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ESCAPING POVERTY: THE RALEGAN SIDDHI CASE

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Abstract

Poverty remains to be the most important development issue facing India with an estimated 301.72 million Indians (27.5 percent) living below the poverty line in 2004-2005. In 1975, Ralegan Siddhi was just another drought prone, poverty stricken village, but it has had much success in poverty reduction since then. Ralegan Siddhi's success is not just a story of change as a result of access to water. This paper provides evidence of the remarkable economic, social and community regeneration in Ralegan Siddhi, due to a strong, selfless, ethical and accountable leadership as well as its replication in Hivre Bazaar. Ralegan Siddhi and Hivre Bazaar are outstanding examples of holistic development and sustainable poverty reduction, with a large number of rural households successfully moving out of poverty without slipping back below the poverty line. The dramatic transformation in these villages and the improvements in the quality of life of the entire village community need to be understood, analysed and replicated.

Key words: Best practice, poverty reduction, Anna Hazare, watershed, equitable development, inclusive, holistic, replicable, reverse migration, selfless leadership.

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1 Introduction

Despite well-intentioned policies and programmes, an estimated 301.72 million Indians remained in poverty in 2004-2005. Poverty declined from 36 percent in 1993-1994 to 27.5 percent in 2004-2005, but the reduction in poverty was much less than was anticipated. The poverty line is Rs. 356.30 per capita per month for rural areas and Rs. 538.60 per capita per month for urban. In rural areas, 28.3 percent of Indians (220.92 million persons), and in urban areas, 25.7 percent (80.79 million persons) are unable to earn even these low levels of income (Press Information Bureau, 2007). Some of those who are poor are extreme poor and are unable to find even two square meals a day. As such, the dramatic transformation in Ralegan Siddhi and the improvements in the quality of life of the entire village need to be understood, analysed and replicated: as succinctly outlined by Narain and Agarwal (2002: 18), Ralegan Siddhi is no longer a poverty stricken village:

> By Indian standards, Ralegan Siddhi is a rich village now. By the 1990s, not a single resident depended on drought relief programs. Incomes have risen to the point that more than a quarter of the residents now earn more than 500,000 rupees a year, or over $11,000. The village is so prosperous today that a major bank has opened a branch there. Ralegan residents reportedly have private savings of Rs. 30 million, or about $700,000. The progress in Ralegan is even more striking in light of the fact that only a million households in India earn more than one million rupees a year, and such people are considered 'super rich' by the National Council of Applied Economic Research. For a village that was once badly degraded both economically and environmentally, this is indeed a miracle.

Ralegan is not just a story of change as a result of access to water. It represents remarkable economic, social and community regeneration, only realisable under a strong, selfless, ethical and accountable leadership, which enforced a principled value system to bring about behavioural change. Since the rural poor are dependent on natural resources for their livelihoods, natural resource conservation and access to water are central in poverty alleviation strategies. The Ralegan model reinforces the normative principles of human development – equity, efficiency, sustainability and people's participation – all of which were realised. The human development strategy seeks to fulfil people's potential by enlarging their capabilities, and this necessarily implies their empowerment to participate actively in their own development.

What is a best practice for poverty reduction? Oyen (2002: 21) classifies interventions that reduce poverty, reduce its sizeably, prevent loss of gains and prevent the slipping back into poverty as candidates for best practice. Ralegan Siddhi qualifies as a best practice case of

poverty reduction since it has not only reduced poverty, but has led to sizeable poverty reduction with the prevention of slippage or loss of gains. Such cases provide important lessons and have tremendous potential for context-based replication and scaling-up. Other criteria[1] used in the literature of best practices include initiatives which have demonstrated tangible impacts; are socially, culturally, economically and environmentally sustainable; based on collaborative partnerships; allow full community participation and decision making; and are replicable.

Careful documentation of best practice cases can provide guidelines for policymaking and planning of new projects as well as their effective implementation (SAARC, 2003: 36-38). However, caution must be exercised while analysing issues of replicability of a 'best practice' case. The concept of best practice is a fairly recent inclusion in the development discourse and the literature does not provide an adequate explanation of when and how a best practice can be replicated and transferred to another place or region.

An oft-cited 'successful' best practice replication is the case of Grameen Bank in Bangladesh, established by Nobel Laureate Professor Mohammad Yunus. The model has been emulated across the world as an effective tool for fighting poverty and has disproved the traditional notion that the poor are not 'creditworthy'. However, its success in terms of replication has been mixed. The reason most cited for this is that 'certain socio-cultural instructions' or norms that were part of the original Grameen scheme (such as the fact that the loan could not be used for bridal dowry) were not transferred or replaced by other dogmas relevant to the local context (Oyen: 8-9). Thus the 'more limited and well-defined an intervention is and the less culture-bound it is, the more manageable a transfer is likely to be' (ibid: 11).

It must be recognised that poverty is a complex phenomenon, a result of interaction among many socio-cultural, economic and environmental variables. It is often these socio-cultural dynamics that play a defining role in the success of a development programme. Often, this aspect is not analysed sufficiently. This results in transfer of a 'physical idea' but not an understanding of the socio-cultural dynamics at work. Thus, it is important to ensure that there is analysis of the original cultural context (social norms) that underpins a successful intervention and identification of norms prevailing in the new context where the replication is to occur. The critical catalytic factor in the success of Ralegan is Anna Hazare's commitment, sacrifice and selfless leadership, which influenced and inspired people to work towards change.[2] This must be taken into account when attempting replication. Anna used

[1] The following paragraphs on best practice and replicability draw heavily on Oyen *et al.* (2002).

[2] An example of this is the 1979 protest, led by Anna Hazare, when 20,000 people from Ralegan and surrounding villages sat on the main highway and blocked the traffic, demanding that their villages receive electricity. All traffic movement was stopped. Four people died and school children participating in the struggle were hurt. The result of this was sanctioning of Rs. 350 crore (38 crore specifically for Ahmadnagar) by the government to set up a substation.

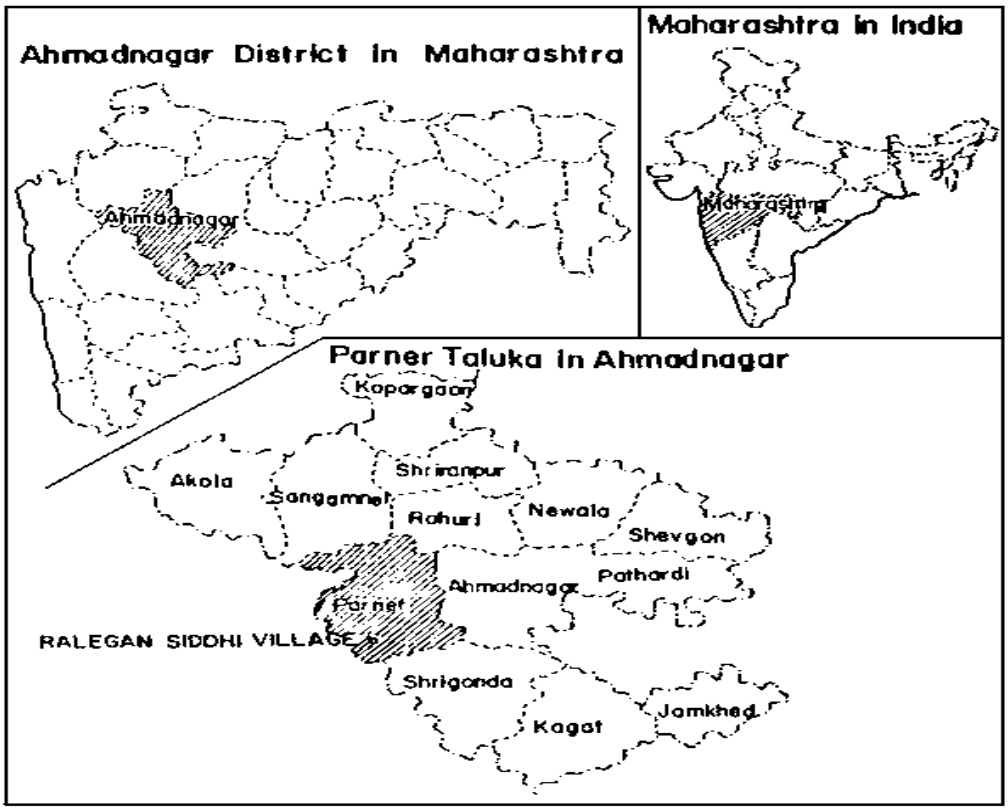
participatory methods to empower the community, ensured equity and transparency, improved the lives of almost all the households in this village and beyond and used the system to work to the advantage of the poor. This paper tries to document some of the learning, not just as a successful case of water conservation and watershed management, but also in applying fundamental principles of human development – equity, sustainability, efficiency and participation.

After a brief introduction, Section 2 provides a background of Ralegan Siddhi, its location, demographics, occupational structure and poverty. Section 3 traces the history of Ralegan Siddhi – a village plagued by drought, acute and persistent poverty, indebtedness, a fragile ecosystem, neglect and hopelessness. Section 4 outlines the dramatic socioeconomic transformation brought about by Anna Hazare, based on water harvesting and sustainable use of water and soil; watershed management; participatory and equitable decision making; putting the poorest first; eradication of hunger; fairness; transparency; gender balance; and the struggle against corruption. Section 5 presents the different sources of funding – various government schemes (central and state), bank loans, voluntary labour and expenditure by villagers and personal donations. The question most often raised in the context of best practice cases is that of replicability, and Section 6 outlines the successful adoption and adaptation of the model in Hivre Bazaar. Finally, Section 7 raises issues and concerns that need to be addressed.

2 Ralegan Siddhi village: a brief background

Ralegan Siddhi is a village located in the acute drought-prone and rain-shadow zone of Parner Tehsil of Ahmadnagar district, in central Maharashtra (see Figure 1). It is at a distance of 87km from Pune and 5km from the Pune-Aurangabad state highway. The village has an area of 982.31 ha (Ahmadnagar District, 1991) and is characterised by erratic and scanty rainfall, ranging between 450 and 650mm (Government of Maharashtra, nd). Temperatures range between 12 and 44°c (ibid). Most of the rain is received between the months of July and September, with September receiving the maximum rainfall. The village gets rain on approximately 35 days of the year (CSE, nda).

Figure 1: Location of Ralegan Siddhi in Maharashtra, India



Source: Food and Agriculture Organization. Available at: www.fao.org/docrep/X5669E/x5669e00.gif

Of the total village area of over 980 ha, over 300 ha is not available for cultivation (about 194 ha is under forest cover). The village is surrounded by small hills, 30-35m in height on the northeast and southern sides (CSE, 1991). The undulating landscape, together with poor soil quality and depth, prevents water from percolating during the rains. The soil depth of 70 percent of the land is shallow; the maximum depth is only 45cm. Before 1975, most of the rainwater was wasted owing to water runoff, which also led to loss of valuable topsoil. In 1971, only 55 acres (or 22.26 ha) of land was irrigated (Ahmadnagar District, 1971).

Table 1: Ralegan Siddhi: Demographics 1971-1991

	1971	1991	2001
No. of Households	178	310	394
Total population (including institutional and houseless)	**1209**	**1982**	**2306**
Male	596	1042	1265
Female	613	940	1041
Scheduled castes	**83**	**233**	**171**
Scheduled tribes	**---**	**49**	**32**
Literate and educated			
Male	75	645	
Female	293	364	

Source: Ahmadnagar District (1971; 1991). 2001 data provided by the gram sevak (village-level worker), Ralegan Siddhi.

Between 1971 and 2001, the number of households in Ralegan increased from 178 to 394, or by 121 percent. The total population increased from 1209 in 1971 to 1982 in 1991 and was 2306 in 2001 (Table 1). The female–male sex ratio declined from 1.029 in 1971 to 0.82 three decades later. This decrease has been attributed to 'reverse migration' of males who had gone to Mumbai, Pune and Ahmadnagar for work.[3] The number of scheduled castes and tribes declined in 2001. The explanation given was the tripling of their population between 1971 and 1991 had meant their landholdings decreasing significantly, which led to increased migration to Mumbai.[4] The number of literate and educated males increased by a factor of 7.6 over the two decades and the proportion of literate and educated males increased from 13-62 percent. However, only 39 percent of females were literate and educated in 1991. The Maratha Rajputs (Khatri caste) are the dominant community. Scheduled castes and tribes constitute roughly 8.8 percent of the total population. The backward castes include Mhar, Chamar, Bharhadi, Pardi, Sutar, Barber, Fisherman and Matang. Of the 394 households in Ralegan in 2001, 18.3 percent were below the poverty line (BPL) and 4.3 percent were very poor (Table 2).

[3] See http://www.rainwaterharvesting.org/Rural/Ralegan.htm.

[4] Interview with Mr Dinesh Patil, Principal, National Watershed Training Centre, Ralegan Siddhi.

Table 2: Households above (APL) and below (BPL) the poverty line (2002-2007)

Total households	394
APL households	322
BPL households	72
(Of which) very poor households	17

Source: Data provided by the gram sevak, Ralegan Siddhi (2002-2007)/

Agriculture is the main source of livelihoods (Table 3). Non-agricultural employment opportunities are limited. Those employed in the service sector work as cobblers, drivers, teachers, blacksmiths, grocers, health workers and shopkeepers. To ensure that children are able to compete and get jobs, the school places a lot of stress on exercise, play, extra classes for children who lag in studies and familiarisation with the use of the computer. Thus, the children of Ralegan are physically strong and this has helped many of them to get into the armed forces. Several households have at least one family member in the army.[5]

Table 3: Ralegan Siddhi: Occupational classification of the workforce, 19991

	Male	Female	Total
Total main workers	382	325	707
Cultivators	248	254	502
Agricultural labourers	48	61	109
Livestock, fishing, hunting, forestry & plantations, orchards & related activities	4	-	4
Manufacturing, processing, servicing & repairs in household industries	12	02	14
Manufacturing, processing, servicing & repairs (other)	9	-	9
Construction	5	-	5
Trade & commerce	10	04	14
Transport, storage & communications	10	-	10
Other services	36	04	40
Marginal workers	04	107	111
Non workers	656	508	1164

Source: Ahmadnagar District (1991)

3 Ralegan Siddhi: pre-1975

Before 1975, Ralegan Siddhi was one of the many villages of India plagued by acute poverty, deprivation, a fragile ecosystem, neglect and hopelessness. Population pressure, indiscriminate use of natural resources, lack of efforts at regeneration, recurrent cycles of drought, water runoff and soil depletion resulted in low productivity and low income. The only option for dealing with the severe water shortage was to dig wells. However, even at depths

[5] Interview with Mr Shinde, Training Coordinator, Training Centre Ralegan Siddhi.

of 400m, no water was found.[6] At greater depths, well water could irrigate not more than 60-70 acres (Anna Hazare, 1997). The majority of the villagers were farmers, with 70 percent of households living below the poverty line (Selvarajan *et al.*, 2001). Around 80 percent of households owned two to five acres of land; only 5-10 percent owned around 30 acres. The yield per acre was three to five quintals (CSE, ndb). The village was able to meet only 30 percent of its food requirements (CSE, 1991).

Since rain was erratic and no conservation work was undertaken, not even a single crop was assured in a year. Low production of 'green fodder' made it difficult to breed livestock. Around 15-20 percent of the population was underfed and could barely manage a meal a day. This was exacerbated by the fact that more than 50 percent of households had an average family size of eight or nine members.[7] Around 60% of the households borrowed grains or money with the promise that they would return this with additional quantity of grain. Owing to persistent poverty, they defaulted on paying back loans in cash or kind and were caught in a vicious circle of indebtedness. This led to moneylenders exploiting the situation to the extent that three or four moneylenders acquired almost all the land of the village (Anna Hazare, 1997).

In order to fulfil their basic needs and to repay the loans, the villagers, who had tended to their lands to earn a living, now resorted to breaking quarry stones outside the village (Anna Hazare, 1997)., took part in drought relief work under the employment guarantee scheme (EGS) or migrated to Pune, Mumbai and Ahmadnagar for work as casual or daily wage labourers (Pangare and Pangare, 1992). It is important to note that the majority of those who migrated belonged to the poorest households. By 1975, at least one member from each *dalit* (scheduled caste) household had migrated for work (ibid). However, income earned was not adequate, as the EGS did not provide work all year round and jobs outside the village provided very low pay.

One person from the village resorted to illicit liquor vending, as this seemed most feasible and profitable at the time. His success and visible improvements in his standard of living attracted many others to this business. Most other households were living in a state of absolute poverty. Persistent drought and alcoholism (owing to investment in the alcohol business) drove large numbers of people into heavy debt and penury. Over time, 40 liquor dens were established (Anna Hazare, 1997). This ensured a rise in income levels for the alcohol-producing households but led to the breakdown of the socio-cultural ethos of the village. Vandalism, street fights and thefts became commonplace. Women were the worst sufferers, as domestic violence became the norm. Cases of theft of land, harvested crops,

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[6] Based on discussions with Shri Raut Thakaram Lakshman, a close associate of Anna Hazare for 22 years. He started working as the headmaster of the secondary school in Ralegan in 1980. Since retiring in 2002, he has continued to live in Ralegan and work with Anna Hazare.

[7] Discussions with Shri Raut Thakaram Lakshman.

hooliganism and eve teasing were reported regularly. Almost one such case was filed at the police station every week.

Further, caste discrimination, particularly untouchability, was practised. The 16 *dalit* households of Ralegan were living in isolation and were routinely ostracised in daily life. They were not allowed to draw water from the common well and only a higher caste person could pour water into their vessel. They were made to sit separately at all community events and were the last to be served food. They lived on the outskirts of the village.

Education was a neglected area in the village. Before 1975, there was only one *zilla parishad* (district council) primary school, up to Standard 4. Only 10 percent of the population attended school regularly (Pangare and Pangare, 1992). There were no other educational avenues, and poverty prevented people from accessing educational avenues outside the village. Thus, most villagers were restricted to agriculture as an occupation. If a person fell ill and needed money for hospital expenses or for a daughter's wedding, no loans were available from any bank. It was possible to obtain a loan to dig a well, but if the farmer took such a loan used it to meet wedding expenses, he defaulted on the loan and lost the land. Since each household had many children, a few years later there would be a second daughter's marriage. Slowly, a cultivator would mortgage house, land and animals, become indebted and lose everything. This was the story of many marginal farmers in Ralegan.[8]

Owing to water shortage, the same water was used for various purposes and issues of cleanliness became prevalent. Diseases related to unsanitary conditions and unclean water were common. The infant mortality rate was very high and so were occurrences of gastrointestinal diseases, guinea worm and malaria (FRCH and CMDR, 2002). Alcoholism, tobacco chewing and smoking were additional causes of concern. The village economy was sustained on rainfed agriculture without any substantial alternative sources of livelihood or resources, with severe poverty as the outcome.

The *gram panchayat* (village council) leadership was marred by corruption and most available government schemes for the poor were used for personal benefits. Raut Lakshman states that, before the reforms ushered in by Anna Hazare, 'the main motivation in contesting the *gram panchayat* elections was to capture power for vested interests. While the *gram panchayat* elections were meant to usher in a democratic form of governance, power was ultimately wrested on the basis of muscle and money power.'

In 1972, Ralegan suffered the worst drought in the history of village. The Dorabji Tata Trust began its work in six villages of the Parner *taluka* (block), including Ralegan Siddhi. The relief committee created by the Tata Trust worked towards providing drinking water, cattle feed, food grain, medical relief, deeper wells and check dams under the Food for Work

[8] Discussions with Shri Raut Thakaram Lakshman.

programme. Some support also came from the Catholic Relief Society (CRS). However, these interventions were essentially short-term drought relief. Long-term interventions to systematically reduce poverty and manage natural resources were missing.

In 1975, in an effort to provide short-term employment and promote water conservation, the government funded the construction of a 'percolation tank' with a storage capacity of 114.2 *lakh*[9] cubic feet at a cost of 4.8 *lakh*, in the eastern watershed area of the village (FRCH and CMDR, 2002). However, owing to technical faults and lack of accountability, the tank was built on a pervious base, through which all of the collected rainwater seeped away through the bunds. The construction of the tank provided one *lakh* man-days of work over a period of a year and a half, and failed to meet its stated objective of water harvesting.

4 Ralegan Siddhi after Anna Hazare's return in 1975

Shri Baburao Hazare, fondly called 'Anna' (meaning 'elder brother' in Marathi) Hazare' was born in Bhingar, 2km from Ahmadnagar. His father worked in a pharmacy but the income he earned was inadequate for meeting the needs of his large family. He was the eldest son and had four brothers and two sisters. Since the family owned a little agricultural land in Ralegan Siddhi, they moved there when he was nine years old. The village had no primary school, so Anna's maternal uncle took him to Mumbai for further studies. He studied till Standard 7, but was unable to carry on as his uncle's financial position was not good. Consequently, he started working in a flower shop and subsequently started his own flower business in Mumbai, as he felt miserable about his family living in poverty and his siblings not being in school (Anna Hazare, 1997).

In 1962, events in Southeast Asia meant that large-scale army recruitments were being undertaken. Despite not meeting the physical requirements, 18-year-old Anna was selected, as emergency recruitment was taking place. While in the army, he contemplated suicide owing to the tough life and the constant state of deprivation of his family and village. He even wrote a suicide note, but decided against this, as his sister's wedding had to be fixed. A vehicle in which he was travelling was hit by a bomb but he survived. This led him to dwell on the purpose and meaning of life and death. He came across a small booklet titled "Call to the youth for nation building" by Swami Vivekananda in a book-stall at the New Delhi station[10]. He realised that saints sacrificed their own happiness for that of others, and that he needed to work towards ameliorating the suffering of the poor. He left the army as soon as he began receiving his pension in 1975 and took a vow to devote his life to working for the poorest in

[9] One lakh is 1,00,000

[10] See http://www.worldproutassembly.org/archives/2006/06/anna_hazare_the.html

the villages, at the *samadhi* of a well-known saint of Maharashtra, Sant Gyaneshwar. His work on water conservation and tree plantation is based on Sant Gyaneshwar's philosophy.

In 1975, Anna returned to Ralegan Siddhi and found the village steeped in poverty, deprivation and widespread alcoholism. There was no school building and children studied under a tree. The school did not teach beyond Standard 4. The village *sarpanch*[11] asked parents to contribute money towards constructing a school building, but the parents were unwilling to give donations, as they felt that this was the government's responsibility. Anna had savings of Rs. 22,000 from his provident fund and gratuity. He realised that, although nobody was willing to contribute towards building a school, they would be willing to contribute to rebuilding the temple. Therefore, the first task he undertook was to use his own pension and gratuity money to rebuild the Yadavbaba Temple, which was in a decrepit state. Alcoholism had led the owners to steal the wooden parts from the temple to run the liquor dens in the village.

Seeing this selfless act, the villagers, especially the elderly, felt inspired to support him and donated small amounts of money. However, since most were very poor, they provided free labour to construct the temple instead of money. Thus, was born the concept of *shramdaan*, or donating labour. Affection and respect for Anna increased.

Around 25 youths expressed a keen interest in assisting with the renovation of the temple and agreed with Anna Hazare's vision to reform the village. The *tarun mandal*, a youth society, was formed under Anna's guidance. The involvement of youth was critical, as they were the future torchbearers of progress in Ralegan.

Many villagers started coming to the temple to meet Anna Hazare to discuss village conflicts. From these informal temple discussions evolved the *gram sabha* (village assembly), where petty conflicts such as those over disputed trees on farm boundaries were resolved. He mooted the idea of cutting these trees and using them for the temple construction work. The farmers agreed and around 125 small trees and 150 big trees were donated to the temple.

Anna Hazare recognised that, without addressing the menace of alcoholism, no effective and sustainable reform was possible in the village. He also understood that the liquor vending started as a result of the lack of alternative sources of income during times of extreme poverty. Along with the newly formed *tarun mandal*, he started educating villagers about ill effects. He convinced most of them to stop their liquor business and alcohol addiction with the promise of finding other sources of livelihood. This agreement was made within the temple precincts and therefore had religious sanctity attached to it. Within the next three months, 30 liquor units were closed, with the *tarun mandal* playing a critical role. The majority

[11] Elected head of the *gram panchayat*.

welcomed this; some resisted, but they relented as the majority supported the move and liquor vending was made illegal.

Anna's approach was to bring about behavioural change in a participatory way. The Ralegan model owes its success to the strong 'value system' that Anna was able to establish based on principles of sharing, compassion and equity. This value system is epitomised through the four *bandis* (bans) with which the villagers agreed to comply, namely – *nashabandi* (ban on addiction), *nasbandi* (sterilisation), *kurhadbandi* (ban on felling trees) and *charaibandi* (ban on grazing) and, additionally, *shramdaan*.

4.1 Water and community participation: key to prosperity

In order to find employment avenues for the villagers, Anna sought information regarding various central and state rural development programmes for the poor. Around 200 villagers were able to secure employment in various public works projects of the state government. Anna realised that these programmes provided short-term seasonal employment and were not lasting solutions. Providing food security was critical and required life-changing sustainable interventions. Many were encouraged to join the army.

Paucity of water and recurrent droughts were the key problem so water conservation measures, in his understanding, held the key to turning the situation around. The challenge was to employ simple ways of harvesting water for use in irrigation. He followed Vilasrao Salunke's *Pani Panchayat* model (Rai, 2001) of *pani adawa, pani jirawa*, i.e. trapping the rainwater wherever it falls.

Anna's first objective was to harvest water, so that farmers could get higher yields and cultivate two crops in a year, in a scenario where farmers could barely manage one crop. This could be attained only through water management. The first step towards this was constructing *nalla* bunds, which would check the soil runoff and aid in water percolation. To cut costs of implementation, Anna Hazare asked the villagers to provide voluntary labour for the construction. Six *nalla* (open drain) bunds were constructed at the first stage.

Around this time, in 1982-1983, the state government selected Ralegan Siddhi as a *krishi pandhari* under the Comprehensive Wasteland Development Programme (COWDEP), which aimed at conserving soil by arresting the runoff and biomass regeneration. The village is divided into four watersheds. The elevation from the highest to the lowest point of the watershed is around 75m, and the percentage slope of the watershed varies from 3-25 percent. Soil conservation measures like more *nalla* bunding, contour bunding and land shaping were undertaken. Under the COWDEP project, 31 *nalla* bunds were constructed, covering an area of 605 ha and a storage capacity of 282,182m^3. However, since most schemes by the government faced implementation issues owing to corruption and lack of monitoring or accountability, Anna Hazare mobilised villagers to monitor the projects under

the *shramdaan* initiative. Villagers ensured that all technical specifications were adhered to while constructing the tanks and bunds.

The other task was renovating the 'percolation tank' built by the government in 1975. As mentioned earlier, owing to a technical fault and lack of monitoring the water used to drain away through the foundation within two months of filling up. Anna approached the *zilla parishad* officials and convinced them to renovate the tank for an estimated amount of Rs. 3.91 *lakh* in 1984. The labour costs were borne by the villagers through *shramdaan*. This not only reduced implementation costs, but also improved local monitoring and developed a sense of participation and ownership. The villagers were not passive beneficiaries of donations and government grants but active participants in its use. Every individual, except the very poor and the very old, contributed one day of *shramdaan* every 15 days. When a new project was undertaken, the number of days of *shramdaan* was decided according to the amount of labour required for the project. Further, trees were planted around the tank to enhance the percolation process.

The percolation tank would raise the water table; hence, constructing wells along the flow was the next logical step for utilising the water. However, 80 percent of the farmers could not dig their own wells owing to financial constraints. Anna thus started the concept of 'cooperative societies'. He mobilised 16 poor farmers holding contiguous plots and got them to dig a community well that would irrigate 35 acres of land. Of the cost, 50 percent was met through *shramdaan* and Anna Hazare borrowed the remaining 50 percent. Construction of the well led to regular water supply for irrigation. Over the next two years, seven community wells were constructed on a cooperative basis. Irrigation came to 700-800 acres of land. Thanks to the percolation tank, the wells on the downstream side were recharged and water was available even during the summer season. Prior to this, only one crop had been possible as land was essentially rainfed. After the well was dug, two crops were possible. There was a fivefold increase in yield. The largest well constructed so far is 70 feet deep, and irrigates 125 acres belonging to 26 farmers.[12]

Gully plugs and contour trenches were constructed along the hillsides in all the four watersheds. Grass, trees and shrubs were planted on the hillsides. This further recharged the aquifers and made more water available for irrigation. Wasteland decreased from 241 to 122 hectares (FRCH and CMDR, 2002).

4.1.1 ***Kukadi Canal lift irrigation system: Success where others failed***

In order to bring in an additional supply of water for irrigation, it was decided to lift water from the Kukadi Canal. The 200km canal flows 3km from Ralegan Siddhi and is built on a tributary of the Krishna River. More than 100 lift irrigation systems had been set up on this canal

[12] Interview with Shri Raut Thakaram Lakshman.

before. All of them had failed, with one exception – the cooperative society in Ralegan Siddhi, called the Krishna Pani Purvatha Society. This was formed at an estimated cost of Rs. 30 *lakh*. Loans were taken in two instalments, Rs. 21 *lakh* in 1986 and Rs. 9 *lakh* in 1992. Initially, 103 persons from the village participated in the scheme, which had a combined total area of 525 acres. A loan of Rs. 1,825,000 was taken from the Bank of Maharashtra in 1993-1994 by collectively mortgaging the land of members. Labour, as with all development projects, was provided through *shramdaan* worth 3 *lakh* (FRCH and CMDR, 2002). The second instalment was taken in order to benefit an increased command area. A new pipeline was added and pump sets increased. The cost of electricity of Rs. 800,000 and water charges of Rs. 80,000 are divided among the members of the society. Around 400 ha or 1000 acres of land in four villages would be irrigated. Today, the scheme covers only 700 acres of land: membership of 30 of the 170 households has been terminated and proceedings have been initiated against them as they defaulted on payments. Owing to gravity-related problems, water does not reach some of the land for which it was planned. Therefore, households owning 100 acres of land withdrew. However, some of these joint families have now split since the children no longer live with their parents Additionally, 12 new members have joined. The society now has 260 members. By 2001, the Rs. 30 *lakh* borrowed had been returned with interest at 16 percent. Kukadi Canal supplies about 40 percent of the village's water needs (Omvedt, 2000).

In the absence of lift irrigation, one acre of land yields an income of Rs. 10,000 based on rainfed millet and sorghum; if there is a drought even this is not possible. Drought occurs every three to four years, sometimes consecutively. With assured water supply, the income from one crop is Rs. 35,000 to 40,000 per acre (an increase of Rs. 25,000 per acre) based on cultivation of the same millet and sorghum, with additional onions, vegetables, bananas and horticulture (and perhaps sugarcane) as well as a second crop of groundnuts, wheat and gram. As such, access to water can raise incomes by three to four times.

Even though this is a drought-prone area, canal irrigation (through the lifting of water) provides two guaranteed crops instead of one. However, the problem is that, even though water is available in the canal, it cannot be lifted because of load shedding. Additional issues that require attention are the need for storage space to take advantage of fluctuations in prices (e.g. of onions) and cooperative marketing.

Why did the Ralegan lift irrigation system succeed where others had failed? Some of the reasons identified were: leadership, the administrative system and transparency in the application of rules. The society has 260 members; 11 are chosen as directors and make up the committee, whose members change every three years. The committee meets once a month and all members meet three to four times a year, even though the cooperative requires only one meeting a year. Water and electricity charges are based on the cropping pattern – least for millet and sorghum, then for onions and most for sugarcane, as per government rules. Each farmer has to state demand for water in advance; otherwise, a

penalty applies – double the rate. The purpose of this is to impose discipline. In case of deviation from these rules, or if there is wastage of water, a fine has to be paid. Each farmer has to plant five mango trees; if this is not done, ten trees have to be planted, which must be nurtured and survive. So far, discipline has been maintained. All payments have to be made directly to the bank and no cash payments are accepted. All accounts are placed in the Annual General Body Meeting.

4.1.2 ***Other conservation work***

Another area that needed attention was providing for the fuel and 'green' fodder requirements of the village. Before the reforms, indiscriminate grazing by villagers had left the grasslands bare. Contrary to the popular belief of the villagers, young and stunted grass was not enough to satiate the hunger of cattle. Further, the hooves of the cattle trampled the young grass and loosened the soil. This had to be prevented. Under the guidance of Anna Hazare, the villagers undertook a tree plantation drive. Almost 4 *lakh* saplings were planted and nurtured (mostly by young school children). The Forest Department provided free saplings and money for labour under the Social Forestry Programme (Narain and Agarwal, 2002).[13] *Kurhadbandi*, or a ban on felling trees, was introduced. Further, 'social fencing', or *charaibandi*, was undertaken by the villagers to prevent cattle from grazing indiscriminately. Instead, the practice of stall feeding with cultivated fodder was adopted. Ralegan Siddhi now has 500 acres of grassland. As green fodder increased, the number and productivity of milch animals increased. Milk yields went from 2 litres a day to 8 litres a day (CSE, ndb). This also resulted in a modest rise in income levels.

Thus, the major watershed conservation works undertaken were – *nalla* bunding, contour bunding, gully plugging, percolation tanks, afforestation, erecting check dams, land levelling and underground K.T *Bandhara* cum Gabian structures (CSE, ndb). Additionally, horticulture development, improved agricultural practices and drip irrigation were undertaken (Government of Maharashtra, nd). Although the technique is expensive, a collective of farmers took bank loans to implement it (CSE, 1991). Papaya, lemons and chillies were produced on 80 acres, entirely irrigated through the drip system. The contribution to the Watershed Development Programme (WDP) has been the following: 48.43 percent by people of Ralegan Siddhi, 44.83 percent by the Jalsandharan Department, Government of Maharashtra, and the remaining 6.74 percent by the Rural Development Department (ibid). In order to sustain the benefits, the *gram sabha* has imposed restrictions on production of water-intensive crops such as sugarcane (banned during the earlier years) and bananas. These can be cultivated only on small tracts of land by drip and sprinkler irrigation.

[13] It is noteworthy that the survival rate of the village plantations is as high as 90 percent, compared with 50-60 percent on government-managed ones.

4.1.3 Increase in incomes and productivity

The WDP led to an increase in the per capita income of the village from just Rs. 271 in 1975 to Rs. 2257 in 1985. The net income from agricultural production increased from Rs. 345,910 in 1975-1976 to Rs. 3,172,678 in 1985-1986 (see Table 4). Reportedly, by 2000, more than 40 percent of households had an annual income of over Rs. 48,000 and one-fourth enjoyed an annual income above Rs. 4 *lakh* per annum (Mahapatra, 2000).[14] Further, cropping intensity reached 180-190 times by 2000.[15] Groundwater was recharged from 20m (during the rains) before 1975 to 6.5m depth, available throughout the year (Selvarajan *et al*., 2001). Total agricultural production went up from 294.3 tonnes in 1975-1976 to 1386.2 tonnes in 1985-1986, a 4.7 fold increase in quantity and a nine-fold increase in value (ibid). The Department of Agriculture notes that the average yield per hectare of the cropped area in the village increased almost 19 times, with a corresponding increase in the per capita earnings of the village by nearly 15 times.[16]

Table 4: Annual income and per capita income (1975-1976 and 1985-1986)

Details	1975-1976 income (Rs.)	%	1985-1986 income (Rs.)	%
Net income generated from agricultural production	3,45,910	85	31,72,678	74
Profit generated from other business	12,000	3	36,000	1
Income generated out of salaried job	48,000 (20 persons on an average Rs.200/ month)	12	10,80,000 (90 persons on an average Rs.1000/month)	25
Total	**4,05,910**	**100**	**42,88,687**	**100**
Per capita income	271	-	-	-

Source: FRCH and CMDR (2002).

Our field visit to the village was conducted in May 2007, the hottest time of the year. Lush green trees lined the road leading to the centre of the village and the green fields were in direct contrast with the rather barren landscape outside the village. Mango, guava and tamarind trees surrounded the Training Centre. The wells had plenty of water. Potable drinking water was available throughout the day. Table 5 shows the impact of the WDP on agricultural production.

[14] This was additionally reported by the National Institute of Agricultural Extension Management, Ministry of Agriculture, at http://www.manage.gov.in/pune/development_process.htm.

[15] Ibid.

[16] See http://agri.mah.nic.in/agri/extension/html/..%5CPDF%5CVol1%5CWSoilCons.pdf.

Table 5: Impact of integrated WDP, key indicators

Item	Before WDP	Current status	Increase
Agriculture			
Cropped area (double cropping) (ha)	630.00	956.00	51.75%
Cropping intensity (%)	98	164	-
Oilseed area (ha)	20	134	6 times
Pulses area (ha)	27	96	35 times
Intercropping area (ha)	-	65	> 100%
Use of improved seed (ha)	50	860	17 times
Seed treatment (ha)	40	410	10 times
Area of insect and pest control (ha)	45	300.58	6.68 times
Use of chemical fertiliser (tonne)	8	83	10 times
Irrigation – area (ha)			
Well irrigation	56.43	447.34	8 times
Canal irrigation	-	17.40	17 times
Total irrigation	56.43	464.74	8 times
No. of wells	**34**	**103**	**3 times**
No. of community wells	**-**	**5**	**> 100%**
Biogas (no.)	**-**	**39**	**> 100%**
Two bowl seed drill (no.)	**-**	**48**	**> 100%**
Sprayers (no.)	**-**	**10**	**> 100%**
Threshers (no.)	**-**	**5**	**> 100%**
Electric pump (no.)	**15**	**103**	**7 times**
Oil engine	**19**	**4**	**-**
Shetkari Magazine subscriber (no.)	**10**	**247**	**25 times**
Average yield of village (as per cropped area) (*lakh*)	**6.72**	**128.15**	**19 times**
Per capita yield (Rs.) (as per cropped area)	**445.62**	**6465.70**	**14.50 times**

Source: Government of Maharashtra (nd).

Watershed reforms have further changed the land use and cropping pattern of the village. The village now has two percolation tanks, around 50 *nalla* bunds, 50 bore wells and seven cooperative wells, check dams and private wells to irrigate the agricultural land (FRCH and CMDR, 2002). In terms of land use, *kharif* (summer crop) land (irrigated) has increased threefold, from 188 ha in 1970-1980 to 470 ha in 1991-1992 (ibid). Irrigated cultivated land went from 543.32 ha in 1975-1976 to 651.12 ha in 1991. Similarly, uncultivable lands were reduced from 241.39 ha (1975-1976) to 1221.71 (1991); reserved forests went up from 100.30 ha (1975-1976) to 136.00 ha (1991).

With regard to cropping patterns, there have been significant changes owing to increased water availability. The *kharif* season has seen a shift from millet and sorghum to more water-intensive crops like onions, vegetables and green fodder. A similar shift is found for the *rabi* (winter crop) season, with farmers opting for wheat, pulses, vegetables and green fodder. Crop yield rates have increased dramatically, from Rs. 500-800 per hectare prior to the WDP (1975-1976) to over Rs. 2500 per hectare post-WDP (1985-1986) (FRCH and CMDR, 2002).

Before the reform, there was a severe shortage of drinking water, especially in the summer months. Only two wells served the entire village population throughout the year, which led to several conflicts. However, after watershed development, water levels rose in the water table and bore wells were dug for drinking and domestic purposes. Community hand pumps and taps have been installed, although there has been no indiscriminate construction, as this can deplete groundwater. The most important impact has been on women, who used to walk 2-3 km to fetch water. Now water is available every 100 meters.[17] By 1986, eight bore wells had been constructed, supplying piped water to clusters of houses by rotation. This had a positive effect on the health status of people, as clean drinking water was being provided.

Table 6 shows the number and percentage of households that benefited from the various irrigation schemes undertaken under the watershed programme and canal irrigation.

Table 6: Distribution of beneficiaries of watershed development schemes by 2001

Sources of irrigation	No. of households	% of households
Well irrigation	91	47.64
Canal	18	9.42
Well + canal	26	13.61
Watershed	21	10.99
Watershed + well Irrigation	12	6.28
Watershed + canal + well irrigation	4	2.09
Well Irrigation + bore well	8	4.18
Well Irrigation + bore well + watershed	4	2.09
Canal + well irrigation+ bore well	4	2.09
Canal + bore well	2	1.04
Watershed + bore well	1	0.52
Total beneficiaries	**191 (out of 375 households)**	

Source: FRCH and CMDR (2002).

[17] Estimates based on NABARD (1995), Vaswani (1995) and *gram panchayat* records, calculated by FRCH and CMDR (2002).

4.2 Equitable access to water

A cornerstone of Anna Hazare's approach has been 'equity'. This is reflected in the water management system, where water is seen as a common resource to be managed, regulated and used equitably and judiciously by the people themselves (through cooperatives) (Narain and Agarwal, 2002).

Six different water cooperatives are in operation, namely, Sant Tukaram, Sant Gyaneshwar, Sant Yadav Baba, Padmavati, Gautam and Krishna cooperatives. These cater to 777 ha of land. Their average investment works out at Rs. 4449 per hectare, of which 12.36 percent is *shramdaan*. This is less than half the cost of the government's watershed programme, where investment per hectare works out at Rs. 10,000.

The cooperatives consist of a group of farmers from a particular area who want to dig a well, as mentioned earlier in the case of Krishna Cooperative Society. Farmers dig the wells through *shramdaan*. Members take bank loans and use share capital[18] to lay pipes, buy electric pumps and construct the pump shed (CAAM, nd). All decisions regarding the area to be irrigated, crops to be grown, quantity, etc. are made collectively. Water is distributed equitably through a system of 'ration cards'.

Wherever the source has been developed collectively, water is distributed in turn, and a second turn is not given, unless all the landholders have received their first turn. Since there is no guarantee of regular supply of water, owing to its dependence on rainwater for recharging, the water is 'rationed'. For instance, water from the Kukadi Canal is delivered to households by following a particular timetable for delivery. The landless have access to the commons. A piped water system was also laid through community participation without government funding (Box 1).

[18] A member of the Water Cooperative Society pays approximately Rs. 800-900 per acre per year.

Box 1: Piped water system in Ralegan

The piped water system in Ralegan was built in 1999, with the financial contribution and voluntary labour of the villagers. However, the facilities were provided based on several conditions. These are written on a Rs. 10 bond stamp paper, and are as follows.

Every household has to take measures to prevent the water from flowing onto the roads. This can be accomplished by digging soak pits where water is allowed to seep in. In case the water does flow onto the road, the household's water supply is cut and a fine of Rs. 150 is charged to have it reconnected.

Each family has to deposit its share of the budgeted cost of the pipeline in the bank, where a separate account for piped water plan has been opened.

All transactions have to be made by cheque only. While all maintenance and expansion work is to be undertaken through voluntary labour, families without manpower have to deposit Rs. 100 per day for the duration of the construction work.

This ensures not only equitable distribution but also judicious use of water through community participation and management.

Source: Anna Hazare (2003).

'We have water for drinking, washing utensils, feeding our goats, but more importantly we can take regular baths, stay clean, a luxury in the past', says Ullasa Bai, a scheduled caste woman and a landless labourer, reminiscing about the impacts of the watershed reforms.

Anna Hazare encouraged the villagers to think of prudent ways of using the water. For example, sugarcane, a water-intensive crop, was banned, although it was profitable, as it could deplete the water table. Crops such as pulses, oilseeds and certain cash crops with low water requirements were encouraged.

4.3 Alternative source of income: dairy production

It takes six months before a crop is ready for harvesting and selling. As a result, alternative sources are required for income earning during lean periods. Dairy farming was seen to provide a viable alternative. This was made possible by the increase in 'green fodder' owing to increased availability of water. A milk cooperative was set up in the village in 1981, called the Shri Sant Yadavbaba Dudh Utpadak Sahakari Sanstha. It has 225 members and is headed by a nine-member committee. Anna Hazare encouraged villagers to sell low-yield milch cattle and buy high-yield breeds of cows and buffaloes. The current breed has been improved through artificial insemination. The presence of a veterinary doctor in the village has resulted in improvements to cattle stock. The village currently owns 627 milch animals, 155 bullock pairs and 366 sheep and goats (FRCH and CMDR, 2002).

The average milk yield per family has increased from 1.58 litres pre-1975 to an impressive 4.96 litres in the current phase (FRCH and CMDR, 2002). Currently, 3000 litres of milk are marketed every day. The price of the milk varies from Rs. 8-10 per litre and the village earns

a revenue of Rs. 30,000/day. The monthly turnover of the society is Rs. 7-12 *lakh* per month. The cooperative has built a building worth Rs. 8 *lakh* from its profits (Anna Hazare, 2003). A mini-truck and a thresher have also been purchased.[19]

All records are computerised. The society has its own milk testing machine and weighing machine, and plans are afoot to set up a chilling plant and packaging machines for the future. The society assures livelihoods to 225 families.

4.4 Human development

4.4.1 ***Educational reforms***

Anna Hazare simultaneously concentrated on improving social indicators – particularly education. The village school run by the *zilla parishad* before 1975 only went up to Standard 4. Anna Hazare established an education committee, recruited teachers from other villages and started classes from Standards 5-10.[20] However, Anna Hazare had to go on an indefinite fast in front of the *zilla parishad* office to obtain immediate recognition for the school. Eventually, due recognition was accorded by the government to the secondary school. The school was called the Sant Nilobaray Vidyala, built in 1995, through voluntary labour and donations worth Rs. 25 *lakh*. Five landowners donated ten acres of land for the school (Anna Hazare, 2003). The school was unique in that, apart from providing an academic education, it laid stress on mind (character building), body (through sports) and soul (through religious teachings). An interesting feature is the priority admission accorded children who have a record of failure and anti-social behaviour from both within the village and other villages and cities.

A hostel for poor students and those from outside the village has been constructed through voluntary labour and donations of the villagers. Today, every child in Ralegan is going to school and 95 percent complete Standard 10.[21] The high school completion rate is over 85 percent and the school teams fare extremely well in the Maharashtra state sports competitions.

Children are made to participate actively in water conservation methods and contribute towards the overall development of the community. Towards this end, children have planted trees covering an area of 5km. They play a crucial role in maintaining the cleanliness of 20-

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[19] The truck transports milk and vegetables to Ahmadnagar, eliminating the agents in the process. The thresher is rented to farmers during the harvesting season.

[20] When permission was sought, government stated that this could be done only yearly: one standard at a time. The entire village participated in a hunger strike and Anna Hazare managed to get permission to start classes in one day.

[21] See http://www.bestindia.com/jgsi/WATERS~1.HTM.

25 community toilets. Special attention is provided to poor children. According to the *gram sevak*, the total number of students enrolled in school in 2007 was 837, of whom 583 were male and 254 female. Additionally, 300 students (250 male and 50 female) from other areas were enrolled. The number of children pursuing a college degree totalled 80, out whom 35 were female. In 2000, 60 children graduated and 160 students were selected to join the armed forces. This has further increased the standard of living and security of most households, as a result of the salaries, pensions and other perks associated with government jobs. Some children have migrated and set up their own workshops. One holds a doctorate degree and many are teachers, *tehsildars* (administrators) or even doctors. Scheduled tribe children have been especially successful in getting selected for good positions in various government departments.

4.4.2 ***Health and environment***

Compared with most other villages in India, Ralegan Siddhi has good health indicators and superior hygiene standards. In a study conducted by FRCH and CMDR (2002), it was noted that no epidemics had broken out in the past decade. However, seasonal illnesses, such as viral fevers, common colds, malaria and diarrhoea are common, especially during the rainy season (June to September). The village has a government health sub-centre (PHC), an *anganwadi* centre[22] and a private dispensary. A private allopathic doctor works in the village. The nearest hospitals, private and public are located in Parner, 11km away. All children are born in hospital, and the customary dependence on a midwife is no longer seen. Infant (IMR) and maternal (MMR) mortality rates have declined significantly compared with the pre-reform period. According to the *gram sevak,* the IMR in 2007 was 27.42, much below the national average. There have been no cases of MMR. Immunisation coverage is 85 percent. In 2002, 74 percent of women had haemoglobin levels within the normal range and there was no presence of gross anaemia (<8 gms Hb).

This can be attributed to four critical factors:

(1) **Provision of safe drinking water:** As mentioned before, owing to a rise in the water table, community hand pumps and taps were installed to combat the shortage of clean drinking water. This has dramatically enhanced the health indicators in the village. It has also reduced hardship for women, who used to walk 2-3km to fetch water. Now water is available at a distance of 100m.[23] By 1986, eight bore wells had been constructed, supplying piped water to clusters of houses by rotation. Table 7 shows that significant reduction in drudgery in water collection has occurred, as nearly half the population has

[22] A government sponsored child and mother centre.

[23] Estimates based on NABARD (1995), Vaswani (1995) and *gram panchayat* records, calculated by FRCH and CMDR (2002).

gained access to tap water (community and private) and only about 24 percent of the population still use water from an open well.

Table 7: Access to tap water

Indicators	Unit	Pre-1975	From 2000
Tap Water	% of households	0.68	33.15
Community Taps	% of households	2.03	18.48
Use of water from open well	% of households	87.16	23.91

Source: FRCH and CMDR (2002).

(2) **Education of villagers about hygiene, sanitation and a general civic sense:** An important feature, noticeable as soon as one enters Ralegan, is the striking cleanliness maintained within the village. There are no open drains on the road, and no overflowing sewers or litter in the village.

Children play a critical role in maintaining cleanliness. They not only clean the school compound every day, but also clean the community toilets once a week. The purpose is to inculcate a good civic sense and responsibility for keeping the community clean, right from childhood.

This was probably the first village in India to curtail open defecation through the building of community latrines (1983-1984). People were encouraged to use the latrines to reduce the incidence of disease. An additional benefit is that seven biogas plants function entirely using human sewage (CSE, 1991). However, community biogas plants have recently stopped working owing to maintenance issues; individual plants and the one at the hostel are running successfully. Table 8 shows that there has been a significant increase in the use of community toilets. During our field visit in May 2007, community latrines were in use and no open defecation was observed.

Table 8: Community toilets

Indicators	Unit	Pre-1975	From 2000
Use of open field as toilet	% of households	51.97	34.97
Use of community toilets	% of households	3.29	20.22

Source: FRCH and CMDR (2002).

The village has no open drains. All excess water or wastewater is put in soak pits or used to water kitchen gardens or plants and trees.

The village has even experimented with alternative non-conventional sources of energy under the *Urja Gram* (Energy Village) scheme of the government in 1982. Sources of renewable energy installed in the village under this programme are:[24]

- One community biogas plant;
- One solar water heater (used to heat 2000 litres of water at the school hostel; food for the students is cooked using solar cookers) (CSE, 1991);
- Ten solar street lights;
- 163 *samadhan* smokeless *chulhas* (mud stoves);
- Ten biogas plants attached to public latrines;
- One television set energised by solar energy;
- One gasifier engine with 100 percent subsidy from the government;

In addition, about Rs. 22 *lakh* were spent on 855 ha under the social forestry programme.

Smokeless *chulhas* were introduced to reduce the consumption of firewood. Currently, almost every household owns one such *chulha*. It is estimated that 130 *chulhas* save about 67 tonnes of firewood annually (CSE, nda). Apart from its environmental benefits, it has significantly reduced the incidence of respiratory diseases among women (FRCH and CMDR, 2002).

(3) **Better nutrition and reduction in drudgery:** Enhancement in the quality of life owing to income growth has resulted in better nutrition and decreased physical hardships (see Table 9) for women. Consumption of cereals and pulses has increased. The average milk consumed per family is 1.37 litres post-1975 as compared with 0.88 litres before 1975 (ibid) owing to a rise in milk yields.

Table 9: Drudgery in water collection

Indicators	Pre-1975	From 1992 onwards
Distance travelled to fetch water (km)	2.72	1.28
Time spent fetching water (minutes)	43.30	25.67

Source: FRCH and CMDR (2002).

(4) **Enforcing prohibitions:** There is a ban on alcohol and smoking and the small family norm is encouraged. Questions are constantly raised as to whether such reforms were opposed and what steps were taken to address them. Anna Hazare faced stiff opposition in the initial stages of his work, but he contends that, once realisation dawned that the

[24] See http://iesenvis.nic.in/success-stories.htm.

work was being undertaken for the greater benefit of the community, this reduced significantly. What ultimately worked was 'community pressure'; if persuasion did not work, coercion was used, or benefits of various schemes were denied. Awareness spread. Once the majority was convinced, efforts were made to bring everyone on board. Anna Hazare believes that, during social transformation, when persuasion fails, the use of moral force and community pressure has a deeper impact. For instance, to encourage the two children norm, a resolution was passed in the *gram sabha*, whereby those not adhering would be deprived of benefits of certain government schemes. Exceptions were made for couples who had three or four daughters and believed that only sons could perpetuate the family name. Those not adhering to the alcoholism ban were threatened with ostracism and other tactics, as their behaviour was detrimental to the larger interests of the society. Anna Hazare also warns against enforcing prohibition in the initial stages, as it divides society: for prohibition to work it is important to first educate and build a collective consensus around the issue (Anna Hazare, 2003).

*4.4.3 **Other experiments in equity***[25]

Households that have benefited from irrigation contribute 25 percent of their income to community projects in order to share the profits. The villagers have financially supported the rehabilitation of farmers whose lands were taken away for the construction of the Kukadi Canal. Farmers with more land bear the larger share of the loan for irrigation schemes.

*4.4.4 **Food security***

In 1980, the Grain Bank was started, with the objective of providing food security to needy farmers during times of drought or crop failure. Rich farmers, or those with surplus grain production, could donate a quintal to the bank. In times of need, farmers could borrow the grain, but they had to return the amount borrowed, plus an additional quintal. This ensured that nobody in the village ever went hungry or had to borrow money to buy grain. This also prevented distress sales of grain at low prices at harvest time and/or sales at high prices during lean periods. In 1985-1986, 40 quintals of grain were collected. In 1983, 35 percent of the villagers borrowed grain as a result of poverty; 125 borrowed as they wanted to grow onions instead of grain for one season. Currently, there is no grain in the bank as there has been no demand for the past two years.

[25] Equity as one of the core principles of human development refers to equal treatment of unequal players. It means creating a level playing field where people can subsequently compete on equal terms. So, social integration, affirmative action, provision of services to backward regions and groups, etc. are examples of equity.

4.4.5 ***Community marriages and social inclusion***

Marriage expenditures and dowries used to push people into poverty. Poor farmers took loans under the pretext of building a well or buying livestock, only to spend it on a daughter's marriage, then defaulting on repayment. Many resorted to taking loans from private money lenders, mortgaging land and livestock at exorbitant interest rates.

Anna Hazare was aware that marriages, especially of daughters, led to severe financial stress and consequently indebtedness. He started the concept of community marriage in 1978-1979. Couples belonging to various castes were married at a common place with a common feast organised by the *tarun mandal*. This reduced the cost to Rs.1000-1400 per head (Anna Hazare, 2003). Gifts of saris, utensils and functional items were given to needy couples. This led to social integration along caste lines. From 1978-1986, 424 marriages were conducted in this way (FRCH and CMDR, 2002). Furthermore, dowry practices no longer occur in the village, although there is no control over dowry demands when daughters are married outside Ralegan Siddhi.

An oft-cited example is that of 17 *dalit* households with 32 acres of land being helped out of a debt trap by the entire village. Before 1970, the government constructed a huge well, which needed an electric pump for drawing out water. The *dalit* households together took a loan of Rs. 22,500 from the Ahmadnagar bank. The majority of the households had migrated to Mumbai owing to poverty and so handed over the upkeep of the land to casual labourers. In the absence of direct monitoring, the yield was affected and production declined. With low profits, it became difficult to pay off the loans. The electricity bills were not paid and the repayment schedule of the bank was not followed. The *dalits* became defaulters and in 1983 the government decided to recover arrears totalling Rs. 75,000 by auctioning the land. The *dalits* approached Anna Hazare, who promptly mobilised the villagers. The *tarun mandal* took responsibility for cultivating the land on lease for the next ten years. They were able to repay the loans in just three years through collective farming. The villagers donated seeds, fertilisers and labour to till the land. Anna Hazare took a loan of Rs. 10,000 from a non-governmental organisation (NGO) in Ahmadnagar to repay the electricity bill. During the period, the *dalit* owners received 25 percent of the produce. On completion of the lease, the lands were returned to the owners.

Anna Hazare's emphasis was on distribution of benefits to the poorest first. Thus, people from the oppressed castes were the first beneficiaries. The *dalits* were living on the outskirts of the village. Under his guidance, landless households were given land (five acres each) and nine houses were constructed next to the temple. The villagers contributed to the construction of these houses through *shramdaan*. The houses are equipped with electricity and smokeless *chulhas*. They received other benefits through loans and subsidies for buying machines, irrigation pumps and construction of community toilets and bathrooms. In 1982, they were given the right to participate in the bullock festival (FRCH and CMDR, 2002).

Dalits now not only live in the centre of the village but also participate freely in all social functions. *Dalit* marriages are now held as part of the community marriage function along with all other castes. They occupy roles in the *tarun mandal* and *gram panchayat.* They are part of the team that cooks and serves food to all castes during community lunches. *Dalits* draw water from the same well as other castes and face no restrictions in entering the temple.

Ullasa Bai, a 60-year-old woman belonging to the scheduled caste, now living around the temple precinct, says the biggest change for her has been the social reforms: 'We are treated equally like everyone else, are not ostracised during social functions and are not living on the fringes of the village. We are invited to all the village functions; we eat together with people of all castes and are treated with respect. We feel human now.'

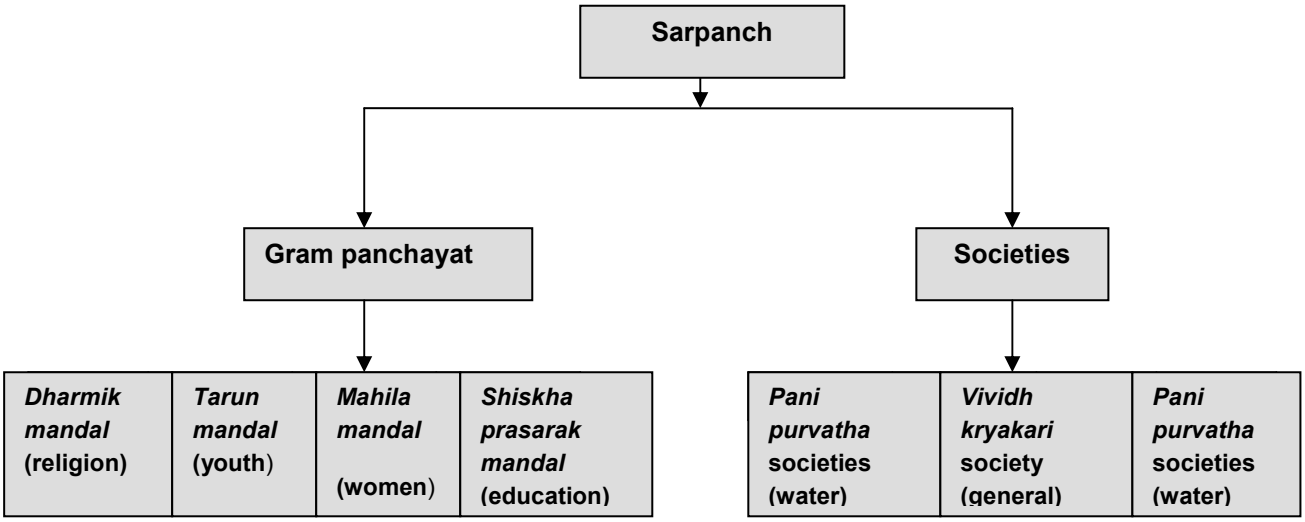
A 1993 survey of households below the poverty line revealed that 41 were *dalit* households (Reddy and Ramana Rao, 1993). Anna Hazare ensured that all the anti-poverty alleviation schemes run by the government for the *dalits* were implemented in the village. From 1976-1986, the Social Welfare Department spent Rs. 7.93 *lakh* (Awasthi and Parmand, 1994) while the *panchayat* spent Rs. 9 *lakh* (Reddy and Ramana Rao, 1993) under the Rural Development Programme (IRDP) grant for programmes for economic advancement of *dalit* households. The IRDP provided 25 beneficiaries with milch animals and repairing of wells (ibid). A community centre for the *dalits* was constructed under the National Rural Employment Programme grants. Many *dalit* households were provided with sewing machines, irrigation pumps, *gobar* gas plants, common toilets and lift irrigation schemes. Under the Jawahar Rozgar Yojana (employment) scheme, five shops for vegetables, shoe making, welding, tea and stationery were constructed at a cost of Rs. 50,000.

4.5 Participatory governance: community based, needs based and gender balanced

Apart from natural resources management and social development, Ralegan Siddhi is also renowned for people's participation in governance. People's participation is ensured through committees or cooperatives. The *gram panchayat* undertakes all governmental schemes approved for the village. Different societies or committees (including the seven water cooperative societies) have been established to undertake various activities. The *gram panchayat* holds regular village meetings or *gram sabha.* In these, decisions pertaining to establishing new committees, development and planning are undertaken through consensus. Further, the villagers identify the committee they wish to work for and are automatically nominated to the *panchayat*. Overall, 14 committees have been established, around key issues of water, irrigation, education, rations, women, youth and religion. These ensure the smooth functioning of various development projects undertaken by the village and also ensure full participation by villagers. One person from each household is a member of the

gram sabha.[26] Figure 2 shows the administrative structure of Ralegan Siddhi: a collective process. All the societies are registered with their own set of rules and functioning, but are answerable to the *gram sabha*. The village is crime-free and the villagers themselves settle disputes amicably.

Figure 2: Ralegan Siddhi administrative structure



Source: Pangare and Pangare (1992).

Women have been especially encouraged to lead and be actively involved in the decision-making process of the village. A strong patriarchal set-up had relegated women to performing domestic chores, with little or no decision-making power. In order to bring more women into the decision-making arena, certain proactive steps were undertaken. For instance, a woman heads the elected *gram panchayat*, which is primarily comprised of women. Anna Hazare initiated the idea of an 'all-women *panchayat*', before which, they are provided training before joining the *Panchayat*. Shri Raut Thakaram Lakshman notes that 'the idea was to embolden women to raise their voices, gain confidence in a largely patriarchal set-up and realise their critical role in the development of the village.' Further, women are active participants in providing *shramdaan*. Formation of self-help groups (SHGs) was encouraged, to go beyond provision of simple credit and give women a platform to manage resources, gain economic independence, utilise their skills, voice their concerns, assert themselves in domestic matters and gain access to information. From 1996-2000, 17 SHGs were established (see Annex 1). Each group comprises 15-17 members, who meet every month. Individual savings are collected (Anna Hazare, 2003). Each member maintains a passbook to help them track their savings, from which loans are given to other woman members for the following: purchasing agricultural products; purchasing cattle such as hens, goats or crossbred cows; starting businesses such as juice parlours, bangle shops or grocery

[26] Interview with Mr Shinde, Training Coordinator, Training Centre.

stores; house construction; and other sundry purchases. Out of the 17 SHGs, ten started the group with their own money, three took loans from Bank of Maharashtra, two took a loan from an NGO in Pune, one took a loan from both an NGO and the Bank of Maharashtra and one received a grant under a government scheme. SHGs in Ralegan Siddhi have savings amounting to Rs. 11-12 *lakh*.

5 Funding/investment in Ralegan Siddhi

One of the most remarkable features of this success story is that grants or donations, especially from national and international organisations, have been discouraged, based on the premise that outside aid creates dependence on 'free' wealth and destroys the working and thinking capacity of the individual.

This is not to undermine voluntary contributions by national NGOs towards Ralegan's development. As already noted, the Tata Dorabji Trust and CRS were particularly active during the drought of 1972 and undertook drought relief work worth Rs. 300,000 and Rs. 500,000, respectively. However, after the arrival of Anna Hazare in 1975, in many cases, loans taken from NGOs have been returned. Some investments have been in kind (see Annex 1). Post-1975, the majority of funding has come through various government schemes (central and state) and bank loans (see Table 10).

Table 10: Flow of funds to Ralegan Siddhi for development, 1975-1986

Source	Activities	Amount invested (Rs. *lakh*)	Years of investment
Government of Maharashtra	Under IRDP, NREP, soil conservation, social forestry, water supply scheme, high school building, scheduled caste housing, hostel building, training centre, collective well, library, PHC, well repair, cattle supply, electric motor, pipeline, tube wells, poultry scheme, agricultural equipment, construction of percolation tank, *nalla* bunding, land development, etc.	47.36	1975-1987
Grants of *Urja Gram*	Solar and biogas systems	6.699	1988-1989
Grants from Agricultural Department	Drip irrigation, special caste programme, equipment distribution, agricultural equipment and distribution of insecticides	7.824	1980-1997
Bank of Maharashtra	Tractor, *gobar* gas, electric motor, pipeline, poultry development, dairy development, carts, lift irrigation scheme, goats, cattle and bullocks, crop loans, collective well, etc.	40.80	1980-1986
Ahmadnagar Sahakari Bank		1.70	1980-1986
Voluntary organisations	Cattle food, *nalla* bunding, well repairs, *gobar* gas plants, windmill, nursery, bore well and many others	10.07	1975-1976 to 1985-1986
Villagers' shramdaan (including expenditure borne by villagers)	Renovation of the high school, PHC for animals, hostel construction, utensils, etc., Krishna water supply, collective well, *dalit basti* development, nursery building and many more	13.42	1976-1986
Anna Hazare's contribution	High school construction, temple construction, land for hostel, village development, etc.	0.87	1971-1986
Total		**128.743**	

Source: FRCH and CMDR (2002); Pangare and Pangare (1992).

Anna Hazare ensured that these schemes, which more often than not are poorly implemented, underutilised or fail to reach the target group, were used to the fullest extent to aid the various development works in the village (Table 11). It is important to note that no preferential treatment by way of 'extra allocation' was provided to Ralegan (Narain and Agarwal, 2002). Development costs are shared with the government, through *shramdaan*.

Table 11: Expenditure on different soil conservation and watershed management tasks

Name of activity	Implementing agency	Work done	Expenditure (Rs. *lakh*)
Contour bunding	Soil Conservation and Watershed Management (SCWM)	591.27 ha	1.48
Land levelling	SCWM	182.94 ha	6.06
Afforestation cum pasture development	SCWM	152.95 ha	2.09
Nalla bunding	SCWM	32 *nallas*	8.20
Afforestation	Forestry & Social Forestry Department	117.00 ha	6.68
Percolation tank	Minor Irrigation Department	1 tank	8.83
Nalla bunding	Social Institute of Ralegan Siddhi	18 *nallas*	30.58
Small Bandhara	Social Institute of Ralegan Siddhi	5 in no.	
Gabian structure	Social Institute of Ralegan Siddhi	4 in no.	
Well and canal lift irrigation scheme	Social Institute of Ralegan Siddhi		5.44
Drip irrigation	*Zilla parishad*		4.42
Special component scheme	*Zilla parishad*		0.59
			74.37 *lakh*

Source: FRCH and CMDR (2002).

For instance, the contribution to the WDP has been as follows: 48.43 percent by people of Ralegan Siddhi, 44.83 percent by the Jalsandharan Department, Government of Maharashtra, and the remaining 6.74 percent by the Rural Development Department, as we have seen (Narain and Agarwal, 2002). Thanks to *shramdaan,* 1 *crore* worth of community assets has been created.[27] Official data (Annex 1) show that, by 1986, investments and voluntary expenditure by the villagers totalled Rs.1,342,100. Anna Hazare alone contributed Rs. 87,000 to various village activities, especially in the initial phase, as a way of setting an example (See Annex 1).

Additionally, a large number of villagers gave their own land for construction of earthen dams for the benefit of the village and also worked without compensation (*shramdaan*) on community projects on their own fields. No payment was given to those who sacrificed their fields and the major benefits from the conservation works accrued to those with downstream farms. Then a system of sharing of benefits was put in place. Based on decisions taken in the *gram sabha*, those who lost out because they gave their fields for the construction of watershed structures were given a share of the grain from the higher productivity of

[27] Interview with Shri Raut Thakaram Lakshman.

downstream farms. Later, farmers who had sacrificed their land also benefited from silting on their lands, as a result of which the *rabi* crop was good.

Box 2: Milestones in the history of Ralegan Siddhi

Pre-1975: Ralegan Siddhi suffering from acute deprivation and poverty
1975: Arrival of Anna Hazare after taking voluntary retirement from the army
1976: Rebuilding of temple precinct through donations by Anna Hazare
1976: Dowry ban, liquor prohibition, collective marriages
1979: School up to the 12th Standard sanctioned by the government
1978-1979: Formation of *tarun mandal*
1980: Grain Bank started
1980: Milk collection centre
1980: *Urja gram* scheme initiated
1980-1983: Biogas scheme launched
1980-1986: Establishment of six water cooperative societies
1982: Branch of Bank of Maharashtra opened
1982-1983: Soil conservation measures undertaken under the COWDEP
1983-1984: Percolation tank repaired
1983-1984: Community latrines/bathrooms
1993: Ideal Village Programme launched by government
1994-1995: National Training Centre for Watershed Development launched
1995-1996: First technical batch of 62 trainees trained in watershed and rural management
1995: Hind Swaraj Trust formed
1996-2000: 17 SHGs established
1998: Cooperative (credit) society set up

Traditionally, the rural poor take recourse to private money lenders, the only method of accessing credit in rural areas.[28] However, this has led to widespread indebtedness, owing to the exorbitant rates of interest charged. Ralegan was no exception. Shri Raut Thakaram Lakshman recounted instances of poor farmers falling into the debt trap in Ralegan: 'Apart from lack of income owing to repeated crop failures, marriage and hospitalisation were the two major expenses that pushed people below the poverty line. Since banks did not provide loans for such exigencies, the poor turned to money lenders, at exorbitant interest rates, and mortgaged their land and livestock (their key assets). There was no escape route.'

The solution came in the form of voluntary help to poor cultivators trapped in debt, the Bank of Maharashtra setting up a branch in the village and formation of cooperatives. The youth of the village, under Anna Hazare's guidance, provided manual labour and other farm support to indebted poor farmers to increase their output, as we have seen. Additional labour meant an increase in agricultural output and consequently enough income to pay back the loans.

[28] This section draws heavily on FRCH and CMDR (2002).

Loans were sought from the Bank of Maharashtra and Ahmadnagar Sahakari Bank under government schemes such as IRDP. Subsequently, the Bank of Maharashtra opened a branch in Ralegan Siddhi in 1982 to provide credit for agricultural and other purposes. Most of the loans were disbursed through the various cooperatives societies and SHGs formed under the guidance of Anna Hazare. Poor farmers or women who did not have the ability to repay loans were organised into cooperative societies around common needs. The collateral or liability was collective and hence members helped each other and worked actively towards repaying the loans. The recovery rates often exceeded loan advances. However, bank loans have not worked out well in all situations, as reported below.

In 1998, a cooperative (credit) society called the Adarsh Gramin Bigar Sheti Shahakari Patsanstha Maryadit was set up to cater to the non-agricultural requirements of the people of Ralegan and surrounding villages. It has disbursed loans for purchase of vehicles, cattle and crops and for health exigencies and plans to extend these to house construction and repairs.

6 Replicability of the Ralegan Siddhi best practice model: the Hivre Bazaar case

The success of Ralegan Siddhi, among others, paved the way for the initiation of 42 'model watersheds' across the country by the Indian Council of Agricultural Research (ICAR) under the Operation Research Programme during the 1980s. Subsequently, the National Watershed Development Programme for Rainfed Areas (NWDPRA) in 1990 under the Ministry of Agriculture was initiated. Madhya Pradesh's Watershed Management Mission was established in 1995 to replicate the successes of Ralegan Siddhi's watershed development and continues to form the cornerstone of rural development programmes (Joy and Paranjape, 2004).

Ralegan Siddhi's success led the government of Maharashtra to implement the *Adarsh Gaon Yojana* (Ideal Village programme), an initiative to replicate the Ralegan Siddhi model in 300 villages of Maharashtra to overcome frequent drought through natural resource management by village communities. The implementation of the programme was based on the five principles, or *bandis*, enforced by Anna Hazare. The government set up a task force headed by Anna Hazare and promised to allocate 300 *crores* to the programme.[29] The programme's early and biggest success is Hivre Bazaar, a village located in the rain-shed area of Ahmadnagar district in India, the same district as Ralegan.

[29] Over 200 youths were chosen from across Maharashtra and provided technical training at the Watershed Management Training Centre in Ralegan; they were sent to two or three villages across Maharashtra. The first batch was sent in 1996-1997. However, owing to various political reasons and growing insecurity with Anna Hazare's influence, the then government decided to stop funding the programme.

When the government announced the programme, the *sarpanch* of Hivre Bazaar showed keen interest in taking advantage of the opportunity. The *gram sabha,* in its meeting on 15 August 1994, accepted the challenges and established the Yashwant Krishi Gram and Watershed Development Trust to actively implement *Adarsh Gaon Yojana*.

Hivre Bazaar was crippled by the same social, economic and ecological issues as Ralegan. Before the reforms were initiated, the village suffered erratic and low rainfall – 350-400mm on average. There was severe water paucity for drinking and irrigation purposes. This led to very low productivity owing to dependence on rainwater. Only on half an acre of land could water-intensive crops grow. Hard rock makes up 80 percent of the land. Indiscriminate grazing had eroded the green cover. Of a total of 180 households, 168, or 95 percent were below the poverty line before watershed development. Unemployment led to heavy migration. As in Ralegan, alcoholism was a serious concern. Crime and conflict was common. Social indicators such as health and education were poor. As the *sarpanch* of Hiver Bazaar, Shri Popat Rao Pawar, said: 'for government officials, Hivre Bazaar was a punishment posting'.

The visionary and proactive *sarpanch* followed the fundamental principles of the Ralegan Siddhi model. The first step was addressing ecological poverty, through the Watershed Project under the Ideal Village Programme. This was undertaken in 1995 and completed in three years. Three watersheds were built at a cost of Rs. 42 *lakh* spent by the government; 17 *lakh* was provided as *shramdaan* (as in Ralegan). The watershed covered an area of 1000 ha. The following conservation measures were undertaken: contour-to-contour trenches; gully plugs; an earthen dam; a cement check dam; two percolation tanks; and six storage dams.

Ten *lakh* trees were planted, of which 95 percent were used for providing green fodder. The *gram sabha* banned the digging of tube-wells, cultivation of water-intensive crops and field grazing. The *sarpanch* imposed all the bans applied by Anna Hazare in Ralegan. This led to a rise in the water table. As the *sarpanch* notes, before 1994 water could not be sourced at even 100 feet. It is now available at between 35 and 50 feet. Drip irrigation was introduced for sorghum and maize. If 100 litres of groundwater is available, 80 litres are used and 20 litres are kept as buffer stock. The water is recharged during July. Additional water led to higher productivity and also enabled cultivation of cash crops, such as onions and potatoes. Onions are a major cash crop and are harvested during rains. Earnings from sale of onions were Rs. 80 *lakh* in 2006. These are sold to nearby villages and markets in Pune and Mumbai.

Availability of water also led to cultivation of green fodder. The increase in fodder availability (from 1500 to 6000 metric tonnes) made it possible to sustain cattle and livestock. Further, profits earned owing to higher productivity were used for diversification into dairy production.

Milk production increased from 300 to 3000 litres per day. The village currently earns Rs. 60,000/day from dairy.

Learning from Anna Hazare, the *sarpanch* simultaneously turned his attention to education, health and sanitation issues, which affected the overall development of village. He educated the villagers about Ralegan Siddhi's success and motivated them to enforce voluntarily all the four bans and to adopt shramdaan, as this would be in the interest of all. Before 1994, not a single girl was educated beyond Standard 7, as the village lacked a high school. Post-watershed, education was made compulsory. The budgetary provisions prepared by the village *panchayat* for 1990-1995 gave top priority to education. The *sarpanch* convinced 18 of the village households to donate land for this cause, and the existing primary school was converted into a high (secondary) school. Like Ralegan, Hivre Bazaar has also established the practice of sending its children to the army.[30]

Post-1994, the construction of a temple was undertaken. Subsequently, construction of a *masjid* (mosque) was also undertaken to teach harmony to villagers. Interestingly, the *sarpanch* says that the village has only one Muslim member. Social integration of the villagers was undertaken through formation of:[31] women's thrift groups; a women's milk dairy society; *bhajani mandal* (a devotional songs group); youth societies; a cooperative society; a common crematorium; a common drinking water source; and the adoption of a one family one child approach.

Toilets have been built in each house and are proudly shown to visitors. The *gram sabha* and the youth committees are extremely active and take initiative for the development of the village. Popat Rao Pawar is re-elected as *sarpanch* each year because he is educated, can negotiate with government and NGOs and has enabled all those below the poverty line to move out of poverty, except for three households. Plans are now afoot to enable these households to cross the poverty line.

[30] Discussion with Shri Popat Rao Pawar.

[31] See www.hivrebazaar.org.

Box 3: Impact of enforcing the four prohibitions and shramdaan in Hivre Bazaar

- The ban on grazing increased production of grasses from 200 tonnes in 1994-1995 to more than 5000-6000 in 2001-2002.
- The ban on felling trees has increased the biomass with 9 *lakh* trees.
- The ban on liquor has increased manpower efficiency.
- Successful implementation of the Family Planning Programme has brought the birth rate down to 11 per thousand (one family one child).
- *Shramdaan* has helped not only in inculcating a work culture among the people but also in creating assets. The participation of villagers has meant that Hivre Bazaar has set new standards for community development.
- The total cost of the watershed programme sanctioned by the government of Maharashtra was Rs. 66 *lakh.* Out of this, villagers contributed Rs. 21 *lakh* by way of s*hramdaan.*

Source: Extracted from www.hivrebazaar.org.

Hygiene and sanitation were an integral part of the change. The *sarpanch* says, 'we added a sixth *bandi*, *lotabandi*, or prohibition of open defecation'. Additionally, there is a ban on bore wells for irrigation (boring of wells is only for drinking water). Water-intensive crops such as banana and sugarcane are not grown. Additionally, the *gram sabha* in Hivre Bazaar has taken the decision that not a single acre of land will be sold to an outsider.

Community toilets were built but based only on demand. Thus, there was guarantee of water and sanitation and education was provided. According to data provided by the *sarpanch*, the total remaining number of households below the poverty line in 2005, a drought year, was only 11 out of 210 (Table 12). This number had decreased to three when we visited in 2007.

Table 12: Households below the poverty line in Hivre Bazaar

Year	No. of households	BPL
1992 (government survey)	180	168
2001	210	53
2002	210	11
2004 (drought year)	210	11
2005 (drought year)	210	11

Source: Information provided by sarpanch of Hivre Bazaar during field visit, May 2007.

Before 1994-1995, per capita income was Rs. 832 per year. Since the interventions, per capita income in the village has risen 30 times to Rs. 24,893/year. As per the 2001 Census (Ministry of Home Affairs, 2001), the number of households has increased to 226, from 180 before 1994, owing to reverse migration. One case of reverse migration and one of movement out of poverty are outlined in Box 4 and 5.

Table 13: Progress in Hivre Bazaar pre- and post-watershed development

Item	Pre W/S	Current development programme	Increases status
No. of wells	97	219	2.25 times
No. of electric pumps	87	280	2.25 times
a) Area under protective irrigation (ha)	250	795.23	3.18 times
b) Irrigation during summer (ha)	7	72	10.28 times
Agriculture Cropped area (ha) Cropping intensity (%) Oilseed area (ha) Pulses area (ha) Use of improved /hybrid seed (ha) Seed treatment (ha) Use of fertilisers (tonnes) o*rganic 30%/inorganic 70%*	 480.2 94 23 31 53 43 09	 795.23 0128 0104 084 0548 0444 0163	 63% 34 4.52 times 2.87 times 10 times 10 times 18.11 times
Area under horticulture (ha)	7.10	54	7.60 times
Area under drip/sprinkler irrigation	0	95	95 times
No. of milk animals	19	476	25 times
Milk collection/day (litres)	140	3000	21 times
Income generated (Rs. *lakh*)	8.23	147.84	15.07 times
Per capita income (Rs.)	832	24,893	30 times

Source: Information provided during field visit to Hivre Bazaar, May 2007.

Box 4: A case of reverse migration in Hivre Bazaar

Yadav Dada Thange, a 25-year-old farmer in 1967, educated to Standard 4, decided to migrate along with his young wife from Hivre Bazaar to Mumbai in 1967 to work in a textile mill, driven by a need to secure a better standard of living. In Hivre Bazaar, they could plant crops on only two or three acres of land, owing to severe water shortages, and agricultural productivity was very low. After hearing about the progress in Hivre Bazaar, they came back to their village in 2000, almost 35 years later.

Thange and his wife (now 65 and 55, respectively) have not regretted the decision to come back. Water is available in sufficient quantities. They are now able to irrigate almost 60 percent of a total of 11 acres of land. Since 2000, water has been taken from common wells for irrigation. Towards the end of 2006, the family was able to seek permission to construct their own well. Constructing private wells is not encouraged in Hivre Bazaar, but owing to the rise in the groundwater level, exceptions have been made in certain cases. The result is that food production has doubled. The family can sow more than one crop in a season, including wheat, sorghum and groundnuts. This has led to a rise in profits and has enabled them to invest in high yielding seed varieties and farm equipment, such as a tractor and fertilisers. Since the overall income of the village has risen, it is hard to get agricultural labour within the village: labourers have to be brought in from outside.

The family also invested money in purchasing bullocks and sold them in 2006 for Rs. 20,000, securing a profit of Rs. 4000. It is important to note that Thange also receives a pension from his work in the mill in Mumbai and their sons do send remittances back home.

Source: Based on fieldwork in Hivre Bazaar, May 2007.

Box 5: Case study of movement out of abject poverty in Hivre Bazaar

The Thange family, belonging to the Hindu Maratha caste, is an impressive case of movement out of abject poverty .The family comprises the head of the family and his wife, two sons aged 33 and 27, two daughter-in-laws and three grandchildren.

Before the reforms, the family owned a little land, but productivity was low, as it was rain dependent. They lived in a small thatched hut. They struggled hard to secure even two square meals a day, working as agricultural labourers on other people's lands. They earned Rs. 51 per day during the daytime and Rs.72 at night (if required). That is, they subsisted on slightly more than a dollar a day (US$1 = approximately Rs. 45).

The watershed reforms dramatically changed the family members' lives. The land they owned (three acres) is no longer rainfed and is fully irrigated from a dug well. Productivity levels have increased dramatically. The profit accrued from agriculture, along with the older son's salary (who was recruited in the local high school), is used to invest in livestock. Post-reform (May 2007), they own 13 cows, three goats and six hens. Higher productivity also means that green fodder is available for animals. Dairy production is an impressive 200 litres per day. The family has graduated from a thatched hut to a 1400 square feet *pucca* house. The house is additionally used as an *anganwadi* centre. The family owns three motorcycles, one tractor, a television, a cooler, a fridge and a mobile phone. Their monthly income is now Rs.35,000, i.e., this has increased from approximately US$40 a month before to more than US$700 dollars a month. They are in the process of changing their ration card from BPL to APL.

Source: Based on fieldwork in Hivre Bazaar, May 2007.

Pawar, an ardent follower of Anna Hazare, believes that 'the development process needs both state and society to work together. However, society should always be in the driver's seat and work responsibly.'

7 Conclusion: issues and concerns

Ralegan's success is unquestioned and is based on the convergence of a large number of factors. However, despite its success, several issues and concerns need to be addressed. First, the watershed-based conservation activity and the water lifting schemes have led to the irrigation of 90 percent of the land in Ralegan, but irrigation is not guaranteed in case of drought. While the watershed is fully developed, it depends on rainfall even today: if it does not rain, there will be scarcity of water. Further, only 300 or 400 acres are perennially irrigated at present. Even this depends on lifting water from the canal, and supply of water is assured only if there is electricity. There are 18 hours of load shedding and only six or seven hours of electricity. This is not enough for irrigation. Around 16 or 17 hours of assured electricity supply are needed. Just 25km away, Mahrashtra Industrial Development Cooperation has continuous electricity, but not Ralegan. There is too much load shedding. Erratic supply of electricity at critical times will affect incomes of individual households as well as the progress of the village.

Second, the success of Ralegan owes in large measure to Anna Hazare's sacrifice, selflessness and dedicated commitment to the people of Ralegan. In the early days, school children used to clean the community toilets in order to communicate the importance of cleanliness and inculcate it in the entire village. Now, people use community toilets and keep them clean. Households have distributed this task among themselves. If there is open defecation, Anna Hazare himself takes a broom and sweeps the place. This embarrasses the villagers and is enough to prevent it. This kind of leadership is hard to find. Anna Hazare is revered in the village and his leadership is unquestioned. Although there is no substitute leader who can command that level of respect, villagers are consciously trying to groom youth and a devoted cadre of workers to take on the mantle.

Further development is possible, for instance through value addition of outputs under a Ralegan Siddhi brand name. If sorghum is packed or value added under such a brand, there will be large markets for it in Pune and Mumbai, but this needs local leadership and initiative. Ralegan is located near an industrial area, so small home-based workshops are possible. Companies need parts. The Ralegan SHGs have large savings and the money can be used for starting small collective enterprises. Inspired by the SHGs, neighbouring villages of Ralegan Siddhi (Jategaon, Gatewadi, Ghanegaon and Pimpalner) have set up 35 SHGs in total with a collection of Rs. 18-20 *lakh* (Anna Hazare, 2003).

While the Ralegan model is being replicated in several other villages, especially in the area of watershed development,[32] Hivre Bazaar is possibly the only village that has learned from and surpassed Ralegan in several areas. While the cleanliness, discipline, empowerment and participation in governance in Ralegan are remarkable and visible, the prosperity in Hivre Bazaar is reflected in the mansions that are being built and the cable networks. The problem voiced by the villagers in Hivre Bazaar is that, despite their prosperity, they still have to perform the arduous tasks of milching their livestock and collecting and selling milk every day, as agricultural labour is hard to get.

This paper provides evidence of the success of Ralegan Siddhi and documents its replication in Hivre Bazaar. Ralegan Siddhi and Hivre Bazaar are outstanding examples of a large number of rural households successfully and sustainably moving out of poverty. What Anna Hazare has achieved in Ralegan is the essence of what is meant by inclusive growth based on judicious management and use of all available resources, whether human, social, technological or institutional. By putting the poorest first, each person in the community has been enabled to participate in and benefit from development. The foundation for development of these model villages is ethical, transparent, responsive, accountable and

[32] The following villages are successfully replicating Ralegan's example, especially in natural resource management: Pimpalner and Vadulle. The Training Centre, run by the Hind Swaraj Trust, a village NGO set up by Anna Hazare, each year trains young motivated and qualified youth including panchayat and zilla parishad members from villages across India. Between 1997 and 2004, 180,940 people undertook training.

visionary leadership, which has fought untiringly and obtained information regarding every conceivable opportunity provided by central and state government programmes and schemes to bring about holistic economic development as well as social and behavioural change. Undeterred by age, Anna Hazare has spent the past year travelling through villages in Maharashtra in his continuing effort to fight corruption and raise awareness among youth. While the charismatic personality of Anna Hazare dominates the Ralegan Siddhi model and narrative, this best practice case cannot be dismissed as driven only by a personality and therefore not suitable for larger replication.

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Annex

Annex 1: Additional data tables

Investments by voluntary organisations (1975-1976 to 1985-1986)

Name of organisation	Nature of investment	Amount (Rs.)
Rural Welfare Board (Sir Dorabji Tata Trust)*	Cattle food, *nalla* bunding, wells (repair and new digging)	300,000
Catholic Relief*	*Nalla* bunding, for new and old wells, implementation of Food for Work programme	500,000
Khadi Gram Udyog Sangha	Grant for *gobar* gas	42,000
Rotary Club	One bore well and tube well	12,000
Phirodia Trust	Expenditure for cattle care clinic ad hostel repair	120,000
Allahabad Technical Institute	Windmill	12,000
Dalit Seva Sangha	Nursery from 1980, monthly Rs. 250	18,000
Tagare Tai, Mumbai	Toys for nursery	3000
		10.07 *lakh*

** These organisations bore 20 percent of the expenditure in Ralegan out of the total expenditure for 15 villages.*
Source: FRCH and CMDR (2002).

Investment through shramdaan and actual expenditure by villagers (1976-1986)

Year	Name of scheme	Amount (Rs.)
1976-1977	Renovation of village temple	90,000
1979-1982	15 rooms for school	100,000
1982-1983	Hall for *dalits*	500
1980-1986	Five community dug wells	127,200
1982-1986	Veterinary hospital	25,000
1983-1984	Development of *dalit* locality (toilets, etc.) Nine rooms for backward class students	10,000 54,000
1984-1985	Hostel for backward class students Gymnasium *Balwadi* building	572,000 17,000 10,000
1985-1986	Krishna lift irrigation scheme	3,00,000
	Total	**13,05,200**
Actual investment		
1977-1978	Expenditure for collective marriages, utensils, loud speaker, lighting materials, etc.	15,000
1981-1982	Pipe, burner, etc. for *janta* biogas	1,400
1983-1984	For windmill	5000
1986 (October)	Independent kitchen for hostel	12,000
1986 (December)	Water supply for hostel	3000

	Total	**36,400**
	Gross Total	**1,342,100**

Source: FRCH and CMDR (2002).

Investment (donations) by Anna Hazare (1971-1986)

Details	Expenditure	Amount (Rs.)
Painting of temple	For painting village Goddess Temple Padmavati (1971)	3000
Military Service Pension Fund	Expenditure for renovating Shri Sant Yadavbaba Temple	20,000
Two acres of land for hostel	Land cost Rs. 4000 per acre	
Ten acres of land received from military donated to village for social forestry		40,000
Amount received from military for repairing of land	Expenditure for village development (no details)	16,000
	Total	***87,000***

Source: FRCH and CMDR (2002).

List of SHGs in Ralegan Siddhi

Name of SHG	No. of members	Year of establishment
Ganesh	20	1996
Padmavati	20	1996
Niloba Ray	20	1997
Muktai	20	1998
Ambika	17	1998
Yadavbaba	19	1999
Janaki (BPL)	15	2000
Santoshi Mata	20	2000
Durga Mata	20	2000
Vasundhara	20	2000
Kranti	20	2000
Shri Datta	20	2000
Rukmini	20	2000
Shaineshwar	20	2000
Jay Malhar	20	2000
Saraswati	20	2001
Adarsha	20	2001

Source: FRCH and CMDR (2002).

Annex 2: Glossary of Hindi terms

Adarsh Gaon Yojana	Ideal Village programme
Anganwadi	Government-sponsored childcare and mother care centre.
Balwadi	Pre-school child care centre
Bandi	Prohibition or ban
Basti	Settlement or place of habitation
Bhajani mandal	Devotional songs group
Charaibandi	Ban on grazing
Chulha	Mud stove or cooking hearth
Crore	Ten million
Dalit	Scheduled caste (literally 'oppressed')
Dharmik mandal	Religion society
Gobar	Cow dung
Gram panchayat	Village council
Gram sabha	Village assembly
Gram sevak	Village-level worker
Kharif	Summer crop
Krishi pandhari	Agricultural extension training through field visits
Kurhadbandi	Ban on felling of trees
Lakh	100,000 or one hundred thousand
Lotabandi	Prohibition of open defecation
Mahila mandal	Women's society
Masjid	Mosque
Nalla	Open drain
Nasbandi	Sterilisation
Nashabandi	Ban on addiction to substances
Pani adawa, Pani jirawa	Trap the rainwater wherever it falls
Pani panchayat	Water Users Association
Pani purvatha	Water society
Pucca house	House made of brick and cement
Rabi	Winter crop
Samadhan	Solution
Samadhi	Tomb
Sarpanch	Elected head of gram panchayat
Shramdaan	Voluntary labour
Shiskha prasarak mandal	Education society
Taluka	Block
Tarun mandal	Youth society
Tehsil Small	administrative unit consisting of 100-350 villages
Urja Gram	Energy Village scheme
Vividh kryakari	General society
Zilla parishad	District council.