Micro enterprise initiative in water sector and poverty reduction

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Abstract The author reports on the Kerala model for water sector development, broadly adopted as a role model for poverty reduction and build up of social capital. It is a community based organisation with its focus on facilitating a stable income to the poor, and composed of a People’s Plan Campaign, the Kudumbashree (women-based poverty eradication programme), with grassroot level neighbourhood groups, federated into an area development society. It promotes savings and credit channelling, capacity building and entrepreneurship development. Activities include awareness raising on water conservation and hygiene, utilization of student power, promotion of small, cheap and low technology projects that people can understand and undertake (small reservoirs, tanks, rainwater harvesting structures, water meters), as well as microenterprises, and training of women-based repair groups.

Keywords Community action, Kudumbashree, microenterprises, poverty, sanitation, women

Introduction

“To us the biggest task in life is fetching water to survive”, “We’d rather toil for a couple of days and invest it in the drinking water project than toiling all our lives- walking miles and miles up and down the hills for hours every day – for fetching water for survival”.

“Before passing away, all I want to see is sufficient water in my pots” – a 72 year old Kunhimihammed of Malappuram District.

As groups of women winding up the hills, feeble and panting, carrying pots on their heads and shoulders and hands, they murmur “We’d do any thing to be able to get water in the house”.

Sadly, these are not the utterances of poor women from a socially backward State: they are from the real life situation of Kerala, the most literate and socially developed State in India.

Kerala State is located at the southernmost tip of India. Its contributions for solving developmental problem were widely accepted as models throughout the country. The Kerala model of development with high standard of living and very low per capita income has been a point of debate in economic circles during the last two decades. Eminent economist and Nobel Laureate Prof. Amartya Sen tried to conceptualize and theoritise the achievements of the State as the “Kerala Experience”. The achievements in the field of total literacy, women literacy, high standards in health, education, low maternal mortality and increased life expectancy were accepted by the world as new models for sustainable development. High physical quality life index (PQLI) with low investment and per capita income makes Kerala different from rest of India. Some of the important indicators that help to identify Kerala’s specialties are given in Table 1.

Education and health are the two important major factors that heavily contributed for the development of the Kerala model.
Land Reform enacted by the Government of Kerala in the late 1950s was the first step that facilitated a stable income to the poor. Low infrastructure development, high pressure on land, and locational disadvantages etc, however, badly affected the growth of entrepreneurship in Kerala. The influence of bureaucracy and trade unionism were considered as the major limiting factors that arrested speedy economic growth. To overcome these hurdles Governments enacted series of legislations, which ultimately ended in decentralization efforts.

The 73rd and 74th constitutional amendments gave an opportunity for the Government to devolve more and more powers to the local Governments. In this context during the last 5–6 years drastic changes have taken place in the field of Local Self Government and Developmental Administration. The important moves that gained international attention were efforts for decentralization in the name of “People’s Plan Campaign” and implementation of “Kudumbashree”.

The State Planning Board launched the People’s Plan Campaign for 9th Plan preparation in 1996. This Campaign was aimed at improving the capacity of people at grass roots for taking up more and more responsibility in planning and implementation of developmental programmes. Powers vested with Government were devolved to Local Self Governments along with resources. More than 30% – 40% of the Plan Fund was transferred to Local Self Government along with its implementing officers. Conducting Grama Sabhas at the ward level activated people at the grass roots. Surveys were conducted to identify potential resources and gaps where planning intervention is required. A development report titled “Vikasana Rekha” was a plan document including projects that are to be taken up and were presented in a one-day development seminar at panchayat level. Different Task Forces were constituted at the “Vikasana Seminar” for giving final shape to the Project. Government machinery available at each panchayat level has been put under the control of Panchayat Raj Institution, which worked, hand-in-hand with Task Force. Funds allotted to panchayats were utilized for various projects prepared by the Task Force. The Task Force closely supervised the implementation and monitoring of activities and also undertook post-implementation monitoring and social auditing. Thus at all levels of developmental administration community participation is ensured.

**About Kudumbashree Mission**

State Poverty Eradication Mission/Kudumbashree is registered as a Mission by the Government of Kerala with the objective of eradicating absolute poverty from the State within a period of 10 years. The Mission Statement of Kudumbashree is given below:

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Kerala</th>
<th>India</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Population</td>
<td>31,838,619</td>
<td>1,027,015,247</td>
</tr>
<tr>
<td>Male Population</td>
<td>15,468,604</td>
<td>531,277,078</td>
</tr>
<tr>
<td>Female Population</td>
<td>163,69,958</td>
<td>495,738,169</td>
</tr>
<tr>
<td>Population Density</td>
<td>819/sq. km.</td>
<td>324/sq. km.</td>
</tr>
<tr>
<td>Sex ratio</td>
<td>1058</td>
<td>933</td>
</tr>
<tr>
<td>Infant Mortality Rate</td>
<td>13/1000</td>
<td>70/1000</td>
</tr>
<tr>
<td>Maternal Mortality Rate</td>
<td>33/0.1 Million</td>
<td>462/0.1 Million</td>
</tr>
<tr>
<td>Life expectancy</td>
<td>M=68, F=72</td>
<td>M=62, F=62</td>
</tr>
<tr>
<td>Literacy</td>
<td>90.92 %</td>
<td>65.38 %</td>
</tr>
<tr>
<td>Males</td>
<td>94.20 %</td>
<td>75.85 %</td>
</tr>
<tr>
<td>Female</td>
<td>87.86 %</td>
<td>54.16 %</td>
</tr>
</tbody>
</table>

*Females per thousand males
“To eradicate absolute poverty in ten years through concerted community action under the leadership of Local Self Governments, by facilitating organisation of the poor combining self-help with demand led convergence of available services and resources to tackle the multiple dimensions and manifestations of poverty, holistically.”

Kudumbashree is a women-based poverty eradication programme. All the activities of Kudumbashree are routed through Community Based Organisation (CBO) of the poor women. Kudumbashree programme was scaled-up to state level after the experiments at Alappuzha Municipality & Malappuram District. The motto of Kudumbashree is “Reaching out to the families through women and reaching out to the community through families”.

Kudumbashree’s activities have different facets. Primarily, it is an organization entrusted with implementing various schemes targeting reduction of poverty. Further more it is a process wherein the community itself identifies poverty on the basis of non-economic criteria. Involvement of community is also ensured in the implementation of programmes.

Identification of Pattern of Poverty
Kudumbashree conceptualised poverty as a state of multiple deprivations. Hence, it formulated non-economic criteria for identification of the poor (Figure 1). The community accepted this index, since the inclusion and exclusion of poor can be done in a transparent manner. Recently Government of India also accepted this index and is in the process of adopting it at national level.

When the factors that contribute to poverty were examined, we could find out a vicious circle. When a family is affected with poverty their capability to work is reduced. This in turn will reduce their income. When income is reduced health is affected. The incidence of poverty forced the people to live in substandard houses. Most of the poor did not even have access to safe drinking water.

Absence of safe drinking water was identified as one of the major factors that contributed to poverty. Hence Kudumbashree tried to develop small but replicable models in water management, maintenance of renewable water sources, rain water harvesting etc with the objective of eradicating rural poverty. Kudumbashree identified the problem as one of mindsets. Even when innumerable opportunities are thrown open for solving water scarcity most of our planners were insisting for tap water. This forced Kudumbashree to think for alternate solutions. Even Rainwater harvesting, when practised in a systematic manner provided opportunity for income generation and wealth creation. In other words according to Kudumbashree conservation of water directly leads to employment generation, wealth creation and reduction of poverty (see Figure 2).

Community Based Organisation in Kudumbashree
Activities of Kudumbashree are centred on Community Based Organisation (CBO) of poor women. Poor people identified by the Community were grouped to a grassroot level organization called Neighbourhood Group (NHG). By including one women representative from

<table>
<thead>
<tr>
<th>Presence of 4 factors out of 9 are considered as an indication of poverty</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Family getting barely two meals a day or less</td>
</tr>
<tr>
<td>2. Presence of children below the age of 5 in the family</td>
</tr>
<tr>
<td>3. Alcoholic or drug addict in the family</td>
</tr>
<tr>
<td>4. Scheduled Caste or Scheduled Tribe family.</td>
</tr>
</tbody>
</table>

5. Kucha House  
6. No access to safe drinking water  
7. No access to sanitary latrine  
8. Illiterate adult in the family  
9. Family having not more than one earning member

Figure 1  Poverty Index used by Kudumbashree
all the 15–40 families on a contiguous basis NHGs are formed. Volunteers, selected from among the group, led the activities of NHG. There will be one President, Secretary and three Volunteers for attending health related activities, income generation activities and infrastructural activities. Members of NHG meet regularly, share their thoughts and ideas, list out problems and search for solutions. Based on the resource assessment and potential they prepare ‘micro plans’ for their development.

At the next tier NHGs were federated into an Area Development Society (ADS). The activities of the ADS were carried out by a group of selected seven volunteers of whom one will be President, Vice President and Member Secretary. The aspirations of the NHGs were consolidated and quantified into a “Mini Plan”. Community Development Society (CDS) functions at the top most layers in the hierarchy, which is a registered autonomous body under the Charitable Societies Act. CDS work in liaison with local self governments and prepare, implement and monitor poverty “sub plan” of the LSG through NHGs. Through this system both community participation and involvement are ensured in planning and implementation. Right from identification of beneficiaries, to post implementation, monitoring everything is carried out in a participative democratic manner.

The Neighbourhoods also promote thrift and savings among its members in addition to providing a neighbourhood watch against social evils. The total thrift collection of 73735 NHGs is Rs. 779.52 million out of this an amount of Rs (see Table 2). 588.88 million was recycled among members for starting up of income generation activities. The involvement of community ensured 100% repayment and more than 100% utilization. Bankers identified this as an opportunity and started channeling credit through CBOs. Each NHG is linked with a bank branch, which will provide bulk credit, for channeling them to the poor on project basis. More than 50% of NHGs were linked with banks there by an informal system that is strengthened with the support of formal financial institutions.

Active participation of women in CDS activities helped them to improve their capacity, which will ultimately lead to empowerment. Kudumbashree activities were accepted by local governments and bureaucracy and are trying to replicate it in other spheres of routine activities. International forum and CAPAM Innovation Award rightly acknowledged Kudumbashree’s efforts and CAPAM 2000 were awarded to Kudumbashree.

**CBOs as a Prerequisite for Economic Development**

Both Decentralised Planning and Kudumbashree tried to sort out and address the basic issues of poverty (Figure 3) through community mobilization and income generation activities. CBOs were entrusted with all activities starting from identification of beneficiary, income generation activities etc to implementation and post implementation monitoring. The chance of supporting wrong beneficiary and wrong projects was eliminated through
CBOs involvement. CBOs involvement gave much more flexibility in fixation of project cost. The local variations are thus got incorporated in to the system, which made the project more acceptable to the common man.

Kudumbashree and home based economic enterprises
Kerala suffers badly from drinking water scarcity. There are 1164 problem villages without adequate water supply. The average rainfall in Kerala is as high as 3085 mm. There are 44 rivers flowing throughout the State, which covers roughly 3092 km. When compared to the Indus river in North India (2735 km) the coverage is vast but the topography prevented Kerala from utilizing the potential of water. Floods, landslides and drought were regular phenomena in Kerala during rainy and dry seasons. According to Government estimates the loss due to drought in 1988 was around Rs.5820 million (equivalent to 118.77 US$) while 82 human lives were lost due to flash floods, landslides and related problems. More than two-thirds of the population of Kerala suffer from water shortage. Lives of the poor were affected badly due to shortage of water. Hence Kudumbashree and democratic decentralization programme tried to intervene in the local area and the results of which are promising, as narrated below.

Table 2 Status of CBOs in Kudumbashree

<table>
<thead>
<tr>
<th>District</th>
<th>No. of NHG formed</th>
<th>No. of Families covered</th>
<th>Amount of thrift (million rupees)</th>
<th>Amount of loan (million rupees)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trivandrum</td>
<td>5394</td>
<td>143999</td>
<td>65.87</td>
<td>50.87</td>
</tr>
<tr>
<td>Kollam</td>
<td>3244</td>
<td>70120</td>
<td>53.23</td>
<td>31.29</td>
</tr>
<tr>
<td>Pathanamthitta</td>
<td>2580</td>
<td>56276</td>
<td>15.04</td>
<td>10.91</td>
</tr>
<tr>
<td>Alappuzha</td>
<td>5584</td>
<td>123122</td>
<td>47.30</td>
<td>17.54</td>
</tr>
<tr>
<td>Kottayam</td>
<td>3906</td>
<td>72085</td>
<td>15.34</td>
<td>10.56</td>
</tr>
<tr>
<td>Idukki</td>
<td>4153</td>
<td>71849</td>
<td>52.62</td>
<td>39.73</td>
</tr>
<tr>
<td>Ernakulam</td>
<td>3924</td>
<td>93488</td>
<td>28.15</td>
<td>18.17</td>
</tr>
<tr>
<td>Thrissur</td>
<td>10243</td>
<td>144427</td>
<td>94.99</td>
<td>66.26</td>
</tr>
<tr>
<td>Palakkad</td>
<td>1908</td>
<td>33476</td>
<td>12.95</td>
<td>2.36</td>
</tr>
<tr>
<td>Malappuram</td>
<td>4645</td>
<td>167000</td>
<td>53.63</td>
<td>55.14</td>
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<tr>
<td>Kozhikkode</td>
<td>5191</td>
<td>74323</td>
<td>44.68</td>
<td>27.24</td>
</tr>
<tr>
<td>Wayanad</td>
<td>5706</td>
<td>76557</td>
<td>35.58</td>
<td>21.87</td>
</tr>
<tr>
<td>Kannur</td>
<td>5075</td>
<td>105274</td>
<td>65.80</td>
<td>45.68</td>
</tr>
<tr>
<td>Kasargode</td>
<td>3324</td>
<td>67067</td>
<td>27.94</td>
<td>21.80</td>
</tr>
<tr>
<td>Total</td>
<td>64877</td>
<td>1299063</td>
<td>613.13</td>
<td>419.43</td>
</tr>
<tr>
<td>Urban (58 ULBs)</td>
<td>7848</td>
<td>196000</td>
<td>161.44</td>
<td>168.08</td>
</tr>
<tr>
<td>Tribal (5 Districts)</td>
<td>1010</td>
<td>12164</td>
<td>4.95</td>
<td>1.38</td>
</tr>
<tr>
<td>Grand Total</td>
<td>73,735</td>
<td>1,507,227</td>
<td>779.52</td>
<td>588.88</td>
</tr>
</tbody>
</table>

Figure 3 Basic issues of poverty

Lack of safe drinking water
Lack of safe Sanitation
Lack of safe Shelter
Poor Health & Hygiene
Adding towards poverty

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Kozhikode District Panchayat launched an innovative programme which was named Akashganga, through the implementation of the project. Efforts are taken to educate the people against unscientific eco-hostile, unsustainable attitude. Traditional water conservation methods are also rejuvenated and popularized. Efforts have also been taken to merge modern technology with traditional system while constructing water conservation structures. A strong voluntary brigade called Akashganga brigade created awareness among the people on conservation and preservation aspects of water. Student power was utilized for which students were drawn from 125 high schools in the District by organizing environment clubs. All the NHGs involved in the area were converted into 360 Mahila Mandals. These groups were used to promote small, cheap and low technology oriented projects, which people can understand and undertake. The people are surprised when they are informed that a small reservoir of 10 cubic metres size can hold up one lakh \(10^5\) litres of water, which will percolate into the soil and underground aquifers – the biggest of reservoir of the earth. During last five years of implementation about 125 fresh water tanks, 100 new conservation structures and 3500 rainwater harvesting pits were constructed. The community undertook all these activities themselves, which improved the employment opportunities of the poor.

The Pallithode Experience

30 km north of Alleppey is a narrow strip land lying the Arabian Sea coast and Thuravoor Kari land. This is Pallithode. The peculiarity of Kari land is that it is highly acidic due to the presence of iron, aluminium and manganese in the form of their phosphates. The use of surface ground water is therefore not possible. To solve this problem, Kudumbashree with the help of local self government popularized the method of water conservation at the rooftop itself using rainwater-harvesting structures (Figure 4). The cost of construction of a rainwater harvesting structure with 5 cubic metre capacities is Rs 10,000 per household. The components of roof top harvesting are:

1. Catchments – well maintained roof of any shape and form.
2. Valley gutters – made up of GI sheets of 18 or 20 gauge bend in the shape of semicircle.
3. Mild steel – used to alternate rafters.
4. Conduit pipe made up of PVC about 7.5 cm. diameter.
5. Foul – flash separator-cum-strainer bucket – used for removing the impurity from the surface water.
6. Storage tank - A circular Ferro cement structure used to store the water.
7. Moulds – corrugated thick sheets fitted with nuts and screws for protecting the tank.

The creation of all these structures promoted employment opportunities in the com-

![Figure 4 Rain water harvesting tank at “Malappuram”](https://iwaponline.com/wst/article-pdf/47/6/119/422586/119.pdf)
munity. Micro enterprises were started for supplying readymade Ferro cement tanks, fitting of rainwater harvesting structures etc. etc. The solution of a problem thus paved the way for employment generation and economic development.

**Kudumbashree's intervention in micro enterprise development**

Kudumbashree strongly believes and preaches that poverty can be eradicated only through generation of prosperity. Rather than distributing cash doles or charity, Kudumbashree tried to improve the capacity of poor women through series of cascading training. Employment avenues were identified through problem solving, filling the existing gap and innovating the opportunities. Kudumbashree facilitated individual as well as group enterprises. The services of various poverty reduction schemes offered by different types of Governments were converged to the grassroots through CBOs of the poor women.

Kudumbashree understood and identified entrepreneurship development as a process and offered all timely assistance by way of handholding escort services, facilitation, syndication and networking of micro enterprises.

**Olavanna Model**

The acute water shortage problem at Olavanna Village Panchayat helped to attract attention of international agencies including the World Bank. The important key features of Olavanna Model are:

1. Generation of local demand through a strongly pro-active facilitation by Village Panchayat.
2. Translation of demand into local plan for developing piped water system covering 100 to 150 families using local technical know-how.
3. Sourcing of seed money from the Government or the Panchayat.
4. Setting up of local organization for implementation and monitoring.
5. Decision on capital cost sharing and full cost bearing of O & M.
6. Direct execution by community.
7. Internal regulation with respect to social audit of all expenditure.

The success of Olavanna model was up scaled through other local governments, which resulted in the formation of Kerala Rural Water Supply & Sanitation Agency (KRWSA). The implementation of water and sanitation programme were switched on from Kerala Water Authority (KWA) to Community based KRWSA. Kudumbashree implemented KRWSA programme at Pookkottur Panchayat in Malappuram District. Right from identification of water source, developing resources, costing of the project, the community itself undertook purchase of the material, implementation of the scheme, mobilization of resources for implementation, and post-implementation monitoring. This had created employment opportunity in the locality as plumbers, fitters, designers’ etc. etc. Considering the performance of Kudumbashree it was selected for providing capacity build up and training in the sector reforms project to be implemented in Kasaragode and Kollam Districts of Kerala. Kudumbashree formed a consortium along with Institute of Management in Government (IMG) and were successful to get acceptance from implementing agency by competing with other national and international agencies. Further Royal Netherlands Embassy identified CBOs promoted by Kudumbashree as the best platform for routing their schemes in water sector in Idukki and Alleppey Districts of Kerala. In other words during the last few years operation Kudumbashree was successful in positioning it as a forum for converging various schemes aiming poverty reduction to the grassroots.

**Water and Sanitation Related Micro Enterprises**

Kudumbashree identified many enterprise opportunities through its intervention in water
and sanitation sector. Most of the Water meters installed at Trivandrum Corporation were under repair. This prevented Kerala Water Authority (KWA) from assessing the use of water consumed by a household. Repair of Water Meter using Government machinery was not an easy task. Further repair services were also not available in plenty. By identifying this opportunity Kudumbashree trained groups of women and entrusted them the repair work (Figure 5). KWA accepted them as approved agents for repair. Thus an existing problem helped Kudumbashree to find out a solution leading to economic development of Poor.

Another example is involvement of trained women for construction of Water Tanks at Erimayoor Panchayat at Palakkad District (Figure 6). As part of implementation of World Bank Supported Rural Water Supply & Sanitation Programme, when tanks are to be constructed Kudumbashree trained volunteers and made available to panchayat. Now most of the trained women are getting a reasonable income for their livelihood. Nearby panchayats are also willing to use their services and copy the same model using their own resources.

Kudumbashree identified local health traditions as an opportunity for starting up of micro enterprises. The concept of safe drinking water was changed drastically during last few years. More and more people started depending on bottled water as an alternative to water drawn from open well and taps. Instead of providing mineral water Kudumbashree promoted use of Herbal Water using Ayurvedic preparation. This was accepted by people and provided opportunity to poor women for earning their livelihood.

Starting up of Sanitary Mart as part of efforts taken in Malappuram District can be sited as another example, which paved the way for economic development through intervention in Water and Sanitation activities (Figure 7). Large numbers of Rural Sanitary Marts were

Figure 5  Inauguration of water meter repair unit

Figure 6  Construction of Storage tank at “Erimayoor”
started at Malappuram, which provided both sanitary equipments and trained manpower. Thus creation of employment opportunity is made possible through intervention in drinking water sector. In addition to water sector Kudumbashree followed the same path in other sectors also.

Kudumbashree concentrated both in the areas of content creation and spread of the activities. Starting from Information Technology to biotechnology, postpartum care to sanitation, agro-based industry to direct marketing wide range of activities provided Entrepreneurship opportunities to Kudumbashree.

Now micro enterprise development for local economic development was accepted by all developmental agencies and Kudumbashree is adopted as a role model. Destitute care, addressing geriatric problems, use of non-conventional energy sources etc were identified and developed by Kudumbashree as micro enterprise options. All these activities provided an option for Kudumbashree to buildup social capital. In other words it is amply made clear through our experience that if we want Panchayat Raj and democratic decentralization to work then the first thing that the Panchayats should be asked to take up is water harvesting - Have a Tank in every village. A participatory form of governance rather than a top down bureaucratic one is to be promoted for attending the cause of water scarcity and Kudumbashree does the same.

Community Inventorisation
As part of People’s Campaign efforts are taken for stock taking of water resource inventory. Panchayat Resource mapping were attempted with the help of NHGs and the water harvest-
ing structures such as ponds, wells, lakes, canals, rivers and springs in 168 Panchayat had been documented. Based on the information available at Panchayat Resource Maps efforts are being taken to develop and conserver water-harvesting structure with the help of CWRDM.

**Abbreviations used**

1. NHG : Neighbourhood group
2. ADS : Area Development Society
3. CDS : Community Development Society
4. CBO : Community Based Organisation
5. CWRDM: Center for Water Resources Development and Management
6. LSG : Local Self Government
7. CAPAM: Commonwealth Association of Public Administration and Management
8. KWA : Kerala Water Authority
9. KRWSA : Kerala Rural Water supply and Sanitation Agency