf3. (Accessed on 28/01/2003).
15. Bhatia, Ramesh (2005), "Water and Energy", World Bank background paper, Washington ,DC
16. Bhatia, Ramesh (2005). "Economic Benefits and Synergy Effects of the Bhakra Multipurpose Dam, India: A case study", World Bank background paper, Washington DC.
17. Bhatnagar, A. (2001). Revised Guidelines for Watershed Development. Department of Land Resources, Ministry of Rural Development, Governmennt of India.
18. Bhushan, Chandra. 2004. Industry and Environment Use- http://www.cseindia.org/dte-supplement/industry20040215/non-issue.htm (accessed on 1st April 2009).
19. Bhushan, R.; Mirage 2000, Outlook. (8 May 2000).
20. Bilal Mansoor. 2008. Socio-Economic Characterization of Communities in Integrated Watershed Development. Agecon Search in its series Miscellaneous Papers with number 47109.

21. Blomquist, W. and Edella Schlager (2000). Local Communities, Policy Prescriptions, and Watershed Management in Arizona, California, and Colorado. http://129.79.82.45/IASCP/Papers/blomquistw050400.pdf (Accessed on 27/12/2002).
22. Chand, Subhash and A.K. Sikka. 2001. Capacity Building of Informal Institutions through Watershed Management Programmes in Hilly Areas: An Expereince in Nilgiris. Journal of Rural Development. 20(4). Pp. 757-768.
23. Chopra, Kanchan. (1998). "Watershed Management Programme: An Evaluation of Alterna.tive Institutional and Technical Options" in Farrington, John, Cathryn Turton and A.J. James (1999) Participatory Watershed Development: Challenges for the Twenty- First Century, New Delhi: OUP.
24. Chowdary, V.M. and Sikat Paul et.al.(2001). Remote Sensing and GIS approach for watershed monitoring and evaluation: A case study in Orissa state, India. Paper presented at the 22nd Asian Conference on Remote Sensing, Centre for Remote Imaging, Sensing and Processing (CRISP), National University of Singapore, Singapore Institute of Surveyors and Valuers (SISV) and Asian Association on Remote Sensing (AARS), Singapore.
25. Cleaver, F. (1999). Paradoxes of Participation: Questioning Participatory Approaches to Development, Journal of International Development, 11: 597-612.
26. Brown Katrina. Innovations for Conservation and Development. The Geographical Journal,Vol 168, No 1. March 2002, 6-17pp.
27. Das, P. 2002. Cropping Pattern (Agricultural and Horticultural) in Different Zones, their Average Yields in Comparison to National Average/ Critical Gaps/Reasons Identified and Yield Potential. Indian Council of Agricutural Research, New Delhi. 33-47.
28. Dietz Ton, Obeng Francis, Obure Jerim and Fred Zaal. - Participatory development assessment Subjective Truths. The Broker Connecting World of Knowledge. 15 Aug 2009.
29. Deolankar, S.B. and Himanshu Kulkarni. 1985. Impact of Hydrogeology on Agriculture in Deccan Basaltic Terrain of Maharashtra, India. Hydrogeology in

the Service of Man, Memoires of the 18th Congress of the International Association of Hydro geologists, Cambridge, 1985.212-213.

30. Desai, D.; Maharashtratil Dushkal. Magova Prakashan, Deccan Gymkhana., Pune.1-44 p. (1987).
31. Deshpande, R.S. and Ratna Reddy, V. (1994, April). Participatory process in watershed management: A case study of Maharashtra. Asian Economic Review, 36(1). 101-129 p.
32. Dhar, S. K. (1994). Rehabilitation of Degraded Tropical Forest Watersheds with People's Participation, JFM Series No. 16, Tata Energy Research Institute, New Delhi.
33. Engel, A. (1998). Decentralization, Local Capacity and Regional Rural Development: Experiences from GTZ-Supported Initiatives in Africa. http://www.fao.org/SD/RODirect/ROfo0039.htm. (Accessed on 14/01/2003)
34. Kotru Ranjan. Watershed Management Experiences in GTZ- Supported Projects in India, Chapter 8, In: Preparing for the next generation of watershed management programmes and projects. Asia. Proceedings of the Asian Regional Workshop, Kathmandu, Nepal 11-13 September 2003
35. FAO,1993. FESLM - An International Framework for Evaluating Sustainable Land Management. World Soil Resources Report, No. 73, 74 pp..
36. FAO. 1993. Water Harvesting for improved agricuture production, Water Reports. Proceedings of the FAO Expert Consultation. Cairo, Egypt. 355-379.
37. Farrington, J. and Bebbington, A. J. with Lewis, D. and Wellard, K. (1993). Reluctant Partners? Non Governmental Organizations, the State and Sustainable Agricutural Development. London: Routledge, New York
38. Farrington, J., C. Turton and A. J. James (1999), Participatory Watershed Development Challenges for the Twenty first Century. Oxford University Press, New Delhi.
39. Farrington, John eds. (2000). Participatory watershed development challenges for the twenty first century. Oxford university Presss, New Delhi. 382 p.
40. Farrow, Scott and Mitchell Small et.al. 2001. Linking Environmental and Social Performance Measurement for Management at National and Watershed Levels:

Modeling and Statistical Approaches. EPA STAR/NSF/USDA Water and Watersheds Progress Review Proceedings from April 17-19, 2001. San Francisco, California.

41. Penelope Firth and Michelle Kelleher et.al.2007. Water and Watersheds Research: Discovery and Broader Impacts. Universities Council on Water resources Journal of Contemporary Water research & Education. Issue 136. 1-6.
42. Frenandez, A. P. (1999). 'Will People Take Loans for Treatment Measures on Private Lands in a Microwatershed?', Box 8.1 in Farrington, J. et. al. (eds.). Participatory Watershed Development: challenges for the 21st Century, New Delhi and Oxfor: OUP, pp. 264.
43. Ghare, M. (2000) Handbook of Participatory Watershed Development. AFARM, Raisoni Park, Market Yard, Pune.
44. Ghare, M. (2000 a) Handbook of Participatory Watershed Development. AFARM, Raisoni Park, Market Yard, Pune.
45. Ghare, M., Sharnagat S. B., and Et.al. (2001). Dhule and Nandurbag District Watershed Development Programme Evaluation. AFARM, Market Yard, Pune.
46. Ghare, M.; Handbook of Participatory Watershed Development. AFARM, Raisoni Park, Market Yard, Pune. (2000).
47. Ghare, M.; Water, Food and Population. Praphuluta Prakashan, Pune. 7-12 p. (2000).
48. Government of India (1987), 'National Price Leighton (editor). Sep 1997. Top 10 Watershed lessons Learned. U.S. Environmental Protection Agency. EPA 840-F-97-001. On the Internet at http://www.epa.gov/owow/lessons
49. Government of India (2002), 'National Water Policy', Ministry of Water Resources, New Delhi.
50. Government of India (2006), "Towards faster and more inclusive growth: An approach to the 11th Five Year Plan (2007-2012)", Planning Commission, GOI
51. Government of India (2006), Report of Sub-Group of Minor Irrigation, CAD and Private Sector and Beneficiaries Participation for the XI Five Year Plan (2007-12), Ministry of Water Resources.

52. Government of India (2006), Report of the Working Group on Water Resources For the XI the Five Year Plan (2007-2012), Ministry of Water Resources.
53. Government of India. 2000. National Report on the Implementation of the United Nations Convention to Combat
54. Government of Maharashtra. 2006. Disaster Management in Maharashtra. Envis Nesletter. Environment Information Centre, Environment Department, Government of Mahrashtra. Vol. No. 1. http://envis.maharashtra.gov.in
55. Hanumantha Rao Committee; A Committee appointed for review of Rural Development Programmes in India, Government of India. (1994-95).
56. Hanumantha Rao, C.H., 2000. Watershed Development in India – Recent experience and emerging issues. Economic & Political Weekly, 35 (32) 3943 – 3947.
57. Harstone, M. (2000). People and Water: A Resource Book for Applying Community-Based Watershed Management to Informal Settlements. http://www.iucn.org/themes/pmns/community/harstone.html. (Accessed on 14/01/2003)
58. Hazare, A., Ganesh Pangare and Vasudha Lokar. (1996). Adarsh Gaon Yojana: Government Participation in a People's Programme. Hind Swaraj Trust, Pune.
59. Hazra, C.R. (1998). 'Biophysical Results of Watershed Rehabilitation in Kharaiya Nala' in Farrington, J. et. al. (eds.). Participatory Watershed Development: challenges for the 21st Century, New Delhi and Oxfor: OUP, pp. 26- 30.
60. Hobley, M. and Shah, K. (1996) What makes a local organization robust? Evidence form India and Nepal. Natural Resource
61. multi-species agroecosystems: Concepts and issues. Agric. Ecos. Environm., 67: 1-22.
62. http://rural.nic.in/anual0203/chap-17.pdf WASSAN. 2003. Hariyali Guidelines: Issues and Concerns Suggestions and ecommendations of Consultations and National Workshop.WaSSAn, Secundrabad.
63. http://www.indiawaterportal.org/tt/agri/ (accessed on 1st April 2009).
64. Hufschmidt, M.M. and Kindler, J. 1991. Approaches to integrated water resource management in humid tropical and arid semitropical zones in developing

countries. International Hydrological Programme-III Projects 10.1(a) and 10.2 (a). UNESCO, Paris.

65. N. Schumacher, G. Honore and C.M. Pandey. 2004. India : A Field Manual., Indo-German Bilateral Project, New Delhi. 204 p.PAP/RAC.
66. Integrated approach to development, management and use of water resources. Split,Priority Actions Programme Regional Activity Centre, 1997. pp i+154.
67. Iyer, Ramaswamy; Water: Perspectives, Issues and Concerns; Sage Publication, New Delhi. (2003).
68. Jagawat's, Harnath. 2000. Watershed Development: Note on Watershed Development Programme—for CII meeting on 02.09.2000, at New Delhi. http://www.nmsadguru.org/Article_WatershedDev.htm
69. Jain, P.C. Jully 2004. Agriculture. Kerala Calling. pp.17-19
70. Jain, P.C.; Agriculture. Kerala Calling.17-19 p. (July 2004).
71. Jain, S. C., S. K. Verma, and et.al. (2002). Participatory Watershed Development Programme: Final Evaluation Report. AFARM, Market Yard, Pune.
72. Jaithley, A. and R. K. Daw; Contribution of Voluntary Organization in Rural Drinking Water Supply and Sanitation Programme in India; AFARM report, 1999. (1995).
73. Jana, B.L.; Water Harvesting and Watershed Management. Agrotech, Udaipur, viii, 576 p. (2008).
74. Joshi, P.K., Tewari, L., Jha, A.K. and Shiyani, R.L. (2000). Meta analysis to assess impact of watershed. In Workshop on Institutions for Greater Impact of Technologies. National Centre for Agricultural Economics and Policy Research, New Delhi, India.
75. Kalra, G.S. et. al. (1988, December). People's participation: a lesson from Sukhomajri watershed development programme. National bank News Review, 4(10). 38-40 p.
76. Kanda, Mohan.; Vasundhara: An Anthology of Land Resources in India, Department of Land Resources, Government of India. (2000).
77. Kenneth G. Renard and Jeffry J.Stone. 1994. Integrated watershed management. Technical Session IV: Soil conservation aspects in relation to water harvesting.

Water hasrvesting for improved agricultural production: Proceedings of the FAO expert consultation, Carioa, Egypth, 21-25 Nov 1993. Water report 3. Published by FAO of United Nations, Rome.

78. Kerr, J. (2002). Watershed development, environmental services, and poverty alleviation in India, World Development, Vol.30, No.8, 1387-1400.
79. Kerr, J. M., Pangare, G., Lokur-Pangare, V., George, P. J. and Kolavalli, S.; The Role of Watershed Projects in Developingumantha
80. India's Rainfed Agriculture; Report submitted to the World Bank. IFPRI, Washington. (1998).
81. Kerr, J.M., Pangare, G., Lokur- Pangare, V. (2002). Watershed Development Project: An Evaluation. Research Report 127, International Food Policy Research Insitute, Washington, D.C.
82. Kerr, J.M., Pangare, G., Lokur- Pangare, V., George, P.J. and Kolavalli, S. (1998). The Role of Watershed Projects in Developing India's Rainfed Agricutlture. Report submitted to the world Bank. IFPRI, Washington.
83. Kerr, John. Oct 207. Watershed Management: Lessons from Common Property Theory. International Journal of the Commons, Vol 1, no 1 October 2007, pp. 89-109.
84. Kerr,J. & Sanghi, N.K. (1992): Indigenous Soil and Water Conservation in India's Semi-arid Tropics. Gatekeeper Series No. 34. Sustainable Agriculture & Rural Livelihood Program, IIED. Pp. 28.
85. Khalid M.A. et.al. 2004. Impact assessment study of the watershed development programme: a compendium. Prepared for Department of Land resources, Ministry of Rural Development, Government of India. TERI, New Delhi.
86. Kokavalli, L. Shashi and Kerr, john. (2002, April). Scaling up participatory watershed development in India. Development and Change, 33(2). 213-236 p.
87. Kokavalli, L. Shashi and Kerr, john. (2002, January). Mainstreaming participatory watershed development. Economic and Political weekly, 37(3). 225-242 p.
88. Kulkarni, U. D. (1995). Community Participation in Watershed Programme. (Article found in AFARM report, 1999).

89. Kumar Virendra, Singh P.K. and R.C. Purohit. Hydrology and Watershed Management. Udaipur, Himanshu Publication., 2005, viii, 300 p.
90. Kurian, Mathew, T. Dietz and K.S. Murali. June 2005. Rule Compliance in Participatory Watershed Management:Is it a sufficient Guarantee of Sustainable Rural Livelihood? Conservation and Society, Volume 3, No.1. pp- 43-71.
91. Lathrop, C. Richard and Potter W. Kenneth et.al. 2001.Alternative Urbanization Scenarios for an Agricutural Watershed: Design Criteira, Social Constraints, and Effects on Groundwater and Surface Water Systems. EPA STAR/NSF/USDA Water and Watersheds Progress Review Proceedings from April 17-19, 2001. San Francisco, California.
92. Leach, M., Mearns R. and Scoones I. (1999). Environmental Entitlements: Dynamics and Institutions in Community-Based Natural Resources Management, World Development, 27 (2): 225-247.
93. Lobo, Crispino andGudrun Kodchendorfer. (1995).Rain decided to help us: participatory watershed management in the state of Maharashtra, India. World Bank, Lucius, Washington. 66 p.
94. Lokur- Pangare, V. (1998). 'Learning Processes: The Approach of OUTREACH' in Farrington et al. (eds). Participatory Watershed Development: Challenges for the 21st Century, pp. 244-247. New delhi and Oxfor: OUP.
95. Lurie M. Lisa. 2007. Lurie, Evaluating Participatory Watershed Management: A Case Study of the Albemarle Pamlico, National Estuary Program. Masters project, Nicholas School of the Environment and Earth Sciences of Duke University.
96. Mahapatra Sushanta Kumar. 'Functioning of Water Users Associations or Pani Panchayat in Orissa:Principle, Procedure, Performance and Prospects',3/2 Law, Environment and Development Journal (2007), p. 126,available at http://www.lead-journal.org/content/07126.pdf
97. Mahindre, P.; Historical Background of Watershed Development. Sheatkari – Soil and Water Conservation Magzin, Third year, Vol-1.13-14 p. (2002).
98. Mandavkar, Y. (2001). Criteria and Indicators of Sustainability in Rural Development (A Natural Perspective): Sustainability in Watershed Management. Edited by Anil K. Gupta, Oxford and IBH Publishing Co., New Delhi. pp- 86-93.

99. Mathur, K. (2001). Criteria and Indicators of Sustainability in Rural Development (A Natural Perspective)- Sustainability of Institutions: A State-Society Perspective. Edited by Anil K. Gupta, Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi. pp- 234- 238.
100. Ministry of Rural Development; Bharat Nirman through Rural Development- Annual Report, Government of India. (2007-08).
101. Ministry of Rural Development; Guidelines for Hariyali, Ministry of Rural Development, Government of India. (2003).
102. Ministry of Rural Development; Guidelines for Watershed Development: Ministry of Rural Development, Government of India. (1994).
103. Ministry of Rural Development; Guidelines for watershed development (revised edition), Ministry of Rural Development, Government of India. (2001).
104. Ministry of Water Resources; National Water Policy, Ministry of Water Resources, Government of India. (2002).
105. Mishra P.K. and G. Raj Kumar et. al. Water harvesting strategy in drought prone areas-a case study in watershed perspective. Hydrology and Watershed Management : Proceedings of International Conference: With a Focal Theme on Water Quality and Conservation for Sustainable Development (18-20 December, 2002)/edited by B. Venkateswara Rao, K. Ramamohan Reddy, C. Sarala and K. Raju. Hyderabad, BS Publications, 2003, 2 Vols., xviii, 1487 p
106. Mishra, B. (1996). A Successful Case of Participatory Watershed Management at Ralegan Siddhi Village in District Ahmadnagar, Maharashtra, India. Case Studies of People's Participation in Watershed Management in Asia. Part-I: Nepal, China and India. Participatory Watershed Management Training in Asia (PWMTA) Program, GCP/ RAS/ 161 NET – RAS/93/062, FAO (UN), Kathmandu, Nepal. pp- 35-47.
107. Mishra, G.P. and B.K.Bajpai (2001). Community participation in natural resource management. Rawat, Jaipur. 384 p.
108. Mishra, Pradeep Kumar. 2008. Integrated Impact Assessment for Explaining Differential Impact of Watershed Development Projects. 'IAIA08 Conference Proceedings', The Art and Science of Impact Assessment 28th Annual Conference

of the International Association for Impact Assessment, 4-10 May 2008, Perth Convention Exhibition Centre, Perth, Australia (www.iaia.org).

109. MoRAE, Government of India (1994). Guidelines for Watershed Development. Department of Wasteland Development, Ministry of Rural Areas and Employment, Government of India, New Delhi.
110. Moriarty, P., Charles Batchelor and Christine van Wijk, (2001). Trends in watershed management in arid and semi-arid regions. http://www.irc.nl/themes/iwrm/ppwatershed.html.
111. Mosse, D., Gupta, S., Mehta, M., Shah, V., Rees, J. and the KRIBP team (1997). Seasonal Labour Migration in Tribal (bhil) Western India. Draft Preliminary Report. Centre for Development Studies, Swansea.
112. MoWR. 2006. More crop and income per drop of water. Report of Sub Committee. Advisory Council on Artificial Recharge of Ground Water, Ministry of Water Resources, Government of India. 1-57.
113. Nalatwadmath, S.K., M.S. Rama Mohan Rao and M. padmaiah. 1997. Joladarasi Model Watershed Development Programme in Bellary District of Karnataka- A Diagnostic Evaluation. Journal of Rural Development. 16 (2). pp. 313-328.
114. Narayan, D. (1996). The contribution of people's participation: evidence from 21 rural water supply Projects, paper series 1, Environmentally Sustainable Development, World Bank, Washington.
115. Narayana, D. V. V., G. Sastry and V. S. Patnaik. (1990). Watershed Management. Publications and Information Division, ICAR, New Delhi.
116. Negi, S.S. (2001, Jan- Mar). Experiences of participation in integrated watershed development project in Himachal Pradesh. Indian Journal o Public Administration, 47 (1). 26-37 p.
117. Negi, S.S. 2001. Integrated Watershed Management. Dehra Dun, Oriental Enterprises, 232 p.
118. NWDPRA; National Watershed Development Project for Rainfed Areas, Department of Agriculture and Cooperation, Government of India. (2002).
119. Padma, L., H. Lim-Applegate, and M. Scoccimarro. 2001. The adaptive decision-making process as a tool for integrated natural resources

management:Focus, attitudes, and approach. Conservation Ecology 5(2):11. http://www.consecol.org/vol5/iss2/art11.

120. Palmer, A. Margaret and Nancy E. Bockstael et.al. 2001. The Spatial Pattern of Land Use Conversion: Linking Economics, Hydrology, and Ecology to Evaluate the Effects of Alternative Future Growth Scenarios on Stream Ecosystems. EPA STAR/NSF/USDA Water and Watersheds Progress Review Proceedings from April 17-19, 2001. San Francisco, California.
121. Pandey, Sanjay. 2007. Monitoring and evaluation in watershed management. http://www.mynews.in/fullstory.aspx?storyid=1069
122. Pandey, Sanjay. 2007. Reducing the gender bias through Water Shed Management. http://www.mynews.in/fullstory.aspx?storyid=1069
123. Pandey, Sanjay. 2007. Watershed Development: A Conceptual Clarity. http://www.mynews.in/fullstory.aspx?storyid=1069
124. Reid, W. 1997. Strategies for conserving biodiversity. Environment 39(7): 16-20, 39-43
125. Grubb, M., M. Koch, A. Munson, F. Sullivan and K. Thomson. 1993. The Earth Summit Agreements. London: Earthscan Publications Ltd.
126. Paul, D. K. (1997). Rain-fed farming system development in India: retrospect and prospect, In: Katyal, J, C., Farrington, J., Research for rain-fed farming, Overseas Development Institute, London. Perspectives Paper, No. 17, February 1997. ODI, London.
127. Planning Commission; Report of the Working Group on Watershed Development, Rainfed Farming and Natural Resource Management, Tenth Five-Year Plan; Government of India, Planning Commission.(2001).
128. Pretty, J., Ward, H. (2001). Social capital and the environment, World Development, Vol.29, No.2, 209-227.
129. Chandrudu Rama, M.V. (2006). Understanding Processes of Watershed Development Program in India, Volume 1-6, WASSAN, Hydrabad.
130. Ramachandran, Kausalya and K.L. Sharma, et.al. 2006.Assessing Agricultural Sustainability Watersheds in India using Geomatics. ICAR National Fellow, Project Staff, CRIDA, Santoshnagar Hyderabad – 500059, India.

131. Ramachandran, V. et. al.; Planning at the Grassroots Level: An Action Programme for the Eleventh Five Year Plan, Report of the Expert Group, New Delhi. (2006).
132. Ramaswamy R Iyer; Commentary – The New National Water Policy. Economic and Political Weekly. (4 May 2002).
133. Rao Venkateshwara, G. Jagmohan Das et. al. Hydrology and Watershed Management - II/B. Hyderabad, BS Pub., 2007, 2 Vols., xxxviii, 1590 p.
134. Rao, C. H. Hanumantha, "Watershed Development in India: Recent Experiences and Emerging Issues," Economic and Political Weekly, 25. (2000).
135. Ratna Reddy, V., Gopinath Reddy, M., Malla Reddy, Y.V., Sousson, J., 2004. Sustaining Rural Livelihood in Fragile Environments: Resource Endowments or Policy Interventions? Working paper No.58, CESS, Begumpet, Hyderabad – 500016, AP, India. 33 pp.
136. Ravindra Babu A.; Combating Land Degradation and Droughts, from Rio, Johannesburg and Beyond, India's Progress in Sustainable Development, a publication by LEAD India. (2002).
137. Ravindra, A. Combating Land Degradation and Draught. WASSAN, Hyderabad. Accessed on 20th Feb 2009. http://www.wassan.org/resource_material/guidelines/default.htm.
138. Reddy, Gopinath and Srinivasa Reddy; Watershed Development, Panchayats and Village-Based Institutions: An Assessment of Institutional Capacity. The ICFAI Journal of Public Administration, Vol. 2, No. 3, 32-51 p. (2006).
139. Reddy, P.L. Sanjeeva and K. Prasada Rao. 1999. Watershed Development Programmes in India Experience, issues and Future Agenda. Journal of Rural Development. 18(3). Pp. 335-358.
140. Reddy, Y.V.R. et. al. 2008. Watershed Management. Udaipur, Agrotech Publishing Academy. 200 p.
141. *Reddy Y.V.R., Sastry G., Hemalatha B., Prakash Om and Y.S. Ramakrishna. Evaluation of Watershed Development Programme in India. Conserving Soil and Water for Society: Sharing Solutions.* ISCO 2004 - 13th International Soil Conservation Organisation Conference – Brisbane, July 2004

142. Richard C. Lathrop et.al. 2001. Alternative Urbanization Scenarios for an Agricultural Watershed: Design Criteria, Social Constraints, and Effects on Groundwater and Surface Water Systems. Water and watershed progress review. EPA STAR/NSF/USDA. San Francisco, California.
143. Saints Kishor. Rethinking Participation. Shades of Green, a symposium on the changing contours of Indian environmentalism. Seminar Web-Edition, New Delhi. August 2002
144. Samra Jagir Singh. 2006. Socio-Economic and Environmental Impact Assessment of Participatory Watershed Management in Drylands of India. This presentation is part of 111: 3.1A Land Use Planning: Environmental, Economic and Social Trade-offs – Oral. 18th World Congress of Soil Science July 9-15, 2006 - Philadelphia, Pennsylvania, USA.
145. Samra, J. S. and K.D. Sharma. 25 Jan 2009. Watershed Development: How to Make 'invisiable' impacts 'visiable'? Current Science, Vol. 96, No. 2.
146. Samra, J.S. (1997). Status of research on watershed management. Central Soil and Water Conservation Research and Training Institute, Dehradun, India.
147. Samuel Abraham and K.J. Joy. Watershed Development in Maharashtra: Present Scenario and Issues for Restructuring the Programme. Technical Report. 2007. Society for Promoting Participative Ecosystem Management (SOPPECOM), Pune Forum for Watershed Research and Policy Dialogue.
148. Sanghi, N.K, et.al. Oct 2005. Upscaling of Successful Experiences in the Mainstream Watershed Programme in India: Mechanisms, Instruments and Policy Considerations. Published by WDCU, WASSAN, PLF, WOTR, MANAGE. DANIDA.s Watershed Development Programme (DANWADEP), New Delhi, India.
149. Saravanan, V. S. (2002). Institutionalizing Community-Based Watershed Management in India: Institutional Elements for Sustainability. National Council of Applied Economic Research (NCAER), Parisila Bhawan, 4 Indraprastha Estate, New Delhi 110 002. India. http://www.riverfestival.com.au/2002/files/symposium/SaravananVS.doc

150. Shah Amita. (2004). Benchmark Survey for Impact Assessment of participatory Watershed Development Projects in India. GIDR, Ahmedabad.
151. Shah Amita. Jully 2004. Watershed Development. Indian Journal of Agricultural Economics
152. Shah, A. (1998). 'The acid Test: Will Beneficiaries Contribute?' in Farrington, et. al. (eds.). Participatory Watershed Development: challenges for the 21st Century, New Delhi and Oxfor: OUP, pp. 298- 303.
153. Shah, A. and Memom; Watershed Development Project in Gujarat: A Quick Review; Gujarat Institute of Development Research, Ahmedabad. (1999).
154. Shah, Anil; The Eloquent Silent Revolution, Development Support Group, Ahmedabad. (2000).
155. Shah, Mihir; Rethinking Watershed Strategy. The Hindu. (29 January 2002).
156. Shanker, M. (2003). Hariyali Guidelines on Watershed Development. Government of Maharashtra, India.
157. Sharma R.A. Improving management of natural resources for sustainable rainfed agriculture following watershed management approach-a case study. Hydrology and Watershed Management : Proceedings of International Conference: With a Focal Theme on Water Quality and Conservation for Sustainable Development (18-20 December, 2002)/edited by B. Venkateswara Rao, K. Ramamohan Reddy, C. Sarala and K. Raju. Hyderabad, BS Publications, 2003, 2 Vols., xviii, 1487 p
158. Sharma, K.C. (2000). Role of NGOs and villages level institutions. http://dlc.dlib.indiana.edu/documents/dir0/00/00/03/43/dlc-00000343-00/sharmak050300.pdf
159. Sharma, P. N. (1998). Ripples of the Society: People's Movements in Watershed Development in India. FAO, Gandhi Peace Foundation, New Delhi.
160. Sharma, Prem N. (1999, August). People's role in watershed management. Agriculture Today, 2(3). 32-35 p.
161. Sharma, S.V. and Virgo, K. (1998). 'Developing village Funds to Sustain Watershed management in the Doon Valley Project, uttar Pradesh' in Farrington, J. et. al. (eds.). Participatory Watershed Development: challenges for the 21st Century, New Delhi and Oxfor: OUP, pp 334- 346.

162. Singh Hardeep. 1998. Baira Ni Kuldi: Women's Empowerment through Thrift/Credit Groups. Research Study of Impact Azssessment in Watershed Programme on Ecological, Economic and Social Aspects of Rural Community in Jhabua District, Spnsored by SPWD. Wasteland News, Vol:XIII No. 3, Feb.-April '98.
163. Singh Rajvir. Global prospective of watershed management. Hydrology and Watershed Management : Proceedings of International Conference: With a Focal Theme on Water Quality and Conservation for Sustainable Development (18-20 December, 2002)/edited by B. Venkateswara Rao, K. Ramamohan Reddy, C. Sarala and K. Raju. Hyderabad, BS Publications, 2003, 2 Vols., xviii, 1487 p
164. Singh, A. K., T.J. Eldho, and D. Prinz. 2002. Integrated watershed management approach for combating drought in a semi-arid region in India: The case of Jhabua watershed. In 2nd World Water Congress: Integrated Water Resources Management, pp. 85-92. Alliance House, London.
165. Singh, G.D. and T.C. Poonia. 2003. Fundamentals of Watershed Management Technology., Yash Publishing House, xii, Bikaner 460 p.,
166. Slocum, R. and Barbara Thomas- Slayter. et. al. (1995). Power, Process and Participation: Tools for Change. Intermediate Technology Publications Ltd, London.
167. Smith, P.D., Parry, A. and Mishra, R.K. (1998). 'The Use of Subsidies for Soil and Water Conservation: A Case Study from Western India' in Farrington, J. et. al. (eds.). Participatory Watershed Development: challenges for the 21st Century, New Delhi and Oxfor: OUP, pp. 281-298.
168. Stocking, M. (1993). Soil and water conservation for poor farmers: designing acceptable technologies for rainfed conditions in Eastern India, Topics in applied resource management, Vol.3, 291-305, cited in: Jones, S. (2002). A framework for understanding on-farm environment degradation and constraints to the adoption of soil conservation measures: case studies from highland Tanzania and Thailand, World Development, Vol.30, No.9, 1607-1620.

169. Thomas, T.T., K. Jesy Thomas and E.K. Thomas. 2003. Socio- Economic Constraints of Watershed Development Programme in Palakad District in Kerala. Agriculture Economic Research Review. Vol 16(1). 50-54.
170. Tideman, E. M.; Watershed Management: Guidelines for Indian Conditions; Omegha Scientific Publishers, New Dhelhi. (1996).
171. Turton cathryn et. al. 1998. Scaling up participatory watershed development in India: A review of the literature. Agriculture research and extension network (AgREN), Network paper No. 86. Overseas Development Institute, UK.
172. Turton Cathryn, Warner Michael and Ben Groom. 1998. Scaling up participatory watershed development in India: A review of the literature. Agriculture Research and Extension Network Paper No. 86, Overseas Development Institute, UK.
173. Turton Cathryn. (2000).Enhancing Livelihoods through Participative Watershed Development in India. Working Paper131, Overseas Development Institute, London.
174. Turton, C and John Farrington. (1998). Partnership and Policies for Change. Institutionalizing Participatory Approaches to Rural Development: Watershed Development in India (Draft). Overseas Development Institute, London.
175. Turton, C., Coulter, J., Shah, A. and Farrington, J. (1998). Participatory Watershed Development in India: Impact of the New Guidelines. New Delhi: DFID and MoRAE.
176. Vishnudas Subha. 2006.Sustainable Watershed Management: Illusion or Reality? A case of Kerala State in India. Master of Housing, Kerala, Inida. Euburon Academic Publishers, The Netherlands.
177. Wani, S.P., Sreedevi, T.K., Singh, H.P. and Pathak, P. (2002). Farmer Participatory Integrated Watershed Management Model: Adarsha Watershed, Kothapally, India—A Success Story. ICRISAT, Patancheru, Andhra Pradesh, India. pp.22.
178. Wani, S.P., Sreedevi, T.K., Singh, H.P. and Pathak, P. et.al. (Aug 2006). Farmer Participatory Integrated Watershed Management: Adarsha Watershed, Kothapally, India—An Innovative and Upsclable Approach. SAT eJournal. An Open Access Journal published by ICRISAT, Vol.2, Issue 1.

179. Warren, Patrizio. 2001. Developing Participatory and Integrated Watershed Management. Daya for FAO, Delhi,154 p.,
180. Weltz, Mark A. and Dale A. Bucks. 2001. The USDA-Agricultural Research Service Watershed Research Program
181. World Bank (2005), “India’s Water Economy: Bracing for a Turbulent Future”, World Bank Report, Washington DC available at http://go.worldbank.org/QPUTPV5530
182. Yoganand Budumuru and Tesfa G. Gebremedhin. Participatory Watershed Management for Sustainable Rural Livelihoods in India. Research Paper 2006-2. Presented at the Southern Agricultural Economics Association Annual Meeting, Orlando, Florida, February 5-8, 2006.
183. Yugandhar, B. N. (1995). Guidelines for Watershed Development. Department of Land Resources, Ministry of Rural Development, Government of India.
184. Yugandhar, B.N.; Policy Imperatives for Watershed Development. In Social and Institutional Issues in Watershed Management in India. Philippines: OIKOS, and International Institute of Rural Reconstruction. (2000).
185. Zoebisch Michael, Khin Mar Cho, San Hein and Runia Mowla (eds.). 2005. Integrated Watershed Management - Studies and Experiences in Asia. Asian Institute of Technology, Thailand.
186. Joy, K.J., et.al. Issue in Restructuring. Economical and Political Weekly. July 8-15, 2006. 2994-2996 p.
187. Sirigiri Srinivasa Reddy, Chennamaneni Ramesh and Konrad Hagedorn. Equity and Poverty Issues in Watershed Development Projects – A Case Study of Impact Assessment on Marginal Farmers and the Landless. Conference on International Agricultural Research for Development. Deutscher, Tropentag. Göttingen, October 8-10, 2003.
188. Rajput, A.M.; Verma, A.R. and Sharma, J.P. (2000). Economic impact of Rajiv Gandhi Watershed Development Programme in tribal district Jhabua of Madhya Pradesh, Agricultural Situation in India, vol.57, No.4, July, pp.181-186.
189. Development Programme in tribal district Jhabua of Madhya Pradesh, Agricultural Situation in India, vol.57, No.4, July, pp.181-186.

190. Rajput, A.M. and Verma, A.R. (1997). Impact of integrated watershed development programme in Indore district of Madhya Pradesh, Indian Journal of Agricultural Economics, vol. 52, No.3, pp.537-538.
191. Rajput, A.M. and A.R.Verma .Impact of Watershed Management Technology and Development Programme in Tikamgarh District of Madhya Pradesh (India). 12th ISCO Conference. Beijing 2002.
192. Chandrudu, Rama (2002), M.V, Watershed Development Program in Andhra Pradesh – And its implications on Livelihoods of Rural Poor. WASSAN, Hydrebad.
193. WASSAN. Dec 2001. Management Systems that Promote Participatory processes in Watershed Program Report of Process Study in Ranga Reddy District (2nd and 3rd Phases). 1-45p.
194. WASSAN. July 2004. Report of Study on Potential of Community Based Organizations to Undertake WSD and NRM Programmes.WASSAN, Secundrabad.
195. Prasad, S.N. et.al. Oct 2005. Final Report on Impact Evaluation Study of NWDPRA Watershed Deoli Kalan, Distt. Kota, Rajasthan. Central Soil and Water Conservation Research Institute, Research Centre, Kota, Rajasthan.
196. Rama Chandrudu, M.V. (2003). Watershed Development Programme in Andhra Pradesh: Reflection for Reforms. WASSAN, Hydrabad.
197. Ravindra (2001), Combating Drought and Land Degradation in India, "Rio,Johannesburg and beyond", Orient Longman.
198. Lakshimikanthamma, S. 1997. Sustaininbility of dryland Agriculture in India: A case Study of Watershed Development Approach. M.D.Publications Pvt.Ltd., New Delhi.
199. Tucker, S.P., et.al. Institutionalization of the Participatory Approach Under the Watershed Programme a Menu of Mechanisms and Instruments. MANAGE: A Journey Through Watersheds. Vol. I No.6 2003.
200. Krchnak M.Karin. Jan 2007.Watershed Valuation as a Tool for Biodiversity Conservation: Lessons Learned from Conservancy Projects. The Nature Conservancy, USAID.

201. Joy, K.J. and Shah Amita, et.al. Reorienting the Watershed Development Programme in India.Occasional Paper. Forum for Watershed Research and Policy Dialogue. Feb 2006.
202. Chandrudu M.V. Rama. Historical Transact of Watershed Policies in India Shifts in Content and Philosophy and Their Implications. WASSAN. Hydrabad.
203. WASSAN. Assessment of Short Probation Period Achievements In New Watershed Programs in Nalgonda. A Study Commissioned by DWMA, Nalgonda. Watershed Support Services and Activities Network, Secunderabad. November, 2003.
204. Fami H. Shabanali. Relationship between Different Characteristics of Rural Women with their Participation in Mixed Farming Activities. J. Agric. Sci. Technol. (2006) Vol. 8: 107-117.
205. Okunade, E.O., Farinde A.J. and E.A. Laogun. Participation of Women Local Leaders in Women-Based Rural Development Projects in Osun State, Nigeria. Journal of Social Science, 10(1): 37-41 (2005).
206. Faham Elham, et.al. Analysis of Factors Influencing Rural People's Participation in National Action Plan for Sustainable Management of Land and Water Resources in Hable-Rud Basin, Iran. American Journal of Agricultural and Biological Sciences 3(2): 457-461, 2008.
207. Shrubsole Dan. Reflections on recent developments in watershed management in Ontario and their implications for natural areas management(1). Paper was presented at 2003 PFRO Conference, London, Ontario. Aug 2004.
208. Mishra Chittaranjan. Community Participation in Watershed Development: A Case Study of Triable Villages of Jharkhand. Kurukshetra. Sep 2007.
209. Arya Swarn Lata, Samra J.S. and S.P.Mittal. Rural Women and Conservation of Natural Resources: Traps and Opportunities. Gender, Technology and Development, Vol. 2, No. 2, 167-185 (1998).
210. ILRI-FAO. 2006. The Future of Livestock in Developing Countries to 2030, 13-15 February, Nairobi, Kenya. Meeting Report.

211. Reddy N.N. and M.J.C.Reddy, et.al. Role of Horticultural Crops in Watershed Development Programmes Under Semi-Arid Sub Tropical Dryland Conditions of Western India. 12th ISCO Conference. Beijing 2002.

212. Seeley Janet, Batra Meenakshi and Madhu Sarin. Women's Participation in Watershed Development in India. Gatekeeper Series No. 92. Internaltion Insitute for Environment and Development.

213. Adhikari Jay Ram. Community Based Natural Resource Management in Nepal with Reference to Community Forestry: A Gender Perspective. A Journal of the Environment, Vol. 6, No. 7, 2001.

214. *Shiferaw Bekele, Kebede Tewodros and Ratna Reddy, V. Community watershed management in semi-arid India: The state of collective action and its effects on natural resources and rural livelihoods. International Food Policy Research Institute (IFPRI). CAPRi working papers, No. 85. Aug 2008.*

215. Wabler Thomas and Seth Tuler. Public Participation in Watershed Management Planning: Views on Process from People in the Field. Human Ecology Review, Vol. 8, No. 2, 2001. 29-35 p.

216. Bagherian Reza, et.al. Community Participation in Watershed Management Programs. Journal of Social Sciences 5(3): 251-256, 2009.

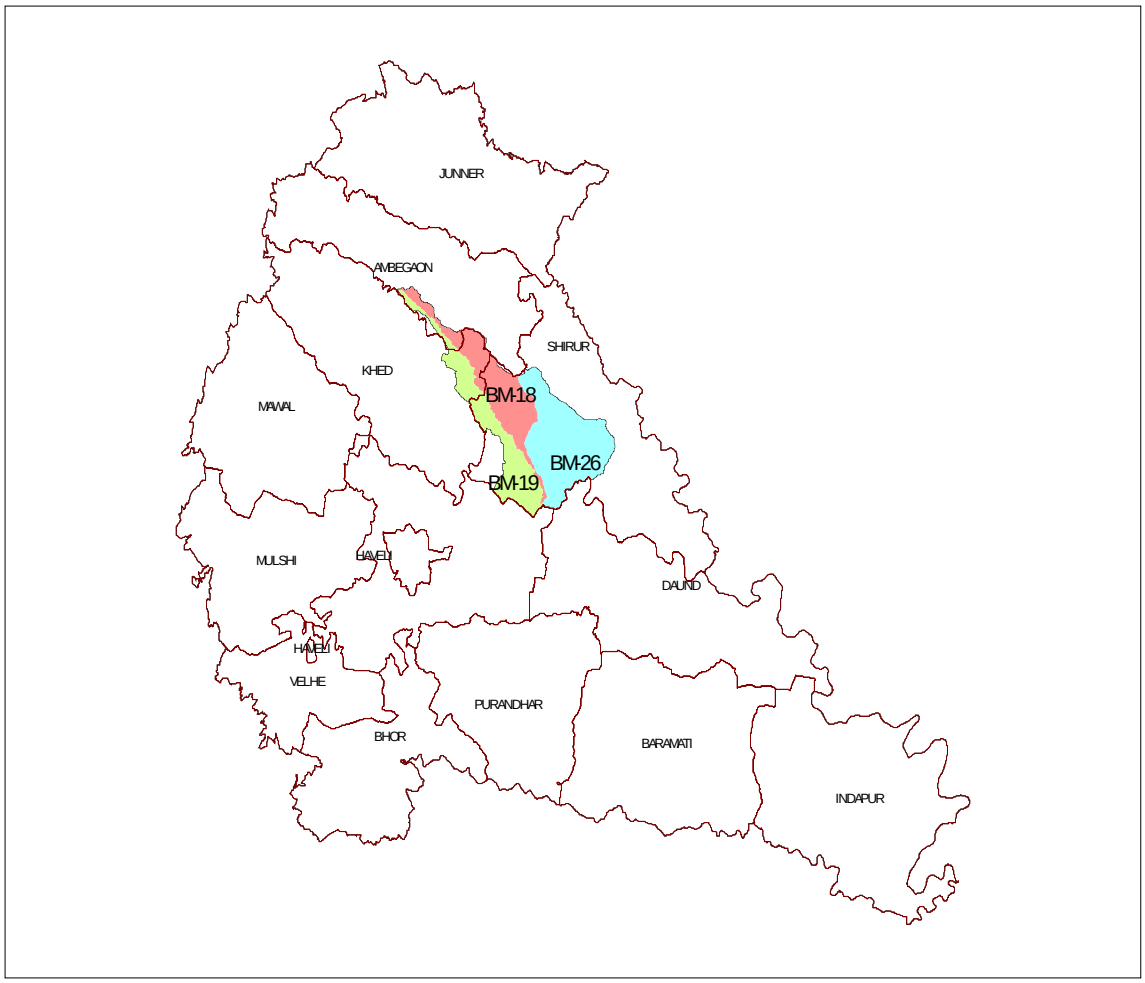
217. Kaushik P.K., Pandey B.K. and Y.C. Thripathi. Participatory Approach to Watershed Management in India. Indian Forester. Dec 2007. 1659-1668p.

218. Angurana, A.K. Gender orientation to watershed development. Jharkhand Journal of Development and Management Studies. XISS, Ranchi, Vol. 1, No.3, June 2003, pp. 393-395.

219. Joy, K.J., S. Paranjape, A.K. Kirankumar, R. Lele and R. Adgale. 2004. 'Watershed Development Review: Issues and Prospects', Centre for Interdiciplinary Studies in Environment and Development (CISED), Bangalore, India .

Appendix- III

Map of Pune District



Map of Study Area