

Development

October 2017

Monthly Development update from DHAN Collective

Matters

Insights

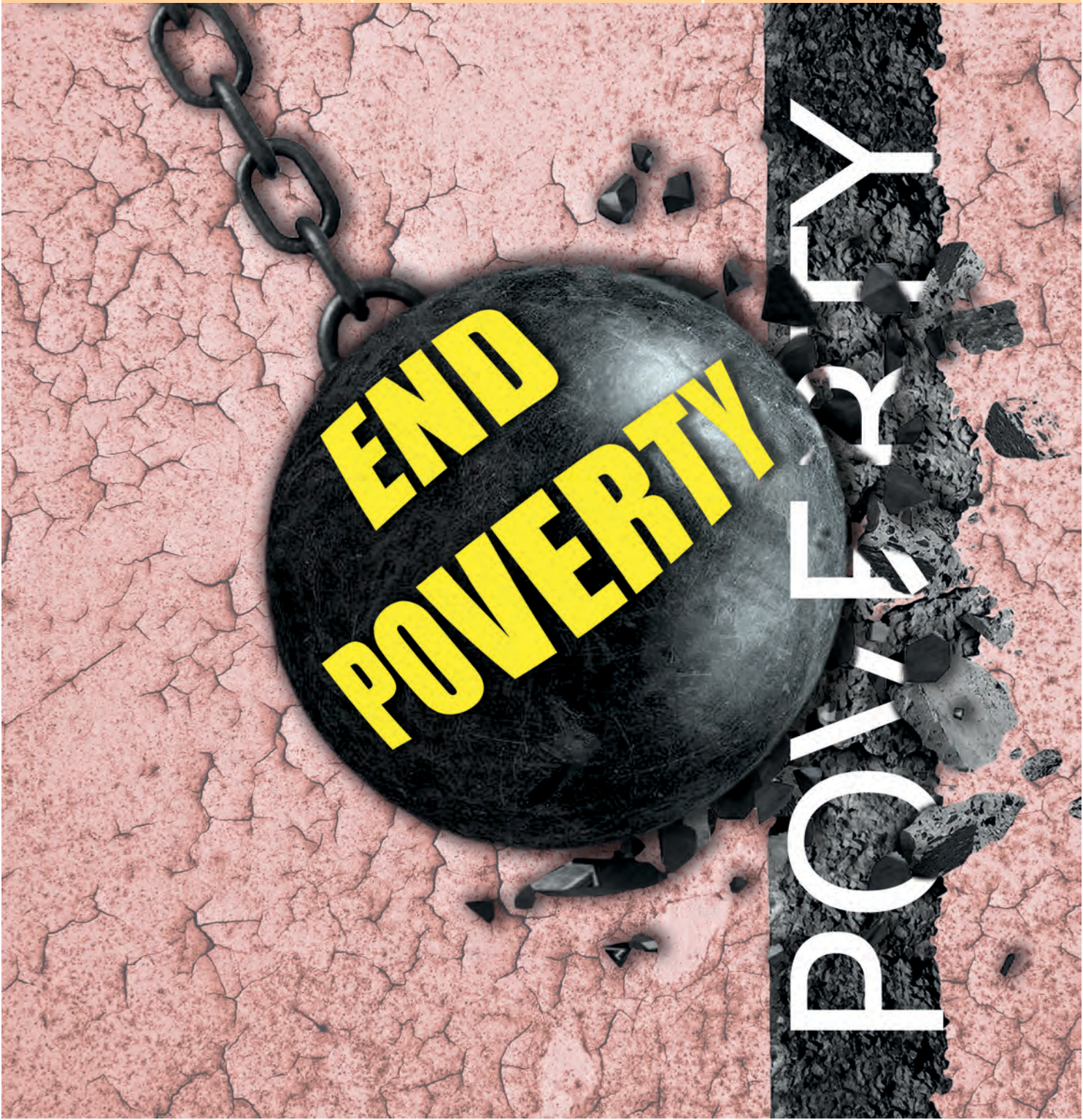
Dispelling Darkness **9**

Events

DHAN's 21st Foundation Day **12**

Coastal Conservation

Life below Water **19**





Marine and coastal ecosystems provide a vital basis for the livelihoods of many coastal communities. Around 40% of the world's population lives within 100 kilometres from the coast. They underpin poverty eradication, food security, employment, tourism and protection from natural disasters. Oceans and seas and their resources support human well-being and livelihoods.

About 80% of marine pollution and litter comes from land sources, this compromises the ocean health. This creates undue pressure on the oceans. The SDG Goal 14 calls for conserving and sustainably using the oceans, seas and marine resources for sustainable development.



DHAN Foundation

1A, Vaidyanathapuram East
Kennet Cross Road

Madurai 625 016. Tamil Nadu, INDIA
Tel.: +91 452 2302500; Fax: 2602247

Email: dhanfoundation@dhan.org

Website: <http://www.dhan.org>

From the Editors' Desk

Dear Readers,

Greetings from DHAN Foundation.

The October issue focuses on "Poverty Eradication" the core mission of DHAN. It illustrates the Foundation Day event organized in Madurai and the regional offices across India. DHAN Foundation works with the mission of **"Building people and institutions for development innovations and scaling-up to enable the poor communities for poverty reduction and self-reliance"**. This mission has got translated into grassroots action liberating many poor households out of poverty. Over the years, more than 4.22 lakh poor families have proclaimed themselves to have moved out of poverty. It is not just about celebration of Foundation Day and sharing community experiences, the events witnessed a number of new launches. The celebration brings the DHANites, community and collaborators closer to take forward the mission of poverty reduction. The articles in this issue capture the multidimensional poverty eradication approaches of DHAN.

We welcome your suggestions and feedbacks on the articles featured in the development matters. Please write to us at dhancdc@dhan.org

Happy reading!

Contents

1. Eradicating Poverty – DHAN's Way <i>Umarani A</i>	1
2. Overcoming Challenges, Moving Out of Poverty <i>Padmasankari T V</i>	6
3. Dispelling Darkness <i>Ramesh A</i>	9
4. Celebrating Poverty Reduction: DHAN's 21 st Foundation Day	12
5. Life below Water - Sustainable use of Marine Resources <i>Asai Thambi T</i>	19
6. Infographic	24
7. Cascading Impact: MGNREGS Restoring Micro River Basins <i>Sadasiva B</i>	25
8. GIS Application in Water Resources Development <i>Graceson Tony P</i>	28
9. Conservation Works Assures Income <i>Mohan J</i>	32

Eradicating Poverty – DHAN’s Way

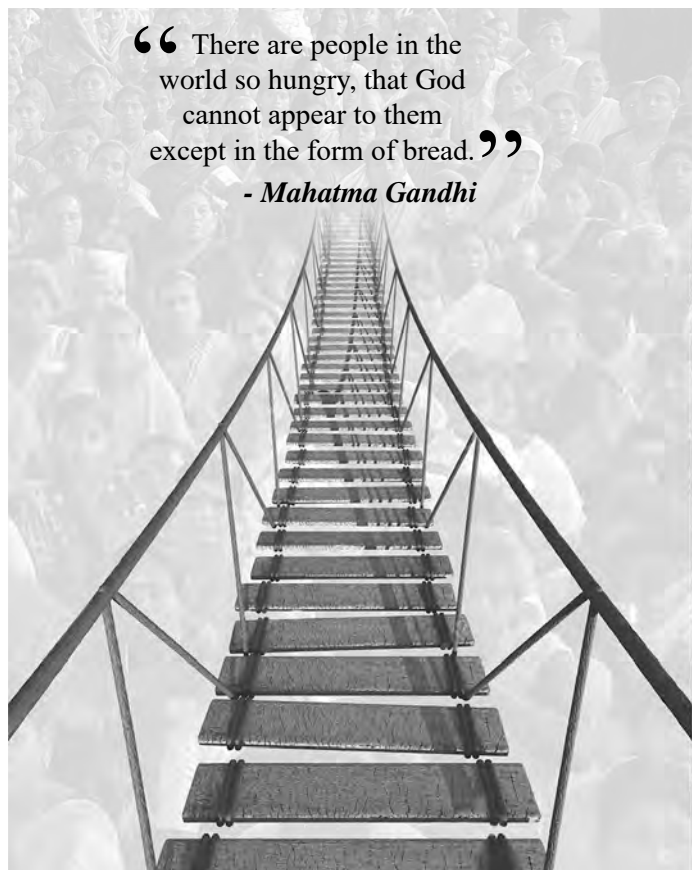
Umarani A *

“Poverty is the worst form of violence” said Mahatma Gandhi. Poverty is a situation where a section of the society, due to no fault of their own, is denied of even basic necessities of life. There is no one single definition of poverty and every definition can be said to be arbitrary. However, the most common measure of poverty is based on income – a person is poor if his income level falls below some minimum level, usually called the “poverty line”. Each country uses lines appropriate to its level of development and societal norms and values.

There are three perspectives of poverty – Income perspective, Basic needs perspective and Capability perspective. The definition of poverty is debatable as it is a relative term and the indicators vary according to the context – rural, urban, tribal and coastal. Mostly, the poverty definition and indicators are arrived at by the policymakers from their perspective. There are vulnerable communities excluded from the poverty target of the government due to methodological errors and political influence. Over a period of about six to seven decades – the understanding of poverty has changed from only income basis to capability basis and now considers multidimensional aspects such as health, education, basic amenities, gender inequality, political participation, vulnerability to shocks, child malnutrition and economic prosperity.

The multidimensional understanding of poverty is an inclusive one which is very relevant to the present day. The resilience of the poor households and their well-being are guaranteed with increased income and wider asset base to absorb shocks and vulnerabilities.

The poverty estimates are being made employing the following measures – Head Count Ratio, squared poverty ratio, Human Development Index, and well-being ranking with community participation. In the poverty assessment and graduation processes, the participation of the community is generally not significant. DHAN Foundation’s core objective is to reduce and eradicate



“ There are people in the world so hungry, that God cannot appear to them except in the form of bread.”

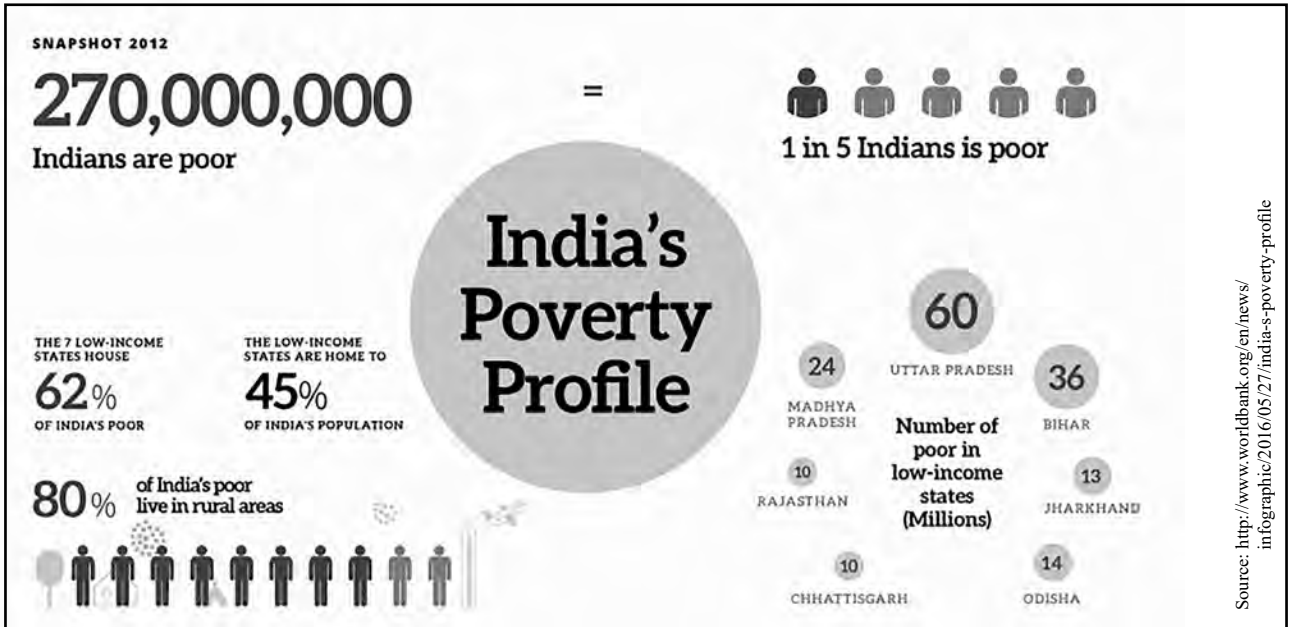
- Mahatma Gandhi

poverty by building sustainable people institutions around development theme relevant to the context.

DHAN’s experience in poverty graduation

DHAN Foundation works with the mission of “**Building people and institutions for development innovations and scaling-up to enable the poor communities for poverty reduction and self-reliance**”. It works in a highly decentralized manner with diverse themes and contexts with about 1.6 million poor families in 14 states. The four contexts are rural, urban, tribal and coastal. Its two thematic programmes – Kalanjiam Community Banking and Vayalagam Tankfed Agriculture Development are the scaled-up themes working for poverty reduction through promotion of people institutions, SHGs and federations for women and marginalized farmers.

* Ms. Umarani A, Chief Executive, DHAN Kalanjiam Foundation



The rainfed farming development programme and coastal conservation and livelihoods development programmes of DHAN are working towards addressing risks and vulnerability through technological interventions of fishermen and coastal farmers who experience frequent natural disasters. DHAN Foundation is continuously on the lookout for new innovations in development, which can impact the lives of the poor in a sustainable manner.

DHAN's Propositions on Poverty Reduction

Contextualizing poverty

The opportunities risks and vulnerabilities being faced by the poor are different in rural, urban, tribal and coastal areas. It is very vital for the professionals to understand the poverty indicators and characterize the poverty for evolving appropriate poverty reduction strategies and interventions. The so-called "official poverty line" may not be relevant in the field. Hence, DHAN's way of working with the poor is multidimensional and not only income based. DHAN's approach involves addressing poverty through people's organizations by clearly evolving appropriate strategies and intervention models adaptable to the local context.

Moving out and falling into poverty (two distinct phenomena)

Nobody would be interested and willing to remain poor. Many studies have brought forward the fact that falling into poverty in most cases is due to setback caused by health expenses or social shocks. **DHAN believes that**

the experience and wisdom the poor have, are great assets to positively address the poverty issues. The strength of the poor communities needs to be understood and taken as stepping stones for poverty interventions. Poor may depend heavily on external support. In such cases, the people's organizations and professionals need to play crucial roles of mentoring and hand-holding to bring about the change in the lives of the poor.

Self-force for moving out of poverty

DHAN believes that the poor have more clarity about their conditions and have acquired strong coping abilities to handle their issues. However, the professionals who directly work at the grassroots should be able to understand and assess their aspirations, level of self-confidence and capitalize on their abilities to come forward and facilitate with active participation in the development process. This would provide more clarity on building the community stake in the poverty reduction process.

Family matters

There are people's organizations to address a different kind of poverty issues. Institutional structures have advantages of promoting partnerships, building solidarity and strengthening the shared vision and goals among its members. However, it is critical for Development Professionals to understand the need and the relevance of those institutions in the business of poverty reduction. Hence, the professionals need to follow 'bottom-up' approach to understand and assess the poverty situation

of the individuals and their family situation to design better interventions for impacting the individual families and the members of those families.

Ethical practices for working with ultra poor

DHAN believes in grassroots democracy and inculcates democratic values in the institution-building processes. DHAN's six institutional core values such as grassroots action, enabling, collaboration, innovation, excellence and self-regulation are meant for the development of the poor. These values are being practised at different levels, including people's organizations for ensuring the reach of services to all. It specifically emphasizes on reaching out to the excluded through policy influence and partnerships. The ultimate aim is to promote self-reliance with strong demand system in addition to poverty reduction.

Thirukkural in its 1041st verse narrates poverty as

You ask what sharper pain than poverty is known;
Nothing pains more than poverty, save poverty alone.

இன்மையின் இன்னாதது யாதெனின் இன்மையின்
இன்மையே இன்னா தது.

DHAN's Way of Poverty Categorization

The poor household's choice and continuity of livelihood activities are dependent on the level of vulnerability and stage of the family life cycle. The poor households are more often exposed to risks such as drought, cyclone, flood and manmade disasters which cause losses that are beyond their means. They have diverse priorities, needs and wants. They take livelihood decisions either to stay with a particular livelihood strategy or to initiate a new livelihood based on their immediate personal and familial factors.

The poorest of the poor households opt for diverse livelihood activities in order to escape from the pressing needs for survival. Graduating the poor households from their survival state to self-employed state needs focused and multidimensional interventions. There is a greater need for understanding the three state of poverty – Survival, Subsistence and Self-Employed and categorizing the households with community participation using the participatory methods and process. The outcome should be of categorization of households into three contextualized definitions and indicators for each state of poverty.

Graduation	Survival	Subsistence	Self-employed
State of livelihood	Highly vulnerable	Endurance with limited security	Stabilized and secured
Nature of Livelihood	<ul style="list-style-type: none"> Wage earners with no assets Uncertain and seasonal employment Burdened by debts Vulnerable to health and life risks 	<ul style="list-style-type: none"> One or two additional sources with a main activity Fragile assets Vulnerable to health, life and livelihood risks Influenced by market changes 	<ul style="list-style-type: none"> Earning from own and single activity Vulnerable to life and livelihood risks Influenced by market changes
Livelihood Strategy	<ul style="list-style-type: none"> Multiple activities Borrowing for consumption Migration (permanent) 	<ul style="list-style-type: none"> Migration (Seasonal) Adjusting cash flows with consumption credit 	<ul style="list-style-type: none"> Smoothing cash flows Reinvesting the surplus Leveraging resources Expanding skills and assets Focusing on quality of life
Needs	<ul style="list-style-type: none"> Credit for consumption Insurance for health and life Ensuring access to entitlements Arresting leakages 	<ul style="list-style-type: none"> Credit for consumption Credit for asset creation and working capital Insurance for health, life and assets Creating market linkages 	<ul style="list-style-type: none"> Credit for expansion, working capital Insurance for health, life and assets Credit for housing/up-gradation

Poverty Reduction Approaches of Thematic Programmes

Poverty Reduction Approaches in Kalanjiam families



Poverty Reduction approaches in Vayalagam Families

Phase I

1. Sustain farm production through community-led conservation and development of water bodies.
2. In situ water conservation and establishment of micro water bodies as a protection shield against climate change.
3. Effective water resource management for successful crop production and income generation.

Phase II

1. Sustainable access to finance for investment in agriculture and asset creation.
2. Diversifying the source of income of farming households.
3. Introducing enhanced and climate adaptive agriculture practices.
4. Building capacity for introducing appropriate technology in the field.

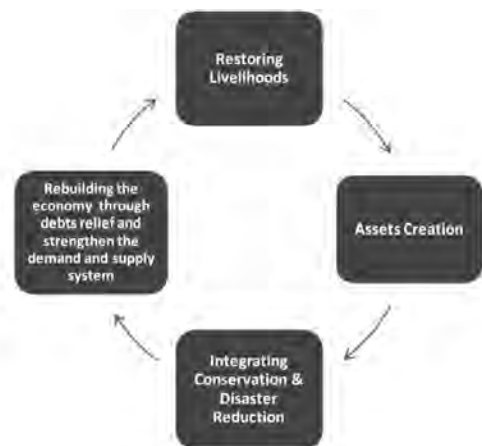
Phase III

1. Facilitating promotion of farmer's interest group to ensure farmers stay connected in agriculture.
2. Enhancing income through input and collective marketing.

Poverty Reduction Strategy in Rainfed Farming Programme



Poverty Reduction Approaches in Coastal Conservation and Livelihoods Programme (CALL)



Out of Poverty through Community Self-Declaration

The concept and practice of poverty categorization define poverty clearly and facilitate targeted approach for poverty graduation through various thematic interventions. It is an institutional practice that every year during DHAN's Foundation day, members of the community come out and declare themselves to have graduated out of poverty. The poor families who have moved out of poverty do this **self-declaration** every year and community validation at the group level confirms the self-declaration.

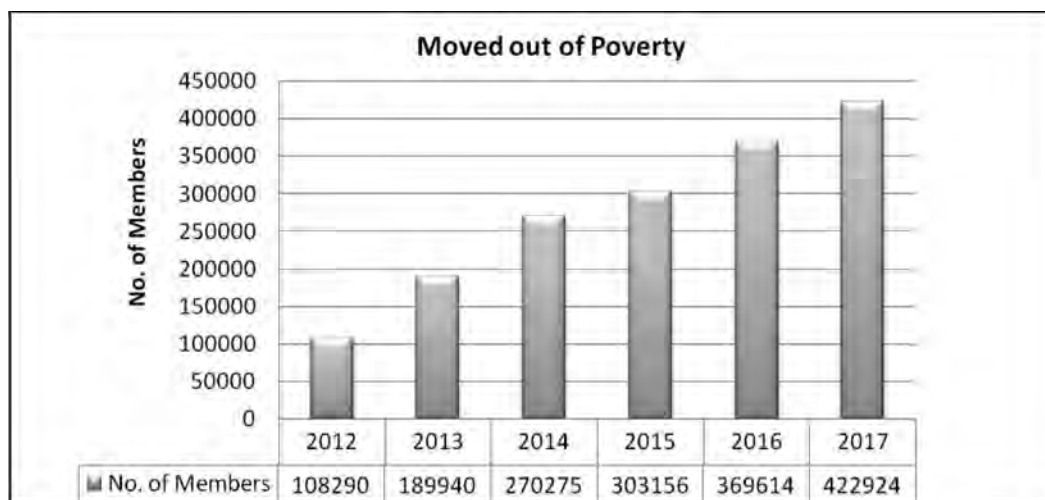
DHAN Foundation facilitates interventions on finance, health, education, social security, natural resources management, agriculture intervention, sanitation and

water, empowerment, literacy on various themes and future search and goal setting process through its verticals to ensure reach of all required services and empower the poor to use those services for coming out of poverty. Over the years, DHAN has facilitated 4.23 lakh poor people to graduate out of poverty. The numbers are growing stronger over the years.

The self-declaration is a voluntary process where the members graduating out of poverty declare their narrative. Poor are looking at increasing avenues to fight poverty and DHAN's approach helps them fasten the process. The self-declaration not only gives them the fulfillment of attaining their ambitious goals. It encourages the fellow community members to follow suit.

Members Moved Out of Poverty during 2011-2017

Sl. No.	Name of the Programme	Moved Out of Poverty						As of March 2017
		2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	
1	Kalanjiam Community Banking Programme	60,250	55,150	52,380	22,037	42,803	42,546	2,75,166
2	Vayalagam Tankfed Agriculture Development Programme	26,600	15,000	12,475	4,198	15,112	1,789	75,174
3	Coastal Conservation and Livelihoods Development Programme	19,940	10,000	12,230	3,180	6,393	5,472	57,215
4	Rainfed Farming Development Programme	1,500	1,500	3,250	3,466	2,150	3,503	15,369
Total		1,08,290	81,650	80,335	32,881	66,458	53,310	4,22,924



Overcoming Challenges, Moving Out of Poverty

Padmasankari T V*



During the 21st Foundation Day event held at Madurai, three members of Kalanjiam and Vayalagam took the dais and shared details of their upliftment from poverty. They took pride in sharing their life story, their misfortunes, their overcoming of hardships, challenges and odds in their life and the role of DHAN's thematic interventions in providing the much-needed support as a companion in the passage of life to move out of poverty. It is not just the tale of these three stalwarts from the community that took the limelight; they were 4.23 lakh contemporaries over the years of DHAN's community action. Oviyam, a member of Gangai Vattra Kalanjiam narrates her experiences.

“My mother died when I was a child. Because of the poor economic situation, my education could not go beyond

the 4th standard. I have four brothers and five sisters. Due to my family condition, I was forced to get married at the age of 14 years. After my marriage, I and my husband have worked in a brick kiln unit and are getting a regular wage income of Rs.250-300 on a weekly basis.

I have two sons and a daughter. All of a sudden, my husband deserted me to marry another woman. None of the relatives supported me and everyone felt I was a burden. First time in my life, I had fear of life and lost hope and confidence. Then, my first son was studying in 5th standard. I attempted to commit suicide. On seeing my attempt, my children started screaming. A old man came and rescue me. That old man's wife counselled me and promised to take care of my children. The old lady take care of my elder son and I took two children along with me to the brick kiln.

The wages were not enough to feed the family. Apart from the work, I have also gone for cooking and as a

* Ms. Padmasankari T V, Team Leader, DHAN Kalanjiam Foundation

domestic maid in neighbouring houses. I used to get food and clothes from those houses for my children. Most of the days, I have foregone my meals to spare food for my children. In this situation, one day I heard about Kalanjiam and joined the Annai Theresa Kalanjiam on 05.11.2004. I started my savings with Rs.100 per month. When I joined the Kalanjiam, I did not own a proper house; my house had walls on two sides' and on the remaining two sides, I used my sarees to cover up. It was very unsafe and my priority was to make my house safer. Hence, I borrowed Rs. 2,000 as a loan from Kalanjiam and constructed the walls. This loan helped me feel happy and secure.

Though I used to get work then and there, I could not provide my children with a quality food and cloth. After repaying my first loan, **I have taken Rs. 3,500 as second loan for celebrating Deepavali festival. That was the first time; my family had worn new clothes and consumed quality food. It was the happiest day in my life and it is still as green in my memory.**

As a member of the Kalanjiam, I used to attend various meetings organized by the federation. On one such occasion, I was attending the livelihood meeting; the topic of the meeting was skill building. On the same day, I was fortunate to watch a TV programme on women entrepreneurship. Drawing inspiration from these two programmes, I thought of utilizing my existing skill on bridal decoration and cooking variety of dishes.

Immediately, I started to work on it and got few orders in and around my village. Through that, I got an additional income of Rs. 3,000–5,000 per month. My sincerity and commitment helped me to get more orders creating higher earnings.

I had one habit. Whatever good things I have been hearing from my federation or from any of the Kalanjiam members, immediately I would get into action to try my hand at it so as to improve my life. On one such occasion, I heard that there was a school that runs free of cost for the children of deserted women. My poverty made me send my two sons for wage employment as construction labourers. Hence, I decided to provide education to my daughter in the school. I admitted her in that school at Kodimangalam. Now, she has successfully completed a course in catering technology and is earning Rs. 8,000 per month.

Unfortunately, my daughter was diagnosed with a heart disease and that was a rude shock to me. At that time, I was working as maid servant in a doctor's house. They advised me to take my daughter for surgery in a government hospital. She was admitted there and her surgery was also completed. During that time, I received Rs. 15,000 from Kalanjiam and Rs. 10,000 from outside for meeting the medicines and family expenditure. I was unable to go to work for three months as I had to take care of my ailing daughter in the hospital. In this period, my outside debt increased and I was unable to manage it.”





Livestock gives life: Day by day, my family burden has increased and I realized that my current income flow was inadequate. I felt creating livelihood assets only could help me to manage the cash flow in a sustainable manner. I borrowed a loan of Rs. 10,000/- from Kalanjiam to purchase goats and also received four goats from the government. With those eight goats, again I started my life with renewed confidence. I also went for MGNREGA works, construction works, other seasonal works like decorating bride and cooking. Slowly, I managed to get adequate income flow. In few years, the number of goats increased. By selling these goats, I have repaid all my outside debts apart from managing my family needs.

My husband owned a piece of land and after he left me, I continuously fought with him and got that land from him. I decided to construct my house in that land. I received

another loan of Rs. 30,000 from Kalanjiam and now I own a new house. I gave the earlier one to my eldest son and I started living in this new house with my younger son and daughter.

Savings aid in time: I had a practice of doing special savings in Kalanjiam apart from my monthly regular savings. Through this, I purchased three sovereigns of jewels for me and my daughter over the years. For my daughter's marriage, I got a loan of Rs. 50,000 from the Kalanjiam. With the loan support, I completed my duties successfully. After my son's marriage, I asked them to go separately so as to make him responsible and independent. I always advised my sons that they should take care of my daughters-in-law properly and ensure good clothes, shelter and quality food. They should not suffer like me. My sons have told their spouses that "My mother has not taken proper food when we were a child and now it is our turn to take care of her".

Hard work gives dividend: I always had one wish that I should not depend on anyone until my death. I want to be independent and support my children whenever they are in need. I am ready to do any kind of work. Some days, due to my ill-health, if I have to take food from my son's house, I feel unhappy. Now, I take care of my granddaughter and give her all facilities to enjoy her childhood. I also did life insurance and health insurance to take care of my medical expenses. Considering the poverty and hopeless moment I had in my life, now I lead a contented life grooming my children to face life confidently.

I am a good listener and learner. Whatever I learnt from Kalanjiam and from my neighbours, I immediately start practising in my life. Through this only, I started diversifying my livelihood to ensure sustainable income. My words to my fellow Kalanjiam members looking to come up in life are: "Never lose your heart, work hard, I am sure that you will get your income regularly". Except for two occasions, I have never borrowed loan from outside. I used to plan and spend within my income. It's true that Kalanjiam has given that confidence for sure and helped me resolve my issues sooner. □

Dispelling Darkness

Ramesh A*

Access to electricity has created a revolution and has transformed the human life altogether. However, in India, only 75% of the households have been electrified. Of the 6.5 lakh villages in India, only 8% of the villages have 100% electrified households¹; we still have 45 million poor households without access to electricity or any other easily available and affordable source of energy to meet their lighting needs as of September 2017. The sources of energy for the poor are costly, inefficient, polluting and unhealthy. Fuel-based lighting is the most common source of energy for poor in the unelectrified villages, especially in tribal areas. Women travel a long distance to procure kerosene and fire woods.

The UN's Millennium Development Goal had clearly recognized access to energy as a prerequisite to halve the number of people living below the poverty line by 2015. The poor should be taught about environmental damage from burning of high carbon content natural fuels like coal and wood. This will lead to unending and devastating results like deforestation, air pollution and global warming.

Kalrayan is one of the most underdeveloped Blocks in the Villupuram District, Tamil Nadu. There are 15 village Panchayats spread across 177 habitations in the block. Out of 177 habitations, only 90 habitations are fully electrified and rest of the habitations are partly and not yet electrified. **Lack of basic infrastructure such as roads, water, communication and electricity has kept this tribal dominant block less developed.** In Kalrayan hills, most of the villages do not have any proper electrification due to improper roads, hilly terrain nature and forest rules and regulations.

When DHAN conducted a assessment study, it was found that disturbed electricity services had severe implications in day-to-day life of the people. The hill tribal community use woods, kerosene and candles for getting light beside

1 Source: <http://garv.gov.in/dashboard>



electricity. Jawadhu and Kalrayan hills are facing severe power failure and low voltage power supply frequently. The frequent power interruptions are caused by heavy winds and rain, which results in a situation where it takes a couple of weeks for the villages to get back power supply.

In the last four years, the establishment of mobile towers has given rise to wider use of mobile phones for communication needs and entertainment. The mobiles as personal audio players have become a part and parcel of their life listening to music while working. The power cuts have forced them to go to the neighbouring villages for recharging their mobiles. Business has to close early because of power cuts.

Kerosene lamps and candles are frequently used when electricity is unavailable. The lighting is often inadequate for the women to do their domestic work and students have to finish their homework before dusk. In houses where there are new born/small kids, to abate darkness, kerosene lamps/candle is lit for the whole night. It has health implication on children and there is the risk of fire accident. The houses are mostly filled with fumes and carbon dust. This has an effect on the quality of life and children's education.

* Mr. Ramesh A, Programme Leader, DHAN Foundation



the initiative through its Indian arm and made energy intervention to the tribal communities of the Jawadhu, Kalrayan and Kolli hills. Access to solar energy devices can be a better alternative to ensure safe ambience for the future generations. The introduction of solar lighting system is healthier, brighter, safer, and cost effective in many ways. Thus, money saved from not buying kerosene could afford them better savings. People can meet their cost of purchasing a solar light within 6 months, through their savings. The solar lantern is modern have mobile charging connectors which facilitate their use as mobile chargers.

DHAN introduced solar lamps among the community in Jawadhu, Kolli and Kalrayan hills. 75 members have so far benefited through this initiative in the last one year and the same members would form solar user groups (called as SAKTHI). So far, seven SAKTHI groups have been promoted and institution building process such as meeting, governance, records and finance has been conducted similar to SHGs. They were seeded with the concept of alternative energy and its uses and they create the base for exploring non-conventional energy sources.

To ensure better understanding among the users, a workshop was organized to relate product specifications and its utility, impart technical details like fixing the panels, do's and don'ts and handling repairs. Twelve volunteers participated in the event and have undergone the training. It helped them to know more about the advantage of having solar lamps.

Two solar-powered products were identified for community utility. Five villages were selected initially and in each village five units of solar lighting were installed.

- i) 20 Watt-hour/day (solar panel, multiple mobile recharger, one 1 W and one 2W LED light) Cost of the unit is Rs. 5,400/- with an initial payment of Rs. 300/- and monthly Rs.300 to be paid over 17 installments
- ii) 40 Watt-hour/day (Solar panel, multiple mobile recharger, one 1W, two 2 W LED light) cost of unit - Rs.8,000 with an initial payment of Rs.600/- and monthly payment of Rs.600 paid in 18 installments

Though using kerosene is comparatively better than other fuel items, there are a few key issues. Kerosene is only available in limited quantity through the public distribution system (PDS). The cost of kerosene in open market is almost double; it is too high for the poor tribals. This apart, people need to spend one full day for collecting the kerosene through the PDS. This results in loss of employment, wage and precious time. In the absence of transportation, the tribal community has to walk to reach the PDS.

Again frequent use and rare cleaning of the lamp results in low lighting; thus, making the home dark after dusk. Children cannot play in the evenings. Also, because they study under kerosene lamp, they suffer from irritation in eyes and pulmonary disease at a young age.

Hence, DHAN with the support of zeroPoverty, a Switzerland-based development organization facilitated

The solar light intervention has seen a change in the quality of life of the people in the hills. People no longer have to put up with fumes and soot produced by kerosene lamps and candles exposing their children to the risk of fire accidents. Children could do their homework in the night at home and play in the evening. Health issues caused by fumes and soot no longer exist. The community does not lose their one day wage for the purchase of kerosene in PDS and open market. They save time and money. □

Lighting brings together families

Arunachalam has two sons and two daughters; all are married and living separately in the Kattankadu hamlet of Sellur Nadu village of Kolli Hills, a tribal backward region in the Namakkal district of Tamil Nadu. His deepest desire is to make sure that his grandsons spend their holidays with him in his home. His wish has all along been elusive as his sons and daughters prefer not to stay with him at nights because there is no electrical power in the house.

For years, he managed to live without electricity in the house, as his house is on farmland. Since, it is far from the main village, he could not get his home electrified though he realizes its necessity. It is not just the case of Arunachalam; many are living in similar conditions in his village and in the neighbouring villages and have been without electricity for generations. He earns around Rs. 30,000 through farm income by cultivating tapioca, pepper and coffee. Other than farm activity, he also works as farm labourer when there is no work on his farm. Thus, he earns Rs. 20,000 in a year through this means. With this meagre annual income, he could not think of getting access to electricity by meeting the cost.

He used two litres of kerosene and five to ten candles a month. It cost him not less than Rs.100 per month. Yet, its utility is not sufficient to ensure a safe living due to the inadequate light. Moving out of the house at night is a tough task. "I have a lot of hens on the farm to augment my livelihoods. But at nights, wild cats, Loris and other wild animals used to catch them as prey. In the hills, to protect the livestock, people put on lights to avoid wild animal intrusions. However, the absence of electricity has left me with no choice

but to be vigil at nights to push back the wild animal attacks. There is always the fear of being exposed to poisonous insects or snakes that may get inside the home due to darkness at home. Hence, we need to be always attentive to even small sounds.

When I go out of home for any work and happen to stay there at night, I always fear for my wife who is staying alone at home. Though I have a mobile phone to charge my phone, I have to walk two kilometres to reach my neighbours who have electricity access. I love reading books, but even if I felt like reading a book, I am forced to go to bed by seven in the evening.

It is in this background that I was approached by DHAN for installing a solar lamp. I had initial hesitance considering the cost. However, taking into consideration the needs, I opted for installing the solar lamp at my home. Now, we have ample light, and need not be frightened of insects or snakes. I can charge my phone at home. I can read books even at night. The light on the courtyard has now restricted wild animal attacks and the livestock is now safe. Beyond all this, my grandchildren are staying at my house and enjoy being with us. Solar electrification has not only given economic and safety value but also fulfilled our desire of being with our grandchildren whenever possible."



Celebrating Poverty Reduction: DHAN's 21st Foundation Day

“True tribute to Mahatma Gandhiji, father of our Nation, on whose birthday DHAN's Foundation Day coincides would be to realize his vision of Gramswaraj, propagating the values of truth, alleviate suffering of the poor and downtrodden. This is what DHAN Foundation has been striving for”, said **Mahesh Kumar, Commissioner of Police, Madurai**. Speaking at the 21st Foundation Day of DHAN Foundation in Madurai on 2nd October 2017, he applauded DHAN's mission to end poverty through its development programmes. He praised DHAN for its work beyond economic empowerment, by addressing the health, hygiene and legal aid needs of the poor. He stated that those who contribute to the welfare of the society are the real “Heros”.

He hailed DHAN for its contributions to help people move out of poverty and build social new social order. He recalled his association with DHAN 17 years back, then as the superintendent of police in Theni, where illicit arrack was a big social issue in the district. DHAN through its community organization had been of much help when the department had been trying its best to wipe out the issue. That year, Theni district bagged the state award for its excellent work in abolishing illicit arrack.

Sundara Avudaiappan, Station Director, AIR, Tirunelveli in his special address acclaimed the gesture of the poor to proclaim modestly that they had overcome poverty. The self-declaration is itself an elevation of attaining self-respect. The achievement that 4.22 lakh of poor has come out of poverty is a proud moment. Many poor have been helped by DHAN to lead a dignified life. It shows that if you are set on a mission, victory



is yours. DHAN has devised its intervention to create sustainable development. It aids to achieve challenging tasks with ease.

M.P. Vasimalai, Executive Director shared the achievement of DHAN over the years. DHAN has reached out to more than 80 lakh people through the 16 lakh families it is working with. So far, 4.22 lakh poor people have come out of poverty and in the coming year, another 52 thousand poor will come out of poverty. DHAN has devised a strategic plan for the next five years. In the coming five years, we will reach out to 10 lakh poor families. 25 new federations will be promoted by organizing one lakh families. DHAN has planned to bring six lakh poor households out of poverty.

People's contribution is expected to grow during this period. People promoted federations will increase in number. Now, community contributes 60% of the total financed deployed for their development in the form of savings, insurance premiums, contributions for renovating water resources and for meeting the cost of operation at the grassroots level. In the coming years, community contribution is expected to grow. DHAN has planned to demonstrate 100 model development villages in the next five years. To encourage good moral values, “forums of virtues” will be promoted and spearheaded by the community leaders in villages. The strategic plan DHAN also envisages to have resilience fund to absorb risks.



DHAN has been engaged in bringing out the District Human Development Report (DHDR) for various districts in Tamil Nadu. It also works in tandem with the small millet promotion activities of the government. Senior DHANites take part in many national and international forums and DHAN has been successfully facilitating SHG-Bank Linkage with about 300 branches of 30 banks all over India including public sector banks, private banks and regional rural banks.

DHAN Awards

This year's DHAN awards were given to *Supraba Seshan*, *Kamalanathan* and *Pamayan*. Supraba Seshan is involved with the Gurukula Botanical Sanctuary in the Wayanad District of Kerala, since her early age. She along with a group of 30 women has been involved in regenerating wildlife for the last 40 years. So far, she has recovered 2,000 rare species of plants and has created a complete self-rejuvenating forest in 40 acres of landscape. More than 5,000 students and the general public are visiting this botanical sanctuary for the wildlife experience every year.

Kamalanathan runs a mobile shop in Kuala Lumpur, Malaysia. He has been rescuing people who are trapped in Malaysia as illegal migrants because of fraudulent agents' activities. He has rescued them with the help of the Malaysian police department. So far, he has rescued and facilitated the safe return of more than 2,000 migrants. He has promoted a human rights group, Malaysia Global Rescue Humanity and aids the people by providing the much needed legal support.

Pamayan is a writer cum organic farmer; he has promoted an organization "Addisil" for encouraging the farmers for



furthering sustainable agriculture practices. He conducts farmers training programmes and awareness events, to propagate the ideas. So far, he has conducted more than 500 events to reach out to more than 10,000 farmers.

New initiatives

The founder of Embassy of Earth, Netherlands, Frank Heckman initiated the Green River and Green Phoenix project and delivered a special lecture. During the event, Health Matters Newsletter, Micro Finance diploma course material, Community Newsletter (in Kannada), "Pokkisam" a Community Health awareness songbook were released by the chief guest Mahesh Kumar, Commissioner of Police, Madurai.

Induction Ceremony

The new staff members were inducted into DHAN Collective. Prof. DVR Seshadri, IBS, Hyderabad offered a special address welcoming the newly inducted professionals. The induction of community volunteers by the People Staff Development Board (PSDB) was facilitated by N. Shanthi Maduresan. S. Singarayar, Programme Leader welcomed the inducted volunteers. All the newly inducted staff and volunteers took an oath for dedicating themselves to development work.

Two community members, Oviyam and Selvam representing Kalanjiam and Vayalagam shared their life experiences on how they overcame poverty with the support of DHAN. The inmates of DHAN Karunai Illam, nursing students from SUHAM Institute of Health Sciences and students of Tata-Dhan Academy have presented cultural performance. T.V. Padmashankari and J. Mohan anchored the event.



Glimpses of Foundation Day Celebrations at the Regions

Chittoor



In the event held at Madanapalle, around 100 people consisting of leaders, members, staff, and associates participated. M. Kiran Kumar shared the Executive Director's (ED's) Foundation Day message in local language, which highlighted the ways for building resilience. The next five-year plan, new initiatives, new generation advancements along with the sayings of James Allen about perspective on regeneration were shared.

Tulasi, Regional Coordinator shared the status of the region and about projects being implemented across the region, upcoming projects and way forward for strengthening of the federations. In the graduation ceremony, eight associates from four federations got inducted and shared their experiences. Leaders from all the federations narrated their experience of how their groups are helping the poor to come out of poverty and skills gained in terms of leadership and communication.

In the Development dialogue on "Gandhian Way" by K. Venkat, Retd. Professor, B.T College, Madanapalle delivered an inspiring lecture to the participants. Another guest Muralidhar Naidu, who has collection of Gandhiji's rare pictures addressed the participants and requested the younger generation to protect the freedom.

An exhibition on Mahatma Gandhi's rare pictures, small millets and JanAushadi Medicines were displayed in stalls as part of the celebrations.

Dindigul

In Dindigul, around 450 members participated including Cluster EC Members, Federation board members Regional Council Members, People functionaries, and DHAN Staff.

Regional Coordinator S. Iyappan presented the overview of DHAN. He shared details of the last year's progress of the region. The ED's message was conveyed in Tamil. Members shared stories of how they moved out of poverty. In Dindigul region, so far 7096 members have declared themselves to have come out of poverty. In the last one year, 196 members declared that they have moved out of poverty. One DHAN staff member and one people's staff member shared their work experience.

Arivazhagan (Progressive Melvin Jones Fellowship & Former District Governor Lions Club) presented the chief guest's address. He appreciated DHAN's people federations and emphasized that Lions Club can do a lot of service to the community jointly. Fr. Antony Paulsamy, Director RTU shared that the dream of Gandhiji is to create Gram Swaraj. DHAN Foundation is doing excellent job in making the dream of Gandhiji



into reality. A film on Cleanliness campaign was shown to the participants. **Five villages have been selected for the Cleanliness campaign in the district.** Maruthu, Secretary of Gandhian movement spoke on Anti-liquor movement.

Sudharsan Swain Senior Branch Manager, Bank of India, Dindigul in a special address shared his experiences about SHG bank linkage. Paraja Devi, Branch Manager, Canara Bank, Athoor appreciated the grassroot activities of DHAN and offered her continued linkage support to the DHAN SHGs, though they have stopped the SHG linkages for all the other NGOs. Credit disbursement orders were given out to 148 groups to the tune of Rs. 2 crores.

The Kalanjiam award was given to the organizers of “Ayakudi Free Coaching Centre” for providing free placement coaching. So far, over one lakh students have attended the training programme and more than 5,000 persons have got placed in government jobs.

Warangal

Y. Venkateshwarlu, Team Leader, shared the ED’s key note address and briefed about the organization’s status.

Mallikarjun briefed about DHAN Vayalagam (Tank) Foundation, 25 years’ experience and its reach in Warangal Region. Vayalagam leaders shared their experience with DHAN’s work and its impact.

Afroz, Agriculture officer of Cherial explained about the importance of water and watershed programme and challenges in agriculture, organic farming, and climate change adaptation. Ramprasadh, Mandal Parishad Development Officer told about the good initiatives of DHAN and its impact in Cherial mandal. Ramesh Kumar, AGM (DD), told about the importance of water and on Agriculture Productivity, different types of techniques, less usage of less water and more productivity. He also spoke about producer organization and its importance.

Kolar

As a part of the event, best farmers and AFG members were honoured from all the locations for effective utilization of the benefits of the work done and also for prompt repayment of loans. Three farmers were honoured for taking up farm pond in their lands under BPCL support. They are marginal farmers who had left agriculture for want of water. After the farm pond initiative, they started growing crops by using the water. Now, they are back to



agriculture and are socially and economically having good identity.

Two women members of our AFGs were also honoured for their active involvement in the group. They have utilized the loans from KDFS and Corporation Bank for income generation activity. One of the members has taken up dairy activity from the loan. Now, she has two milch animals and leads a life with their income.

The farmers and beneficiaries shared their experiences on impact of farm ponds giving assured income. The farmers informed that their family members are working in their own lands. We also suggested that the farmers adopt drip and sprinkler irrigation, tree plantation, different kinds of fodder trees and other trees with farm pond.

The outgoing president was felicitated and the new president got inducted on the stage. He spoke about the Clean and Green concept and the role of students and women in maintaining the same in their respective houses and villages for better tomorrow.

The Chief Guest Venkatappa spoke about drought resilience mechanisms in the district and he insisted that the participants plant sandal wood trees in and around their farm lands. He also shared his experience about his childhood education and insisted that the students should pursue higher education.

Launching of Tank Cascade Project and Fourth year project villages of BPCL:

The Tank cascade project supported by Texas Instruments (India) Private Limited was officially announced. The project will be implemented in 11 villages of two cascades in Mulbagal block of the district. The total outlay of the project is Rs. 63.19 lakh, out of which the community contribution is Rs. 7.50 lakh. We already have a project on Natural Resources Management with BPCL in its fourth year; during the event, we announced the villages selected for the project in the five blocks of the district.

Rama Nagara

Nearly 120 women leaders from Harohalli, Kanakapura, Kodihalli, Ramanagara, Magadi Tank farmers and

around 50 students of ashram school participated in the event. Trees were planted at Suvarnamukhi Samskrithi Dhama by all guests, community and staff.

Shankar Prasad shared the purpose of DHAN, its reach and activities. Gowri shared the ED's message. The guest expressed their proud association with DHAN and its programmes on the rural development. The need for women development by empowering through self-development, education and self-employed was emphasized.

DHAN Pragathi Sandheshha

During the event, the monthly magazine in Kannada "DHAN Pragathi Sandheshha" was released. The objective is to share the local rural development initiatives, women leader's stories, grassroot level development activities of DHAN, etc.

Arivu- Neravu a community initiative was undertaken. Leaders collected amount of Rs. 3,100 from the participants and gave it to a student's Ashram for their welfare activities.

As part of **Honoring the best community leaders**, each federation's leaders received momentum from the guest for their selfless contribution and services.

Theni

The Theni regional event was organized at Chinnamanur; around 250 members participated in the event. Regional level activities are shared by regional council members. New associates who have completed Kalanjiam





Movement Workers Training were inducted in this event. The guests are branch managers (Bank of India), President of Kammavar educational institutions, model farmers from Kadamalikundu and President of Sarvodaya mandal, Theni.

During this year 34 members have moved out of poverty, and five members shared their experience. A new health initiatives was initiated on that day were master health checkup for 30-40 members is planned on a daily basis. The transportation for the same is arranged from region. Thus we have proposed to cover all members. Kadamalaikundu federation also planned to have a primary care hospital in two months for its members.

Thiruvallur

Totally, 368 families from the region were moved out of poverty in the last one year. Members have come out through self-declaration. They underlined the need to bring out more poor out of poverty in the coming year.

In Thiruvallangadu Vattara Kalanjiam, as part of New Programme Launch, Jan Aushadhi Medical shop was launched at Kanakammachatram. It was initiated by lighting of lamp by all federation leaders, associates and guests. Sathiya explained about the medical shop and its cost advantages.

In the function, four federations released their annual report, the federation presidents released reports and other federations' presidents and board members received the annual reports. The federation leaders are excited to know about the development in other federations. One member from each federation shared their experience of how they joined and benefited out of our credit and other services.

As part of DHAN Vayalagam 25th year Celebration, Duraimurugan explained about the outreach of the programmes. One EC member from Thiruvallangadu federation and one staff member shared their experiences and felt proud about being part of the Vayalagam programme.

Tumkur

The Foundation Day was celebrated at Koratagere office for the first time at the people-owned federation office. So, members, leaders and all the staff members participated enthusiastically.

The ED's message was shared with all. While a booklet on 'People Moved out of Poverty' was released by children, monthly newsletter in local language was released by cluster associates. Experience sharing by associate, accountant and professional was more

emotional looking back at their history and engagement in community development. Afternoon orientation on gram swaraj was by Girish, then together declarations were made for the next year and oath was also taken.

Puducherry

In the function held at Santhaipudukkuppam village, of Puducherry region many government officials enthusiastically participated. Representatives from HUL and Marico Industries also attended.

The message of ED on Building Resilience for Development was read by Dr. S Kanagasabai. R. Prakash shared in detail the intervention of DHAN. Rudra Gowd, Project Director, DRDA was the Chief Guest and Thillaivel, Deputy Collector Cum Hindu Religious Commissioner was the special guest. They spoke on temple ponds and the possibility of DHAN being entrusted with rehabilitation work. Subsequently, tree plantation was done with people participation.

Tutucorin

Totally, 236 members participated in the Foundation Day event. Tahsildar, Agricultural Officer, Horticultural Office and NGO directors participated as guests. Tahsildar on his special address asked the members to make use of the e-portal services to apply for the government scheme. The e-portal services are time bound and hence beneficial for the applicant. The regular application through the offices takes more time than the e-portal application. He called for more community involvement in the conservation of Ooranis and farm ponds. The

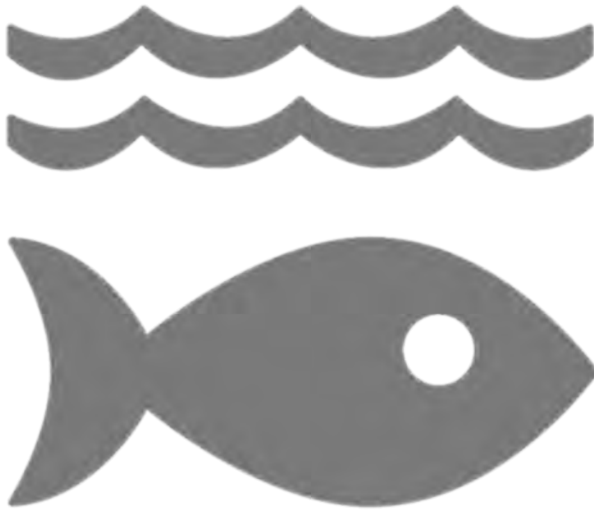


agriculture office asked the farmers to make sure that crop insurance is being done to mitigate drought. The guest also distributed 100 tree saplings to the Vayalagam farmers and the Kalanjiam members.

Salem

The Foundation day event was participated by more than 300 members and the staffs of the federations. Moganaperumal, AGM, LIC of India, Dharmalingam FPO Director(Corn), Udaya Kumar, LDM, Indian Bank, Manikadeswaran, Pallavan Gram Bank and Illaiyaraja of 'Puthiya Agarathi' magazine participated to grace the occasion. Dharmalingam, FPO Director(Corn) while sharing shared how farmers through FPO could generate profit through collective agricultural marketing. He called on farmers to get enrolled as members in FPOs to give a collective strength. Moganaperumal, AGM, LIC of India asked the women members to come out and prove their mantle. He expressed that with the empowerment of woman the possibility of the family coming out of poverty has widened. He even called to enroll more members in SHGs. The people below poverty are in large numbers and efforts to alleviate them could be done only by enrolling them. Udaya Kumar, LDM, Indian Bank appreciated the federations for guaranteeing social security to its SHG members and the eligible family members by ensuring that all are covered in PMSBY and PMJJBY. He also valued DHAN's approach to development through collaborations. The bank has a loan portfolio of 100 crores in the region. He asked the women members to explore more entrepreneurial ventures. □





Life below Water - Sustainable use of Marine Resources

Asai Thambi T*

Sustainable development goals (SDGs) are more ambitious than the millennium development goals, covering a broad range of interconnected issues, from economic growth to social issues to global public goods. The implementation of SDGs needs every country to judiciously prioritise and adopt the goals and targets in accordance with local challenges, capacities and resources. SDGs put forth 17 goals and 169 targets.

Status and Pressure

Around 40% of the world's population lives within 100 kilometres from the coast. This creates undue pressure on the oceans. Oceans and seas and their resources support human well-being and livelihoods. They underpin poverty eradication, food security, employment, tourism and protection from natural disasters. They provide humans with water and oxygen, while also being the primary regulator of the global climate and an important sink for greenhouse gases.

Marine and coastal ecosystems provide a vital basis for the livelihoods of many coastal communities, particularly

in the developing countries. About one billion people from developing countries rely on fish protein and nearly three billion people rely on fish for almost 20% of their protein intake. Some 300 million people find their livelihoods in marine fisheries; 97% of those are small-scale and artisanal fishermen from developing countries. Consumption of fish is increasing in all countries.

However, marine and land-based human activities continue to be a threat to oceans and seas and its marine resources. About 80% of marine pollution and litter comes from land sources, this compromises the ocean health. Invasive alien species, introduced through ballast water, aquaculture and tourism, among other means, severely impact the coastal ecosystems. One-quarter of all carbon dioxide released through human activity is absorbed by the oceans, raising the acidity of the sea water, with dire consequences on the marine ecosystems. Studies have shown that **since the beginning of the industrial revolution, oceans have become 27% more acidic and predictions show that, by 2050, ocean acidity could even increase by 150%**. Some estimates predict that up to 60% of the current biomass in the oceans could be affected positively or negatively by CO₂ emissions and climate change, with severe implications on the ecosystem, and 90% of coral reefs will be threatened by 2030, if appropriate protective measures are not undertaken immediately.

Destructive fishing practices, overfishing and illegal, unreported and unregulated fishing increase pressure on marine ecosystems, and nearly one-third of all fish stocks are now in unsustainable levels—up from 10% in 1974. Harmful fisheries subsidies exacerbate the problem by encouraging fishing beyond its capacity.

The deterioration of coastal and marine ecosystems and habitats has more severe and immediate impact on vulnerable groups whose livelihoods are uncertain. Small island developing states (SIDS), in particular, with their culture and economies deeply interconnected with the oceans, suffer acutely from the degradation of marine ecosystems.

* Mr. Asai Thambi T, Team Leader, CALL Programme



The First Global Integrated Marine Assessment notes that **“the world’s oceans are facing simultaneous pressure with such great impact that the limits of their carrying capacity are being reached; in some cases, have been reached.”** Also, delays in implementing solutions to the problems that have already been identified will lead to incurring greater environmental, social and economic costs. Projected global population growth to 9.6 billion people by 2050 is foreseen to aggravate the situation if no counter-measures are undertaken.

In the face of this situation, governments, organisations and individuals are undertaking action. Several international instruments have been adopted to address the multiple challenges facing oceans and seas, most notably, the United Nations Convention on the Law of the Sea (UNCLOS), which sets the legal framework within which all activities in the oceans and seas must be carried out. UNCLOS and its implementing agreements are complemented by a comprehensive web of instruments regulating various aspects related to the use of the oceans and their resources and the marine environment, from maritime transport to exploitation of living and non-living resources and pollution from various sources.

Several integrated, interdisciplinary and inter-sectoral tools have been developed to help manage activities

in the oceans and seas in a more sustainable manner, including ecosystem approaches and area-based management tools such as marine spatial planning and marine protected areas (MPAs). The number and size of MPAs worldwide have increased dramatically over the last 20 years, with 14,688 MPAs currently covering almost 15 million square km, or 4.12% of the oceans. The number of states undertaking steps to implement marine spatial planning has also increased.

Sustainable ocean-based economies, build on fisheries, tourism, aquaculture, marine renewable energies, marine biotechnology and other activities, are increasingly being looked at as a path to sustainable development, including the SIDS.

GOAL 14. Life below Water

The SDG Goal 14 calls to conserve and sustainably use the oceans, seas and marine resources for sustainable development. The target indicators are as follows.

- 14.1. By 2025, prevent and significantly reduce marine pollution of all kinds, particularly from land-based activities, including marine debris and nutrient pollution.
- 14.2. By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant

adverse impacts, including by strengthening their resilience, and take action for their restoration, to achieve healthy and productive oceans.

- 14.3. Minimise and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels.
- 14.4. By 2020, effectively regulate harvesting, and end overfishing, illegal, unreported and unregulated (IUU) fishing and destructive fishing practices and implement science-based management plans, to restore fish stocks in the shortest time feasible at least to levels that can produce maximum sustainable yield as determined by their biological characteristics.
- 14.5. By 2020, conserve at least 10% of coastal and marine areas, consistent with national and international laws and based on the best available scientific information.
- 14.6. By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, and eliminate subsidies that contribute to IUU fishing, and refrain from

introducing new such subsidies, recognising that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the WTO fisheries subsidies negotiation.

- 14.7. By 2030, increase the economic benefits to SIDS and least developed countries (LDCs) from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism.
- 14.a Increase scientific knowledge, develop research capacities and transfer marine technology taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular, SIDS and LDCs.
- 14. b. Provide access of small-scale artisanal fishers to marine resources and markets.



14. c. Ensure the full implementation of the international law, as reflected in UNCLOS for states party to it, including, where applicable, existing regional and international regimes for the conservation and sustainable use of oceans and their resources by their parties.

Challenges and opportunities for the implementation of SDG 14

Both challenges and opportunities exist in the implementation of SDG 14. The targets under SDG 14 exhibit close interrelationships and linkages with one another and also within each target. A good performance on any of them would accelerate progress of the others. For example, the means of implementation identified under targets 14.a and 14.c will be critical to the achievement of all other areas of SDG 14. Of particular importance in this regard is the effective implementation of the legal framework established by UNCLOS and its implementing agreements. On the other hand, failure to achieve some of the targets would negatively impact many others – sustainable management of marine and coastal ecosystems under target 14.2 is a case in point. In addition, achieving some of the targets under SDG 14 will depend on a broad array of actions under other SDGs, including in relation to food security, economic growth, industrialisation and infrastructure, and sustainable consumption and production. These agendas should be kept in mind when adopting SDG goal 14.

In order to address the implementation of SDG 14 in a comprehensive manner, it is important to have a comprehensive action plan on the seven indicators so as to address all the targets under SDG 14. This requires designing appropriate clusters of issues addressing several targets in conjunction.

As stake holders what can we do to protect our oceans?

Reduce Energy Consumption: Reduce the effects of climate change on the ocean by consuming less energy and limiting the burning of fossil fuels.

Use Fewer Plastic Products: Plastics that end up as ocean debris contribute to habitat destruction, entangle and kill tens of thousands of marine animals each year. To limit your impact, do not drop litter, carry a reusable water bottle, store food in non-disposable containers, carry your own cloth or reusable bag when shopping, and recycle whenever possible.

Maintenance of River Floodplains: Maintaining flat areas of land next to rivers can help to reduce leaves and mud from entering the river. Managing farm waste and sewage effectively are also important, to stop these sediments from entering rivers and the oceans. This is important because when rivers flood, these sediments are deposited on the plains on both sides of the river and then get flushed into the oceans.



Make Safe, Sustainable Seafood Choices: Global fish populations are rapidly being depleted due to demand, loss of habitat, and unsustainable fishing practices. When shopping or dining out, help reduce the demand for over-exploited species by choosing seafood that is both healthy and sustainable.

DHAN's Approach

DHAN Foundation responded immediately after the tsunami in 2004 and took up relief works. After the relief phase, DHAN took up the task of enabling the restoration of livelihood activities in the affected regions. It has now evolved into a full-fledged and area-based programme. The programme follows an integrated and holistic approach to address the issues in livelihoods and conservation of coastal ecosystem named as 'Coastal Conservation and Livelihood Programme (CALL)'. Without upsetting the social fabric and cultural identities, the following programme components have been designed.

- Promoting people's organisations among the most vulnerable communities, marginalised fishing communities, affected coastal farmers, affected women and families involved in allied activities. Access to savings, credit and insurance services are made possible, in addition, to support for their livelihoods activities
- Conserving coastal natural resources such as coastal eco-system, marine bio-system, water bodies and coastal farm system to reduce poverty and vulnerability, and thereby to make fisheries and coastal agriculture sustainable.
- Building business-based people's organisations and their networks to strengthen their existing livelihoods and encourage them to take up alternative livelihoods.
- Establishing disaster mitigation strategies through disaster management committees (DMCs), early warning systems (EWS) through networked VICs, and also creating corpus funds at the people's organisations for facing future disasters.
- Working in partnership with the panchayat and district level mainstream agencies to coordinate effectively under any emergency situations.

DHAN Foundation has undertaken various initiatives towards conservation of coastal and marine resources through its people's institutions, specifically in Palk Bay and Gulf of Mannar. Considerable efforts have been made in Palk Bay where the backwater fishing is predominant in Athirampattinam and Sethubavachatiram in Tanjore district. Likewise, the efforts were also made to protect and plant mangroves in those areas.

The programme organises the coastal communities into people organisations and facilitates eco-friendly initiatives such as adopting traditional crops, organic farming, conservation efforts, coastal cleaning, creation of farm ponds, renovation of tanks along the coastal strips, promoting horticulture, creating awareness among fishers on exploitative fishing and coastal conservation mechanisms through conservation councils promoted in villages with community participation. These initiatives help alleviate pressure on the sea.

DHAN Foundation in collaboration of GIZ and UNDP undertook studies and implemented projects in partnership with them as well as Gulf of Mannar Biosphere Reserve Trust, Central Marine Fishery Research Institute, Department of Fisheries, Academic and Research centres on the conservation of marine resources in the particular area. The scope is very high to conserve and protect Asia's rich biodiversity along with the people's institutions promoted by DHAN by ensuring better livelihoods with needed awareness.

Wrapping-up

Maintaining the quality of life that the oceans provide to humankind while sustaining the integrity of their ecosystems, will require a transformative change in how humans view, manage and use oceans, seas and its marine resources. Implementation of Sustainable Development Goal 14 in this context necessitates wider awareness on the issues and collective action to stimulate concerted and cooperative efforts, through partnerships among all stakeholders, to address the multi-faceted dimensions of Goal 14. □

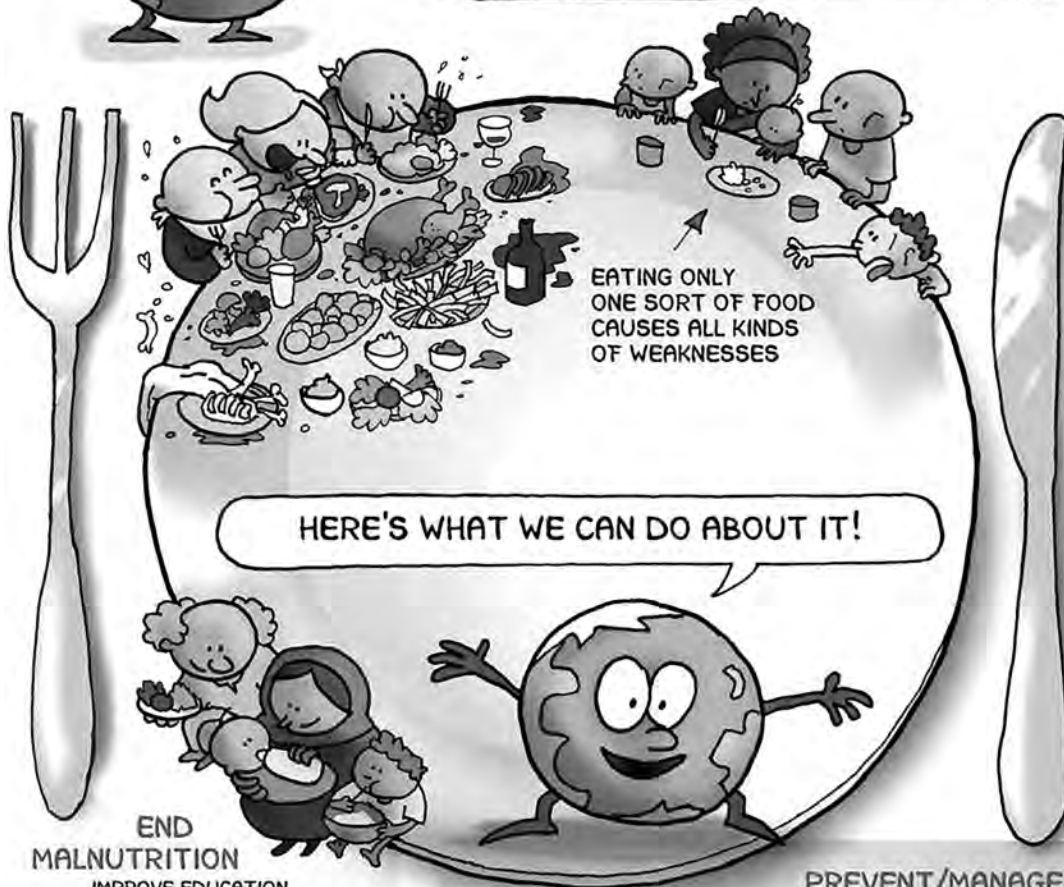


GOAL 2: ZERO HUNGER

BY: MARGREET DE HEER



SOME PEOPLE HAVE SO MUCH FOOD THEY THROW PART OF IT AWAY, WHILE OTHERS HAVE TOO LITTLE, OR TOO MUCH OF ONLY ONE SORT OF FOOD...



EATING ONLY ONE SORT OF FOOD CAUSES ALL KINDS OF WEAKNESSES

HERE'S WHAT WE CAN DO ABOUT IT!

END MALNUTRITION

IMPROVE EDUCATION AND SOCIAL PROGRAMS FOR MOTHERS, CHILDREN AND THE ELDERLY

PREVENT/MANAGE NATURAL DISASTERS

SUCH AS FLOODING!

SUPPORT SMALL FARMERS ESPECIALLY WOMEN AND INDIGENOUS PEOPLE



PROTECT VARIETY OF CROPS AND FARM ANIMALS



Cascading Impact

MGNREGS Restoring Micro River Basins

Sadasiva B*

Tanks are the engineering marvels of our forefathers. With their wisdom and ingenious skills, they have built series of tanks across the slope for harvesting the surface run-off during rains and used it conjunctively during dry spells for critical irrigation.

Champawathi river basin has 3,260 tanks that are hydrologically connected into 124 cascades. Each cascade serves as a sub-basin. This basin is prone to frequent climatic aberrations like droughts and floods, encountered 18 floods and eight droughts in the last 30 years. Tettengi and Garida Tank Cascades in the Champawathi River Basin have 78 water bodies with a command area of 5,283 acres spread over 13 Grama Panchayats in Gurla Mandal, Vizianagaram district. There are 29 water bodies including tanks, konerus and bandas in the Tettengi Tank Cascade and another 49 water bodies in the Garida Tank Cascade. Tanks are the lifeline for the farmers in these two cascades.

With the neglect by local communities and encroachment of tank beds and waterways by vested interests, many of these tanks have lost their efficiency and hydrological connectivity within the cascade. An estimate at the downstream locations of both these cascades showed about 1.33 million cubic metres of water as surplus, which could otherwise be effectively stored in these 78 tanks.

To find a lasting solution for this problem, German Corporation for International Cooperation, also known as GIZ, in partnership with the Ministry of Rural Development, Government of India evolved a project to pilot to generate environmental benefits through Mahatma Gandhi National Rural Employment Guarantee Scheme.

DHAN Foundation, which has over 25 years of experience in developing community-led conservation and development of water resources, executes this project under MGNREGS in coordination with the Water Resources and Rural Development Departments of Andhra Pradesh Government. It also converges with the departments of revenue administration, agriculture, veterinary and fisheries.

* Mr. Sadasiva B, Programme Leader, DHAN Vayalagam (Tank) Foundation



The project took-off with an inception workshop with all the relevant line departments chaired by Honourable Rural Development Minister of Andhra Pradesh organised in Vizianagaram. Participatory tank appraisals were organised in 37 tanks for generating farmers' needs and priorities for renovation. Cascade maps were prepared using Geographical Information System with the support of Andhra Pradesh Space Application Centre.

Focused group discussions were organised with the farmers in both the cascades to understand the phenomenon of climate change, ways and means to integrate adaptation practices in conservation, development and use of tank irrigation system.

During the first year of the project, renovation works have been taken up in 17 tanks. The project team has also organised farm field schools on paddy cultivation, veterinary camps for improving the livelihoods of the villagers. Fish rearing activity has been initiated in the tanks.

23 Tank Farmer Associations, called "Vayalagams" have been promoted by organising farmers from the command area of the tank. These Associations would spearhead the rehabilitation works and ensure the future maintenance of the tanks. There are 26 Agriculture Finance Groups organised so far to facilitate savings, credit and insurance services among the farmers.

With just a year passed since inception, the project could increase storage in all the rehabilitated tanks and assure water for cropping to 6,500 farm households. As a result of community involvement, the encroachers have come





forward to voluntarily surrender their encroached lands to carry out rehabilitation.

The project piloted in Vizianagaram shows the way for engaging multiple stakeholders for reconnecting the communities with their traditional water resources. Government, communities and development organisations working together with conviction will surely bring sustainable solutions in the near future.

Rajani a resident of the village narrates that due to the shallow depth of the tank, water in the tank is not sufficient during the summer. Due to low availability of water, they were able to cultivate only one crop in a year. Two crops in a year can secure them food as well as ensure adequate employment for the villagers.

They have to deepen the tank bed and strengthen the bund. Then, the surplus weirs and the sluice also need to be repaired. They have to widen the tank bund so that it could be of use for transportation. The filled-up channels have to be cleaned-up to ensure the free flow of water. This would help them cultivate two crops, thereby bringing prosperity in the lives of the farmers.

Venni Sanyasi Naidu, Sarpanch, Tettangi Grama Panchayat informed that the GIZ and DHAN Foundation's efforts along with District Water Management Authority, Vizianagaram shall take up the tank renovation works using machinery for distant area within the tank in addition to engaging labour works so that the strengthening of the tank bunds would be effective. Usage of machinery for de-silting the tank bed completely and

thus reinforcing the tank bunds will keep the tank intact for the next 20-30 years without needing much work. With the works, done so far, they were able to access water beyond September-October 2017 and it is expected to be available till June 2018.

Dr. Rajeev Ahal, Director-Natural Resource Management, GIZ shared information that GIZ is working in Andhra Pradesh not only to revive and desalinate the tanks but the whole cascade system and the sub-basin as such. GIZ envisages working with DHAN and the Government of AP so that the learning gets adopted by the mainstream government systems of MGNREGA. When systemized, this approach will move forward on an expanding scale. The huge resources being allocated to the MGNREGA and National Rural Livelihood Mission would be used to build sustainable agriculture farming system creating support for impacting livelihoods. According to him: "The sort of climate change variation, we are witnessing, it is time for us to move back to the traditional and complex hydrological system. With these hydrological systems, we would be able to manage the climatic variations well."

Murali Babu, Asst.Project Director, DWMA, Garividi Cluster is of the opinion that more farmers associations are to be promoted to have efficient water management using the tank system. So far, de-siltation of tanks using labour is being undertaken. They need to further deepen the tanks, sluice and surplus weirs using machines under the classification of material components under MGNREGA. This will ensure maximum water storage in the tanks. □

GIS Application in Water Resources Development

Graceson Tony P *

The recent explosion of computer technology has not only made it possible, but also easier to develop computer applications to address the problem of storing, manipulating and analyzing large volumes of spatial data related to water resources problems. Presently, many organizations frequently use Geographic Information Systems (GIS) to forecast effects related to the spatial variability of data. **Geographic Information System is defined as a system of capturing, storing, manipulating, analyzing, and displaying spatial information in an efficient manner.** It is a tool that can be used for analyzing the past, modelling the present and forecasting the future.

Thozhkapiyar, who drafted the grammar for Tamil Language has classified ecosystem geographically and psychologically as 'Purathinai' and 'Agathinai', respectively. These 'Thinai's are nothing but databases that carry attributes of the geographic location/character of people, which have some uniqueness among them.

DHAN Foundation is working in Gundar basin for the last 25 years. Gundar, one of the non perennial rivers originates at an altitude of 500m AMSL near Kothaimalai of Saptur Reserve forest that belongs to the Varushanadu Hills. The river travels about 150 km before it confluences with the sea at the gulf of Mannar. The tanks are the major water storage structures of this basin. There are about 2,276 tanks in this basin of which 1,765 tanks are minor tanks while the rest are under PWD's control. However, this tank system is rapidly degrading due to various reasons such as ageing over the centuries, inadequate and indifferent maintenance, large scale encroachments, weed infestation and structural decay (A note given by Government of India).

In an effort to revive this degrading Tank system, DHAN and HUL implemented the project (2008-2013) in which

255 tanks in the six sub-basins of Gundar basin were revived and are continuously maintained till date jointly with the local community. The next phase was designed to scale up the revival of 450 tanks in four years (i.e. 2015 -2018) in the Gundar and Vaipar basins.

The tanks are being revived through varied need-based interventions both on the demand and supply sides of the tanks. The interventions on the supply side include surplus weir and sluice repair, jungle clearance, feeder channel clearance, tank deepening and bund strengthening. On the demand side, the interventions include system of rice intensification, tank silt application, composting, green manuring and coir composting, adoption of portable sprinkler irrigation, adoption of drip irrigation, crop diversification, soil mulching, laser levelling and water conveyance structure construction. The major impacts of these interventions include increased water holding capacity of the tank, increased yield due to the availability of tank water, increase in water retaining duration of tanks and reduced water collection time in tanks.

Though these interventions are positively impacting the communities, DHAN was interested in technologically quantifying the impact created. After a series of literary reviews and discussions with experts, a methodology was developed to estimate the quantity of impact created and quantum of water conserved.

This study was planned such that about 45 tanks (10% of the total number of tanks intervened) were chosen systematically for this purpose, plotting 15 tanks each at the Head, Middle and Tail Reach. These tanks were studied and the observations and results extrapolated to the whole of the study area taking into consideration all the 450 tanks intervened, thereby computing the impact created.

* Mr. Graceson Tony P, Project Executive, DHAN Foundation

The methodology characterized a range of experimentations for the varied interventions. However, on the whole, the process involved the creation of the database of rainfall at a finer scale, plotting a graph between the depth of water in the tank and the water holding capacity of the tank and measuring the discharge rate of water from the tank for varied purposes; thereby, attaining objectivity.

For creating a database of the rainfall at the finer scale, the rain gauge was installed at a site within half a kilo metre radius of the sample tank chosen and the data collected regularly.

Followed by that is the plotting of a graph between the depth of water in the tank and the water holding capacity of the tank. For this purpose, the tank was surveyed with Global Positioning System - eTrex 30 and total stations - Sokkia and StoneX. GPS was used to survey zones with excessive weed where the prism could not be ranged from the total station. The remaining area of the tank was surveyed by the total station. Geo Control points were marked with the GPS thereby, geo-referencing the surveyed tank. The Geo coordinates and the elevation details acquired through surveying were processed and manipulated through ArcGIS 9.3 to develop a Digital

Rain gauge installed at each location of the study area



Elevation Model(DEM) and a contour profile of the tank surveyed. This DEM raster was converted to Triangular Interpolated Network (TIN) and was run in ArcScene to derive the variation in Area & Volume with depth. This data derived was processed in Excel to create the graph plot between the depth of water in the tank and the water holding capacity of the tank. GIS was preferred over the other methods owing to its feasibility and accuracy.



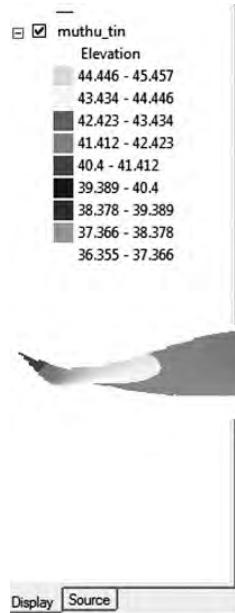
GPS



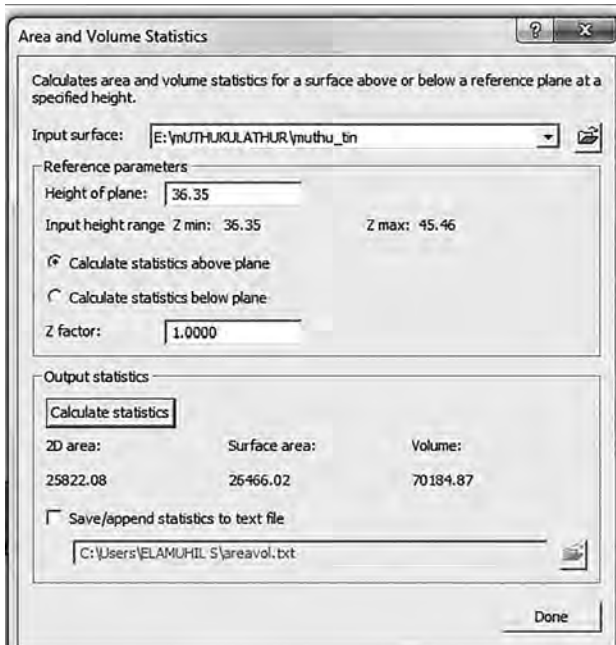
Total Station



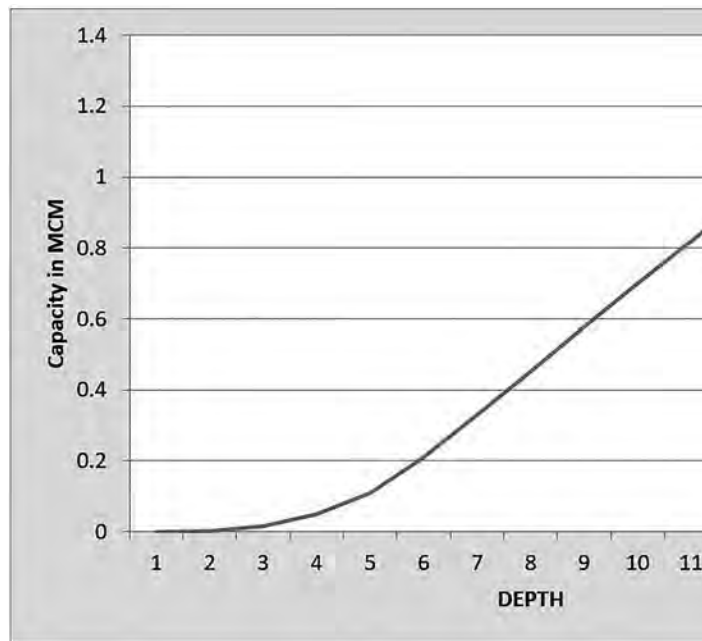
Contour Derived in ArcGIS from the data acquired through Survey



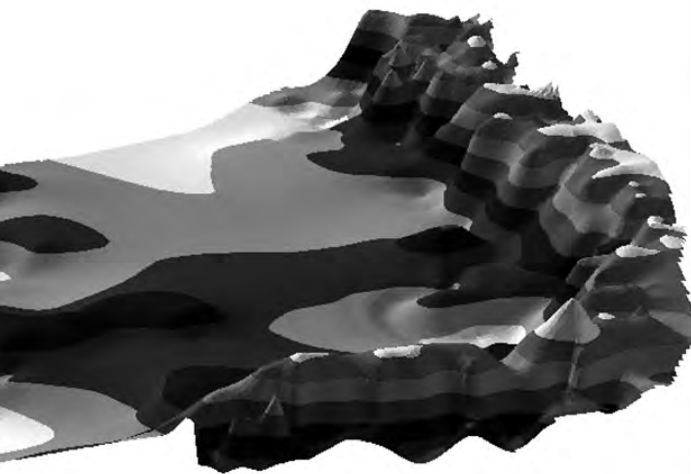
Triangular Interpolated Network



Variation in Area & Volume with depth derived in ArcScene



Graph plotted in Excel between the depth of water in the tank and the water holding capacity of the tank from the data derived from ArcScene



generated in ArcGIS run in ArcScene



Lastly, in order to measure the rate of discharge of water from the tank, V-Notch was used. V-Notch was installed in every channel that originated from the tank at a distance where the water flow was turbulence free. The difference in head was measured regularly to manipulate the values to estimate the discharge rate by the formula,

$$Q = 4.28 C. \tan (\theta/2) (h+k)^{5/2}$$

Q = Discharge (cfs)

C = Discharge Coefficient

Θ = Notch Angle

H = Head

k = Head Correction



V-Notch installed in the tank's channel to measure the discharge rate

The above process was done before and after intervention in order to account for the water conserved through DHAN's intervention.

Decentralized training to the technical team of DHAN Vayalagam (Tank) Foundation working in the study area enabled them to carry out the process at their location. Ground-truthing the remotely sensed data is a key in the application of GIS. Use of GPS and manometric method for contour survey, enumerating tanks in river basin exactly, establishing each location as a monitoring site were emphasized.

The Vayalagam programme is mapping out intervention, encroachments, sewage fed, weed invasion, inactive tanks and developing zone maps for floods and drought in the work area and thereby analyzing the maps on varied criteria to attain objectivity were considered. Characterizing a broader up-gradation of the intervention carried out, creation of base maps, carrying out photo-geological study, and updating the work done on the GIS representation in the study area were schemed so that technological integration is seamless in development works.

Ultimately, it is to reclassify the environment with newer attributes to Thozhkapiyar's 'Thinaigal' with the application of technological attributes so that quality assurance in development works are guaranteed and an array of information is available to facilitate the development process. □

Conservation Works Assure Income

Mohan J*

Selvam (50 years old) is a well-known vegetable vendor in Singampunari. Every day, he brings his vegetables and greens from his own land and sells them in the vegetable market at Singampunari. Within a span of 3 to 4 hours, his produce gets sold and he returns home. After the late breakfast, he works hard in his field till the evening. He grows three to five varieties of greens all around the year, as it has good demand in the market. Other than greens, he used to grow vegetables like brinjal, ladies finger, tomato, coriander, peppermint and lima beans. The yield from the farm gives him regular supplies for the market.

Horticulture crops like guava and coconut from his farm grown in a small area gives additional material for the market. Since he sells most of his produce from the farm in the market, he gets higher margin from the sales. At times when there is less produce from his farm, he gets vegetables from neighbouring farms to keep his customer base intact. Though there has been consecutive drought in the last three years in and around his village and the block, he continues his cultivation and his vending goes on as usual. He remembered that the last ten years were very crucial for his growth. He thanked the Singampunari Vattara Vayalagam was promoted by DHAN Vayalagam (Tank) Foundation for creating the strong base for his growth. During 2007, he had around 1.65 acres land with two tanks namely Periyannan tank and Thottikathan tank in the same village. He cultivated his land without having assured source of irrigation as there was not sufficient storage in those tanks. Periyammal (Vayalagam Associate) requested a group of farmers (around 14) from Thottikathankulam for starting a Vayalagam association. Selvam was elected as president for the Vayalagam association. The farmers jointly decided to promote an Agriculture Finance Group (AFG) in the name of ‘‘Uchi Karuppar Kurunidhi kuzhu’’ with a savings of Rs. 50 per month.

Development Interventions

During 2009, the Singampunari Vattara Vayalagam supported the renovation of Periyannakulam and

Thottikathan kulam where Selvam owns 1.10 acres and 0.55 acres of land, respectively. For each tank, the farmers contributed Rs. 20,000 and the ITC funded Rs. 80,000 towards deepening the tanks and strengthening the bund. During the same year, the Federation offered the scheme of constructing community well for the conjunctive use of tank and ground water. Selvam motivated the tank farmers to create a community well. As there was shortage of money for the contribution, the AFG supported them in availing loan for their contribution. Selvam received Rs. 5,000 as loan from the AFG and paid his contribution for the community well. Totally, Rs. 50,000 was collected and Rs. 1,50,000 was provided as support by ITC for creating the community well.

Growth of Selvam

After 2009, Selvam cultivated his 1.65 acres of land in the tank command effectively with the support of the community well. The coconut trees in the dry land of around 3.0 acres also yielded more as the water table improved because of the tank renovation work. The availability of water gave him confidence to take up additional two acres on lease. In the leased land, he added livestock fodder crops along with his regular vegetable crop. He used to raise 4-5 goats at home; the goats were reared by his wife. If at all, he cannot sell the entire greens in a day, he never bothers. He feed them to the goats. He maintains the goat stock in the range of 4-5 goats, which gives him regular income during the off-season.

Since 2014, he has started to sell his agricultural produce and become a leading small vegetable vendor at Singampunari. The AFG helped him to avail loan for buying milch animal in 2014. The cow yielded 5-6 litres in the morning and 4-5 litres in the evening, this also triggered his economic growth. He managed the recent droughts smoothly with the available water by growing diversified crops. It augmented his income in a substantial way and helped him lead his life happily. □

* Mr. Mohan J, Programme Leader, DHAN Vayalagam (Tank) Foundation

Marutham



The portrait exhibits the art work of Paulraj, a wood-in-lay artist from Sivagangai, Tamil Nadu. This art depicts Marutham Thinai as a part of Ainthinai of Tamil culture. Traditional handmade cutting technique is used and a variety of colours is applied to a large number of timber cutouts. This portrait brings to life the plains and valleys filled with agricultural fields. This artwork has been displayed at the Central Office of DHAN.



DHAN's 21st Foundation Day Gallery



DHAN Foundation

1A, Vaidyanathapuram East

Kennet Cross Road

Madurai 625 016.

Tamil Nadu, INDIA

Tel: +91 452 2302500 Fax: 2602247

Email: dhanfoundation@dhan.org

Website: <http://www.dhan.org>

