

Development

June 2017

Monthly Development update from DHAN Collective

Matters

Conservation

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Feature

Enhancing and reviving soils for adapting to climate change



During the North East monsoon in November 2015, Tamil Nadu has its historical rainfall over 100 years. The city of Chennai and parts of Tamil Nadu got heavily inundated. If 2015 saw historical rainfall, what followed the next year is an 82% deficit rainfall during 2016 North East monsoon. It has resulted in its worst drought over 140 years. Climate change has become a phenomenon. Adaptation to climate change is the core element to alleviate its impacts.

A pilot project to address climate change and find adaptation measures with the support of GIZ, New Delhi implemented in Kilankulam village of T. Kallupatti block in Madurai District of Tamil Nadu has shown that enhancing and reviving soils through tank silt application as an adoptive measure to efficiently augment the adaptation capacity of rainfed farms to lessen climate change impact in agriculture.



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From the Editors' Desk

Dear Readers,

Greetings from DHAN Foundation.

It's a delight to meet you all again with our experiences and field learnings. The lead article of this issue is on our learnings efforts to moderate the influence of climate change. The story of Muthulakshmi is quiet inspiring for women empowerment, she has broken the barriers of gender restrictions transforming herself from a daily wage earner to become a Concrete Contractor. The Takiguda NABARD watershed experience shares the impact of water conservation effort in revitalizing the water structures in Adilabad district of Telangana. Swachh Bharat is neither a mirage, however ensuring cleanliness in rural India especially where open defecation practices are imbedded, it's a tough challenge. Our Shanarpatty experience shows behavior change on such imbedded practices could be induced through multiple strategies. The international year on sustainable tourism for development captures the prevailing environment and opportunities to promote local tourism.

The readers are welcome to give their suggestions and feedbacks on the articles featured in the development matters. They can send their mails to ghancdc@ghan.org

Happy reading!

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Daily Wage earner to Concrete Contractor

Naguveer Prakash V*

I am Muthulakshmi aged 53 years, a native of Madurai. Our family was settled in Ahimsapuram area for generations. My father was a lorry driver who became a lorry owner and later managed to become a garage owner through his hard work. I have one elder brother and one elder sister and two younger sisters. My family had a modest living in our area. While I was in 5th standard, my father got addicted to alcohol and in a short span we lost all good fortune and we sisters were forced to work in a handloom mill and my brother in a welding workshop to support the family. My sisters and I were paid one rupee for a unit of finished work. One unit of finished work consists of 20 yarns of thread. We together earned two rupees a day and our mother managed our home with this bare minimum contribution.

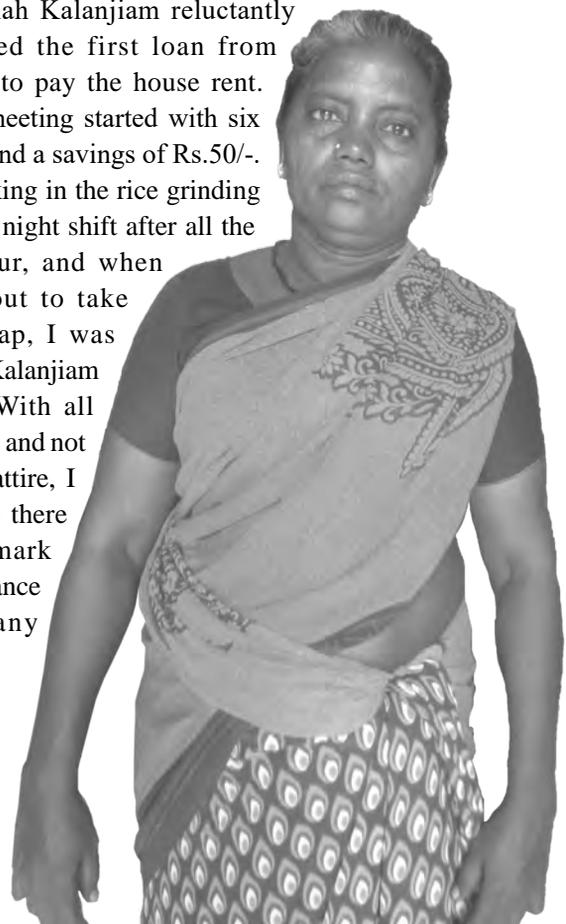
We soon lost my brother's income as he became a wanderer who never bothered about the family. He at times visited home and most of the time lived out and we never took him into account. This situation forced me to take charge of the family because my mother and elder sister were only able manage the day-to-day situation. As the income was meager in the handloom mill, I took up a night shift job at a rice grinding mill in 1990. I was paid six rupees for one duty for which one rupee commission was to be paid to the facilitator who organized the labour contract. When it seemed that the income of the family members was adequate, my brother met with an accident in the welding shop and lost his sight in one eye and my younger sister who was working as a domestic maid in Coimbatore gradually lost her eye sight as well and came back home. Then, I was earning around Rs.150/- a month. I was paying Rs.25/- towards rent and met the whole expenses of six-membered family with my sole contribution. My father whose physical presence at least provided moral support as male head of the family died due to cancer. Our family was in such a financial stress that I found it hard to meet the funeral expenses. I was not able to pay the rent regularly and hence vacated the house by leaving the grinding stones to pay the balance rent. My brother was still a wanderer

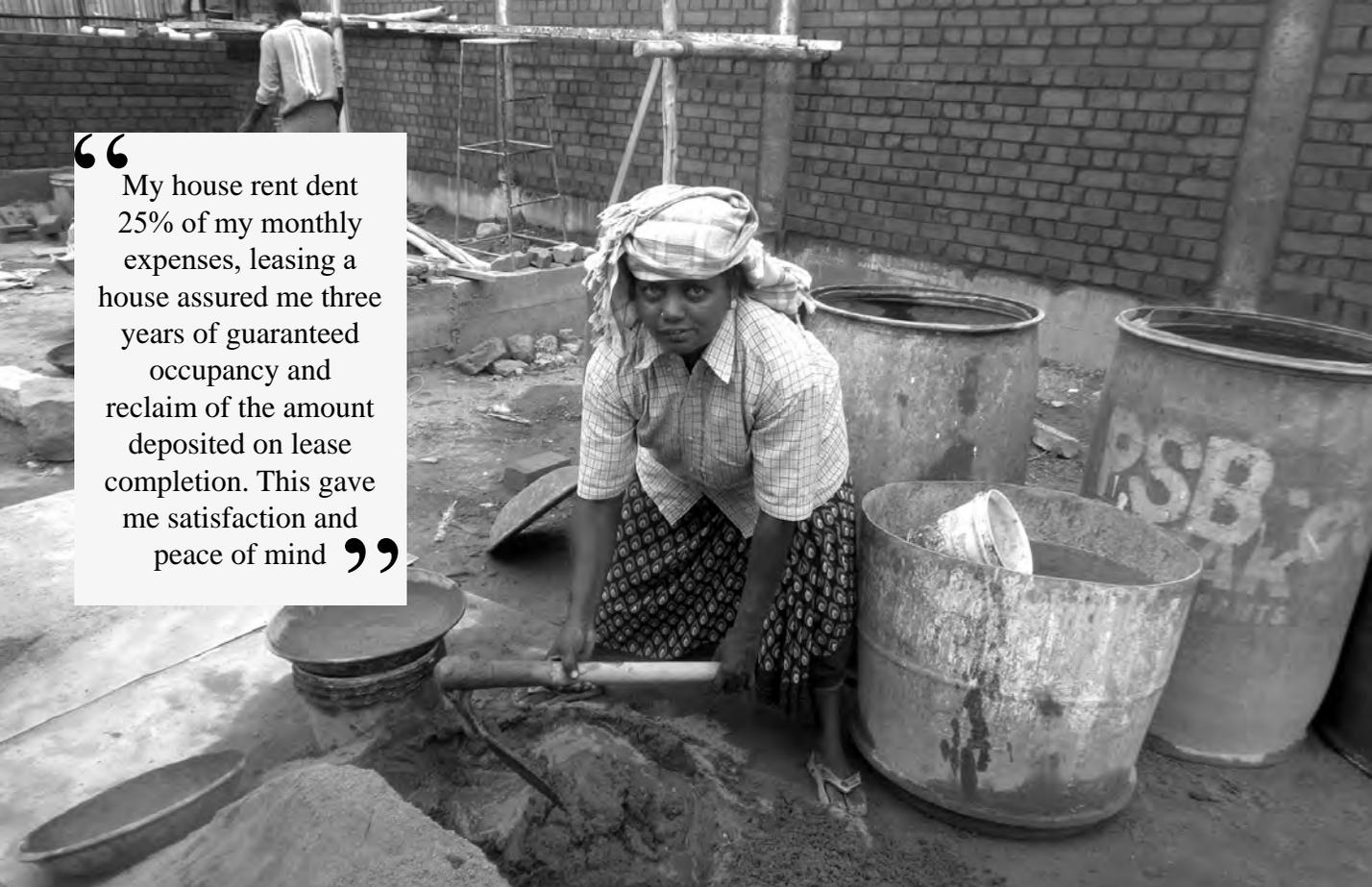
who occasionally came home, stayed for a few days without any contribution. I managed to get my elder and one younger sisters married.

Getting Started in Kalanjiam

I got married at the age of 27 years. My husband Arumugam was a street vendor selling broomstick on a bicycle. I did not have the blessing to nurture my kids. Now, we are four in our family managed by and my husband's income and mine. The Kalanjiam programme was initiated in 2001 in Sellur area of Madurai Urban. It was due to the sincere effort of the associate "Pandiammal" that I joined the Kalanjiam. She told me repeatedly that joining the Kalanjiam would certainly help my family. I was hesitant because of the financial constraint. Saving money on a monthly basis to secure a loan was not certain due to continuous financial crises. All along, I used to access credit for the family needs from usurious sources and that also was a strain on the financial status of the family. I used to pay only the interest and find it hard to repay the principal. In the locality when the Kalanjiam was promoted, I joined the Sangaiah Kalanjiam reluctantly and availed the first loan from the group to pay the house rent. The first meeting started with six members and a savings of Rs.50/-. I was working in the rice grinding mill in the night shift after all the hard labour, and when I was about to take the day nap, I was called for Kalanjiam meeting. With all drowsiness and not in proper attire, I used to go there and just mark my attendance without any

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“ My house rent dent 25% of my monthly expenses, leasing a house assured me three years of guaranteed occupancy and reclaim of the amount deposited on lease completion. This gave me satisfaction and peace of mind ”

involvement. Since I had been working from my childhood, I was bold enough to defend/express myself when needed. As all of them knew that I could not be disputed for my appearance, none had the guts to tell me that I should be properly dressed.

The members of our group used to attend the meeting neatly dressed. I was not used to dress properly and was not actively involved in the meeting, so the group entrusted me the responsibility of being the secretary of the group. I disagreed with them for offering me the responsibility as I had to sleep in the day hours and look after my dependents. But, the members overruled my decision.

Meanwhile as my husband received meager earnings from his broom selling, he was passive and indolent in nature and in few years after marriage, he stopped working. My wage income was inadequate to feed four adults. At times of hardship, we were forced to skip meals or manage with the tapioca roots which were cheaper. The night shift in the rice grinding mill took a toll on my health and the need to meet the expense of the family forced me to look at alternative work where earnings

were more. Those days, construction labourers were one among the highest paid women. Hence, I became a construction labourer where I was paid Rs.26/- per day. There I noticed that labourers involved in mixing concrete were paid higher than regular mason labour. Thus, I become a concrete mixing labour, by this time, the wages had become Rs.150/-.

Kalanjiam in my life

I find repaying Kalanjiam effortless as my principal and interest are a modest amount compared to the interest alone being paid to the pawn brokers. So, I became prompt in repayment, and rarely missed any installments. Realising the benefits of the group, I convinced four of my unit members and other neighbours to join the Kalanjiam. Gradually, the 20 members were enrolled into the Kalanjiam. I availed subsequent loans of Rs.1,000/- and Rs.10,000/- for repaying usurious loans. Thereafter I almost refrained from availing any usurious loan.

When I was about to get Rs.10,000/- for loan closure, the house leasing loan product was evolved and introduced in our federation in 2005. It is then I realised that my

house rent assumed 25% of my monthly wages. There is always a reason for frequent shifting of residence due to differences with other tenants in a compounded house. The house leasing assured hassle-free minimum 3 years guaranteed occupancy and reclaim of the deposit after the lease completion. By the time, we repay the loan in installments, the loan amount will get back to our hands from the house owner. I availed the Rs.30,000/- loan for house leasing. It gave me satisfaction and peace of mind that at least for few years I need not bother over shifting of the house.

In the meantime, slowly I comprehended the activity and become a group head where I was responsible to enlist 10 women and two men in a contract unit. Most of the group heads were men as they could easily enroll new labourers into their groups and earn additional wages for organising and ensuring completion of works. I used to get Rs. 1,000/day after meeting out all payments to the unit members. For managing the contractual needs, I solely depended on Kalanjiam for any financial ventures.

I also got my husband involved in making spot visits and doing preparatory work, before I arrived at the spot with my group. When things seem to be going well, six years back my husband was diagnosed with throat cancer and passed away in 2010. As there was life insurance coverage for the member and spouse, I got a claim of Rs.30,000 from AABY and Rs.5,000 from OGI. But I was the one who had opposed enrollment in life insurance when it was introduced in the group. I had been convinced by the overwhelming decision of the members. I invested the amount in the work. Slowly, I increased my loans after clearing earlier loans like other members and got the lease amount increased over the period.

“Now I am dwelling in a house at Rs.3 lakhs lease. We are saving Rs.250/- per month and I have a cumulative savings of Rs.35,000/- .I have also brought five sovereign of gold in these 15 years of being in the Kalanjiam. I have purchased two pieces of land at 1½ cents in Nedungulam and 2 ½ cents at Aviyur”.

My social life

Other than financial benefits in our Kalanjiam, meeting always begins with a prayer. ‘Prasad’ is offered in this prayer voluntarily by the members. People offer whatever money they can as their offerings. This money is used for both happy and sad occasions of Kalanjiam members. I look upon the members of my Kalanjiam as my family members. As a leader of the group, I used to attend functions of every member. If there was any death of a family member, we share the member’s pain and console them to overcome the loss. I am grooming a girl child from the neighbourhood. Her mother died when she was two months old, her father remarried leaving her with her grandparents who themselves were poor. I

“Since I had been working from my childhood, I was bold enough to defend/express myself. This attitude helped me when I took the concrete contractor works.

Most of the group heads were men as they could easily enroll new labourers into their groups. Now as a concrete contractor, I used to get Rs. 1000/day after meeting out all payments to the unit members”

take care of the kid’s needs. She is like my adopted child. Other than attending the group member’s family events, I attend all the cluster meetings and events of the cluster and federation without fail. I had also facilitated promotion of two Kalanjiams. As a leader, I was trained in the development initiatives of the federation. So, once when one of our group members had difficulty in obtaining the legal heir certificate upon the death of her husband, I helped her represent the case in the district Collectorate. After overcoming many barriers, we got the required documents

and the claim of Rs.40,000. I also provide dresses for labourers working under me during Diwali as a gift every year. I spend about Rs. 5000 per year on my labourers towards the Diwali gift. These are some of the incidents where I gained popularity through the nobility expressed in my actions, which is one of the important qualities of a ‘Kalanjiam leader’.

I grew up in a distressed environment; where all our relatives deserted us because we lost all our fortunes. Now in 15 years of being in the Kalanjiam, I had transformed from a clumsy women to a respectful Kalanjiam leader. I had a bigger family to look after and care for me. Now I feel I have overcome the stressful moments of my life and moved forward with confidence like never before; for me “Kalanjiam is the lodestar of my life” tells Muthulakshmi.

Impact of Watershed in Adilabad district of Telangana State

Rathod Neelesh*

The Takiguda watershed is situated in Gudihathnoor mandal of Adilabad district in Telangana state. The watershed lies within 78°34" longitude and 19°31" latitude. The highest point of the watershed is 445 m, lowest point is 420 m from mean sea level (MSL) and height difference is 25 m. Watershed area is situated 5-12 km away from Gudihathnoor, between Indervelly and Adilabad. The watershed is surrounded by Indervelly in the east, Gudihathnoor in the west, Neradigonda watershed in the south and Adilabad in the north.

The watershed area is one of the important tribal areas and covers an area of 15.75 sq. km (1575 ha). The population of watershed is 1937. It consists of a Gram (Tosham), a revenue village (Tosham) with seven hamlets (Takiguda, Tosham, Tosham thanda, Lendiguda, Suryaguda, Soyamguda and Telangraoguda). The normal annual rainfall of this watershed is 1102 mm; out of which, 88% of rain is received during south-west monsoon (June-September) with July and August being the peak rainy months.

The relative humidity (RH) is generally high during South-West monsoon season. The climate during the rest of year is generally dry. The climate of the Mandal is characterised by hot summer to cold winter. The temperature touches 48°C in April and May and 10-15°C in December and January. The soil of the Mandal is predominantly Black Cotton. The pH of the soil is normal to alkaline (7.5-8.0). The total soluble salt (TSS) is within normal limits. Organic carbon 'C' content of the soil is low to medium. Available phosphorous (P) is low and Potassium 'K' is medium to high. The major crops grown in the mandal during Kharif are cotton, maize, jowar, soyabeans, red gram, tomato and paddy. Crops grown during Rabi are jowar, maize, paddy, bengal gram, sesame, etc.

Underground water status before the watershed

The people of Takiguda, Telangaraoguda, Shoyamguda, Suryaguda, Lendiguda, Thosham and Thosham thanda (Takiguda watershed) struggled much due to water problem during summer. Even in late winter, they were not able to access sufficient water before execution of the watershed works. Drinking water for the livestock was major problem in summer. The women carry pots and walk for few kilometers to procure drinking water for their household needs. The bore wells got dried up in the agricultural fields of Takiguda village.

To locate water, they deepen the bore wells to more than 300 feet without getting any trace of water. There are only nine open wells in the area and they become dry early in summer. Almost all these bore wells are abandoned during summer due to lack of water.

Intervention

With financial support from NABARD WDF, the DHAN Foundation facilitated three watersheds in the Gudihathnoor mandal.



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As part of area treatment and drainage line treatment in Takiguda watershed, we built several structures to capture rain water and make it percolate into the individual farmers' fields. These harvesting structures were built in more than 1,500 Ha of individual farmer's field areas in the watershed.

The important water harvested structures executed were one check dam, 52 farm ponds, 106337 cum bunding, 715 stone outlets, water absorption trench of 400 running metres (rm), 85 loose boulder structures, stone gully plugs 106 and pebble bunding 1,723 rm and dug out ponds, etc.

Underground water table after the watershed: With all these structures, sufficient rainwater got percolated into the ground and increased the underground water table. In Takiguda village, the dried-up bore wells and open wells became functional after the watershed works were carried out. In Telangaraoguda, there was no water in

summer. The farmers never tried to dig open wells because of the fear of not getting water in it. So, there were only two open wells before the watershed came into existence. The work was done under ITDA (Integrated Tribal Development Agency) scheme for tribal people with 100% subsidy nearly 30 years back.

After learning about the underground water table at Takiguda and Thosham, 5 farmers (Mesram Maru, Gangaram K., Bhupathi R, Bandari Devdas and Raisidam Bhumanna) came forward to dig open wells in their agricultural fields. After they dug out open wells, they got water in all 5 open wells at a depth of 2 metres from the ground level. About 3 to 4 metres of water was available to them in summer. Farmers were surprised by the availability of water even in summer. According to Mesram Maru Patel, a newly dug open well farmer "the major problem of water was solved by the watershed works carried out around our village over five years"

Conservation Methods

Trench cum bunding (TCB)

The Trench cum bunding is proposed across the slope in cultivable land as well as in cultivable waste land. It's depended up on soil type. The TCB in block cotton soil very suitable where more rainfall is likely. The soil erosion and water conservation is more through TCB. In design the width of bund is 1.5 mts and depth is 0.50 with c/s is 0.75 Sq.m. Due to more depth the TCB area is not available for cultivation and is sustainable over long time. In this watershed total of 106337m TCB is done for the total value of Rs 69.49 lakhs.



Stone Outlet

This watershed have normal rainfall of more than 1000mm i.e. every 100 -200 m of TCB or joining natural drainage for disposal of excess water needs to have stone outlet otherwise the bund may get damaged during rainy season / flood. The SO reduces the water logging and crop damage. 715 SO's got created at the cost of Rs 8.29 lakhs.



Pebble Bunding (PB)

The Pebble bunding is proposed where pebbles are available and the land become cultivable and to conserve soil. The size of stone is 0.10m to 0.20m and slope is not considerable. The cross section of the PB is 0.50 Sq.m with half circular shape.



Water Absorption trench (WAT)

The WAT is proposed to tackle unexpected runoff from the treated hillock/sloping lands with WAT (Water absorption trench). WAT was established at every 100 m horizontal interval at the boundaries of the hillocks. The Cross section of the WAT is 1 sq.m.





Drainage Treatment

Stone Gunny Plug(SGP)- SGP/ Loose boulder structure (LBS) can be defined as SGP/LBS are stones placed across gullies or valleys, so as to capture nutrients, silt and moisture. Stones are often embedded into the upper surface of spillway aprons and wells to provide support for the next layer. It captures the runoff from a broad catchment area, thus transferring low rainfall into utilizable soil moisture, and to prevent soil erosion. Slowing of the flow of water helps in settling down organically rich soil. A well maintained gully plug creates a flat, fertile and moist field, where high value crops and trees can be grown. In many areas where gully plugs were built, agricultural production has increased, and farmers have shifted to high value crops. 126 SGP/LBS got established in Takiguda watershed.

Loose boulder structure as same build as mentioned above but it was treated in first order drainage. In Takiguda watershed

Grass Seed

Grass seed (Stylo hamata) sowing on the bund helps to strengthen the bunds. The Stylo hamata grass root system goes 0.30 -0.45 m depth in the bund and thus strengthen the bund. The grass can be used for milch animal or domestic livestock as fodder and increase in production of milk has 1:2 ration compare to normal feeding. 714 kgs grass seed has got applied at one Kg per every 100rm on the TCB

He and all the villagers are indebted to DHAN and NABARD for solving the problem they faced for several decades.

Another tribal farmer Kotnaka Bheemrao from Thosham village shared his experience. His bore was dried up usually and he faced many problems to irrigate his crops. The watershed works were completed in the course of time in his field and surrounding fields. After a few months, he noticed that his bore was pumping water. He expressed his happiness to us that “I already lost hope on that bore well and fell into deep trouble because of successive crop failure. I was in depression. At this instance, miracle happened with watershed works and my all sorrows came to an end”.

Phad Datta, a farmer belonging to Takiguda village owns agricultural land with survey no.120. In his land, he carried out 300 Rmts of bunding work and one farm pond works as part of EDF watershed programme. In his farmland, he has bore well for irrigation purpose. Before the farm pond was excavated in his field, the capacity of pumping irrigation water through bore was very limited. Now, there is plenty of water available even in summer. He is happy to share that the yields he is getting after building the watershed has increased from 25% to 30% per acre. It is because of the moisture available in the soil. Now, in summer also, he is doing vegetable cultivation and getting good returns. He and his family are living satisfactorily. He says that his bore well water level has increased and it is around 10 to 15 feet below the ground level.

There is one stream flowing through this watershed called as the Devapur gutta nala. It is the major source of drinking water for the livestock and also a source of life saving irrigation for the stream bank farmers. This stream used to dry up early summer every year before the watershed was constructed; now it lasts up to June, i.e. few days prior to the arrival of the monsoons.

Earlier, the farmers practiced cultivation during Kharif season only. The farmers started cultivating rabi crops on assurance of receiving secured irrigation water in almost all the seven watershed villages. Now, nearly 60% land is under cultivation during rabi season in this area. The impact of availability of underground water

table is observed before and after our watershed works in these areas.

Concrete achievement of the watershed project

- Ground water increased from 300 feet (pre-watershed) to 15 feet (post-watershed)
- 95% of waste land comes under cultivation
- 12 months drinking water available for livestock which was 8 months earlier
- Water level increased in open wells, bore wells and dry wells
- 75% of soil erosion reduced
- Increased soil fertility due to 80% of area treated from ridge to valley
- All 3rd order drainages have water flow for almost 10-11 months
- Overall, 30% crop yield increased even during continuous drought in the mandal
- Fodder availability increased by 60% and livestock population has increased by about 30% compared to pre-watershed period
- Due to financial support to Poorest of the Poor (POP) and landless families migration, almost reduced
- Economic development took place in most of the labour families due to direct payment to the labour as per M-Book recorded quantity and ensuring 100% transparency
- 144 dropout students joined school with support from Vayalagam Development Centre
- Increased women participation and gender equality due to equal wage rates in watershed works
- Most of the people institution (SHG/FC/MFG) are re-functioning and every member has a bank accounts
- Increased livelihood resources due to financial support to POP families
- 30% vegetation increased compare to pre-watershed period
- Most of the families focused on horticulture and dry land horticulture
- NRM assets creation like farm ponds and check dam



Open Defecation Free – Shanarpatty

Camillius S Juliana*

The Health Ministry's draft National Health Policy reports states that "63 Million Indians are pushed into poverty by health expenses each year due to health care cost alone, because of lack of financial protection"¹. "Inadequate Sanitation Costs India Rs.2.4 Trillion (US\$53.8 Billion); which is 6.4 per cent of India's GDP"² reports Water and Sanitation Program.

As per the Census 2011 report, in Tamil Nadu, only 48 per cent of the households have access to toilet facilities and 5 per cent of households use the community toilets as against the all India average of 47 per cent and 3 per cent respectively. But in the state as high as 45.72 per cent households practice open defecation, against the all India average of 49.84 percent households. In rural areas of Tamil Nadu, this proportion is 73.27 per cent practice open defecation which is higher in rural India average of 67.33 per cent. In urban areas of Tamil Nadu, 16.21 per cent practice open defecation as against 12.63 per cent in India. Whereas the access to household amenities like vehicles, television and mobile phones are better in Tamil Nadu compared to other states in India.

Block Profile

Shanarpatty is one of the backward blocks in Dindigul district of Tamil Nadu. Shanarpatty has higher level of open defecation sites and is very backward on health parameters. The block has inter – district and intra – disparities in health parameters. The block constituted only of rural context with no town panchayats covering a total population of 123, 227. The SC/ST population covers 20.81%. The sex ratio is 992 / 998. Nearly one third of the total population (31%) is below poverty line. The block has 21 panchayats covering 217 villages with 25 revenue villages and 193 hamlets. The base line survey conducted in April 2016 reveals that out of 31,542 total households, only 5,138 (16.4%) households have

toilets and nearly 26,367 (83.60%) households doesn't have toilets.

Sanitation status in Shanarpatty Block

The households without toilets defecate in the open areas such as approach road in the villages, banks of the stream, tank bunds, and uncultivable lands. Among which the adult males and boys prefer to go to the tank bunds and the adult females and girls prefer to defecate in the open uncultivable lands and the banks of the stream. The peculiar practice is to take the children under five years along with them and leave them on the road sides before they proceed to defecate into the fields in the hiding places. The old aged people defecate only in the road sides. There was practice of males who always prefer to defecate in the open areas because of the smoking habits which feels as a triggering factor for their natural calls. Even if they have toilets in their house, men wanted to go outside because of the comforts and the convenience in the open, a common reason being attributed by the men for practicing open defecation. Another aspect is



¹ http://www.cddep.org/blog/posts/63_million_indians_are_pushed_poverty_health_expenses_each_year%E2%80%94and_drugs_are_chief_cause#sthash.0pbSxs7x.dpbs

² <http://www.wsp.org/sites/wsp.org/files/publications/wsp-esi-india.pdf>

* Ms. Camillius S Juliana, Team Leader, Community Health, SUHAM

the attitude of the men that the toilets are meant only for women, girls and children who needs more care safety and security. This attitude was also one of the reasons for wider practice of open defecation in the villages. Another reason is that in the early morning, the men do not want to wait for their turn to come to enter the toilet after three or four people.

Focus under the Open Defecation Free (ODF) project under SBGF

The project “**Elimination of Open Defecation to improve health, hygiene and sanitation by promotion of individual toilets and Behavioral Change Communication (BCC) strategy**” aims to achieve Open Defecation Free status in the Shanarpatty block. This could be achieved by changing the behaviour and practice of the people through knowledge enrichment about the implications of open defecation. Constructing the toilets in the eligible or potential individual households and ensure the end usage of the toilet. Ensuring toilet usage by all the members of the households where the intensity of the issue of open defecation is at its higher rate is another core objective. The whole processes enable to bring the changes in knowledge, attitude, behaviour and practices among the potential and the non users who are keeping the toilets unused at their house. This can be achieved through



The Project Objectives is to

- Build consensus on achieving ODF status in all villages
- Ensure feasible households to construct and use toilets and forbid open defecation
- Enable the communities to adapt sanitation, hygiene, health and nutrition practices to improve their health and hygiene and overall well being
- Increase the knowledge and attitude on sanitation and change in practice towards sanitation using Behavioural Change Communication (BCC) as strategy
- Promote the Self Health Governance and to take up health and sanitation as a permanent agenda in the meetings of all stakeholders
- Build corpus fund in all village panchayats specifically for promotion of health, hygiene and sanitation.

Project Key Deliverables

- Consensus building to achieve ODF status in all Village Panchayats
- All households do not have toilet will have toilets with the improved usage
- Position Village level and Block level sanitation workers to work for achieving ODF
- The change in Knowledge and Attitude towards construction and usage of both household and community toilets.
- Accelerate the sanitation coverage in Shanarpatti block through renewed strategies and saturation approach using the support from the Nirmal Bharat Abhiyan (NBA), MGNREGA, commercial banks and SHGs in the block. Set up a strong demand system involving local community and Panchayat Raj Institutions(PRIs) to implement and monitor the project successfully
- Disseminating the developed Information Education and Communication (IEC) materials such as posters, pamphlets and flip charts among the community to achieve improvement in Knowledge Attitude and Practice (KAP) of the target population on hygiene and sanitation.
- Institutionalize awards and rewards system to encourage adoption of best practices for health, hygiene and sanitation promotion.
- Increased usage of community sanitation complexes and school and Anganwadi toilets
- Building up of corpus fund in all Village Panchayats to address the needs of health, hygiene and sanitation.



sensitizing the entire community through the Behavioural Communication Change (BCC) strategies to change the behaviour and practice aspects related to sanitation, which will strive towards achieving open defecation free status. The project also aims at developing and demonstrating cost effective models of toilets. This will trigger the interest of the community to construct toilet of their choice. The project is supported by State Planning Commission through the State Balance Growth Fund (SBGF) for a period of three years from April, 2015 to March, 2018 with a budget outlay of Rs. 76.49 lakhs.

The project is implemented by the District Rural Development Agency (DRDA), Dindigul through SUHAM (Sustainable Healthcare AdvanceMent) Trust of DHAN Foundation, Madurai. The SUHAM Trust is having three dimensions focusing on community health programme, curative care with primary and secondary care hospitals and the institute for paramedical sciences to cater the needs of the community with service providers. The WASH intervention is being implemented since 1995 as part of the health programme in terms of reducing morbidity and increasing the workman days of the community. It is being seen as part of Community Health and Nutrition Programme for women and children programme where safe water and sanitation plays

major role in affecting the nutritional status of women and children specifically. In 2001, Bio-sand filter was taken as one of the mechanism to address the issue of safe water at highly affordable way. In 2005, sanitation accessibility was created through microfinance(MF) initiatives of DHAN. The product promotion was made for encouraging the SHG members to construct toilets.

Processes followed for addressing ODF

Initiation

The first step in the project was placement of ten health associates through interview and written test. Three days residential training programme was conducted in DHAN People Academy by out sourcing resource persons who are expertise in the field of sanitation. The module focused all about the organization, its focus, overview about the block where the project is going to be implemented, the project components, activities, implications of open defecation and importance of toilet construction in the households, strategies and proposed outcomes. The base line survey was done for the potential assessment of the eligible households in all the villages through door to door survey by the health associates. The process started with the formal introduction with the respective panchayat presidents



briefing about the project focus in sanitation. The staffs were equipped with an increased knowledge level through an additional three days residential programme in Department of Rural Technology Center, Gandhigram Rural University. Subsequently the health associates were given Community Lead Total Sanitation (CLTS) training programme for three days in Dindigul as a residential programme. The training was given by State Planning Commission, DRDA along with SUHAM Trust. The main focus of the training was to improve health, hygiene and sanitation.

Assessment

The baseline survey reveals that the total households 31,542 and there are 5,138 (16.40%) households alone have toilets, 26,367 (83.60%) households were without toilets. Then the process done was to get the data on the households having space to construct the toilets. Out of the households without toilets, only 14,568 households were having space for taking up the toilet product which accounts to be 55.25%. The need of the hour was to identify the members' attitude and willingness to have the sanitation unit in their households which will benefit

the health of their own family members. It was reported that out of the households having the space to construct toilets, only 13,938 (66.33%) households were willing to construct toilets in their houses.

After the potential assessment, Micro plan was prepared for all the panchayats doing the Participatory Rural Appraisal (PRA) exercise involving the local body leaders and the community as a whole through social mapping for the sanitation aspects. The list of the eligible households was matched and verified with the Master Sheet from the government list to ensure that the names enrolled are the authentic list. More than 25% of the households ID numbers were not found in the Master Sheet because of wide reasons. Most of the cases were covered under the Total Sanitation Project (TSP) of the previous phase, but the joint family has split as nuclear families after the son's marriage were not found in the list.

There were lot of discrepancies in the data of the list of eligible members which was consolidated through door to door survey and the Master Sheet. Applications were generated with the ID numbers for the final



eligible members and were submitted to the clerk of the respective panchayats. The panchayats verify the application for the authenticity and release the work orders with the signature of panchayat president and the same was submitted to the Block Development Office. The details of the application were computerized to check if there were any duplication.

Educating the Masses

The pedagogy of the training was class room session with lectures on the content, field level demonstration of how to give awareness education to the MGNREGA workers. The focus was on the implications of open defecation like contamination of feces in drinking water through a demonstrative mode. The process was making them to drink pure water in a glass first and took feces using a single hair and mixed it in the same water. When asked to drink the same water, the people refused to drink it since it has contaminated feces which they had observed with their naked eyes. This was followed with the awareness on how the limbs of houseflies carry the feces to our food stuffs. Feces when get contaminated results in dysentery, diarrhea and other health hazards. This process and

demonstration helped the people to understand and think about the implications of open defecation.

During this process, ten volunteers were selected to work as the sanitation patrol in the early morning. The next process was the entire health team along with the selected volunteers in the respective villages was given a whistle and a bag full of mud in the early morning before 4.00 am. When the community people come out for the natural call, the team asked whether there is toilet in their houses, if they say yes, then the team asked them to go back to their homes. If they say no, then they were allowed to go out giving them the bag of mud and they were asked to dig a pit and defecate in order to avoid exposing the feces to the air which will pollute in all means.

The school children were focused through the school health education using the PRA technique and made them to plot the open defecation sites with yellow powder. When the children see their whole village in yellow powder in many places, they felt the situation very bad with the dirty expressions. Then the awareness education was given on the implications of open defecation and the need for the sanitation unit in their households. The CLTS was done in the schools as well as in all the villages of the block.

Cultural campaigns

As an entry point programme before starting up the intervention, 48 cultural campaigns were conducted covering the 13 schools with 8,673 students and 35 villages to cover 4,566 through means of songs ,



street play and quiz. The awareness was given to the school students about the importance of toilets in the households. The effective use and maintenance of toilets along with the personal aspects like hand washing practices was emphasized. Even the anganwadi centers were also focused in order to inculcate the practices of using the toilets and also the hand washing practices. The children in the anganwadi were demonstrated how to use the toilets and were trained by the anganwadi worker.

In order to steer up the project propositions, 133 Village Health Monitoring Committees covering 756 members were promoted out of 217 villages leaving the hamlets with less than fifty households. The main purpose of promoting the committee is they are only responsible for the health agenda like, toilet construction, environmental sanitation, chlorination in water tanks and scheduling the cleaning of water tanks, maintaining the toilets in the schools and monitoring the collection of garbage from the households. The committee is constituted involving panchayat president, ward member, representatives from Village Poverty Reduction Committee (VPRC), Anganwadi worker, Kalanjiam secretary and volunteers from the village. The committee meeting gets conducted once in a month on a fixed date and time. The major points discussed during the meetings were on the total sanitation of the village. Construction of toilets in the left out households and ensuring the usage of the toilets by all the members of the family is also one of the main agenda.

Another way of approach was identifying Sanitation Ambassadors from the main villages who will take the health agenda at the village level. Nearly 132 ambassadors have been identified in the respective villages. The main responsibility is to document the different stage of construction of toilets and ensure the SBM incentive to the concerned beneficiary.

Special Events for creating Awareness

As a part of the awareness programme, Rallies were conducted in all the working panchayats to create a mass awareness among the community. Nearly six rallies covering 8,562 conducted in one year period involving the school children and the public. In addition to this, 224 street programmes were also conducted reaching



out to 2,675 members who are interested in taking up the toilet construction in their households. The members enrolled under MGNREGS were oriented on sites where they are expected to work. Since the members working under MGNREAS are involved in the construction of toilets especially for the earth works and as construction assistants. 13 average man days got generated for the labours. Nearly 144 such meetings were conducted in the block covering 12,495 labourers.

Special loans of construction of individual toilets for SHG members

The Kalanjiam Federations have the policy built within to have single loan for a member and it is strictly adhered by all the federations in Dindigul region. This



is mandatorily followed in all the federations across the districts and states where the organization is working. But because of the vast awareness given on the implications of open defecation and the importance of toilets in the households through different strategies and the BCC practices, people came forward to have toilets in their houses. The members demand led to have a change in the lending policy at the federation and regional levels to have the second loan for the special products under sanitation and safe water. Because of the changes brought in the lending policy, nearly 585 loans have been given to the members for building toilets in the households to the tune of Rs. 8,205,900 during the project period. This helped the members to move ahead of the target in achieving the sanitation products.

Application generation and process

Valuation certificate has been issued for 3153 Individual Household Latrine (IHHL) and 2714 NMR form under the scheme in SBM (Gramin) for each person who take up the construction of toilets in the households whose manpower is fully utilized for the earthworks and also the construction assistants. The annexure forms with the application to be submitted under SBM for availing the incentive for the toilet construction is application form, work order, certificate of authorization as a eligible beneficiary for toilet construction under the scheme. The members should submit the requisition letter from the beneficiary for the construction, Aadhar Card, bank pass book first page, MGNREGS individual job card with three stages of construction to the concerned block office. Once the construction is completed in full form, the structure should have the details of the SBM, panchayat name, and beneficiary name, constructed by and estimated amount. The information board will also have the detail about SUHAM Trust if additional loan amount has been given by the federations ranging from Rs. 7,000 or Rs. 8,000 in addition to Rs. 12,000 given under SBM for the members.

Nearly 3,966 applications generated at the start of the project, 2,062 work orders got released and construction works completed. The end usage of the toilets was ensured out of the total 1,402 (68.00%) constructed toilets. Balance of 452 households is under the process of



construction and the pending toilet construction will get completed within two month period. The collaborative linkage was well established with the block and district levels during the project period. As a follow up of this, weekly review is regularly conducted for the health associates and the Engineers working for the project in the presence of BDO, DBDO, Overseer, Engineer and Personal from DRDA along with the Community People of Sanitation (CPS) and panchayat secretaries

Challenges and issues

- All Eligible people are not covered due to above narrated data mismatch
- Backend subsidy and delayed release of subsidy lowers the interest of the beneficiaries
- Absence of facilitating loan products for needy people who are not part of the SHG system
- Space availability (no land) percentage is quite high
- Ensuring the end usage of the constructed toilets overcoming traditional/ habitual / taboos

Impact

As an impact of the intervention, eight panchayats namely Veerachinnampatty, Emakkalapuram, Madoor, T. Panjampatty, Thavasi madai, Anjukulipatty, Raghapuram and Aavilipatty were declared as the Open Defecation Free Panchayats by saturating the villages with the sanitation product. Awards were also given to Panchayat Presidents, Clerks and CPS of the ODF panchayats as a token of motivation for their efforts in creating Clean India.

2017 International Year of Sustainable Tourism for Development: a way forward

Bharathi K P*

Background: Why Tourism?

With a consistently growing middle class and increasing disposable income, the tourism and hospitality sector is witnessing a healthy growth. It accounts for 7.5 per cent of the country's GDP and was valued at approximately Rs. 986.2 thousand crores in 2015. It is expected to grow at 16.1 per cent Compound Annual Growth Rate (CAGR) to reach Rs. 2,796.9 thousand crores in 2022. The sector generates a significant amount of direct as well as indirect employment. It is also one of the key foreign exchange earners for the country. In 2015, the travel and tourism segment alone directly supported approximately 23.5 million jobs (5.5 per cent of total employment).

As the global tourism industry grows at an ever-faster pace, traditional vacation destinations become less important and oversaturated; more and more people are looking for exotic, unique and unspoiled destinations, offering pristine nature and a culturally rich experience. At

the same time, however, this mass tourism is threatening exactly that through severe, negative impacts it has on the host community.

India's Tourism Competitiveness is an Opportunity for Development?

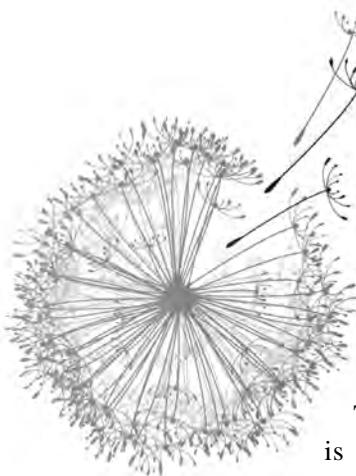
Tourism and Hospitality is a diverse industry being collection of activities comprising Transportation accommodation, eatery and drinking establishments,

retail shops, entertainment business and other hospitality services provided to individuals or groups travelling away from home for leisure, business or other proposals.

The broad scope of economic activities involved in tourism enables wider participation in its growth, including the participation of the informal sector, because the skill requirement for most of the jobs are modest and can be relatively easily acquired. Further tourism is highly depended upon natural capital (e.g. Forest, wildlife) and culture. These are assets that some of the poor countries have even if they have no financial resources. Under the business and usual scenario, the tourism sector is forecasted to grow by 8.3% per annum between 2011-21. According to World Travel and Tourism Council (WTTC), between 2009-18 tourism in India has the highest 10-year growth potential in the world.

India being the fastest growing economy holds the distinction of having the largest pack of middle class families in a country. The growth in Indian economy is also expected to result in the growth of tourism industry. These young travelers are available with earning surpluses and were looking for exciting travel destinations not only in India and to other destinations in the world. Their preferences grow from domestic destinations to foreign as their economic status grows. Domestic Tourism is growing strongly in India and Tamil Nadu holds the number one destination of domestic tourism spot in the last three year

The adoption Pro-Poor Tourism approach is aimed to increase the net benefit results in flow of tourist and benefit to the poor from tourism and related activities. Such benefit may be economical, social, environmental or cultural. These go well beyond simply promoting Community tourism, Heritage Tourism, Eco tourism,



**2017
INTERNATIONAL YEAR
OF SUSTAINABLE TOURISM
FOR DEVELOPMENT**

* Mr. Bharathi. K.P, Programme Officer, DHAN Foundation

India's Tourism Competitiveness-2015

Parameters	Rank	Score	Parameters	Rank	Score
Business environment	107 th	4.02	Environmental sustainability	139 th	2.89
Safety and security	129 th	3.82	Air transport infrastructure	35 th	3.88
Health and hygiene	106 th	4.32	Ground and port infrastructure	50 th	4.02
Human resources and labor mark	111 th	4.03	Tourist service infrastructure	109 th	2.90
Prioritization of Travel & Tourism	96 th	4.14	Natural resources	17 th	4.42
International Openness	69 th	3.08	Cultural resources	10 th	5.09
Price competitiveness	8 th	5.09	ICT Readiness	114 th	2.83

Wellness Tourism etc. There is need for diversity of actions from Macro to Micro level including product and infrastructure development, marketing, branding, Promotion, planning, policy and investment.

At present the share of world Tourism arrival in India is 0.6%. Now Ministry of Tourism, Government of India wish to achieve 1% share of world tourism arrival. This is going to be an excellent opportunity for our Host communities. The overall Tourism Travel Competiveness Index ranking of India has improved to 52nd in 2015 as compared to 65th in 2013. Even though we are highly Price Competitive and good in Natural and Cultural Resources, we have to give more focus on **Human Resource** and Labour for services.

For sustainable Tourism Growth following components are of important to focus upon

- The Tourist
- The Host
- Natural resources and environment
- Built environment like Cultural Infrastructure, Technology, Information, Governance
- Operating sectors of the Tourism industry like Transportation, Accommodation, Food services, Attractions, Events, Adventure and Outdoor recreations etc.

The key to the success of partnership and packaging relationships is to bring Potential cultural and other tourism partners together. In this regard, government and the academic community.

Need for Focus towards Tourism for Development

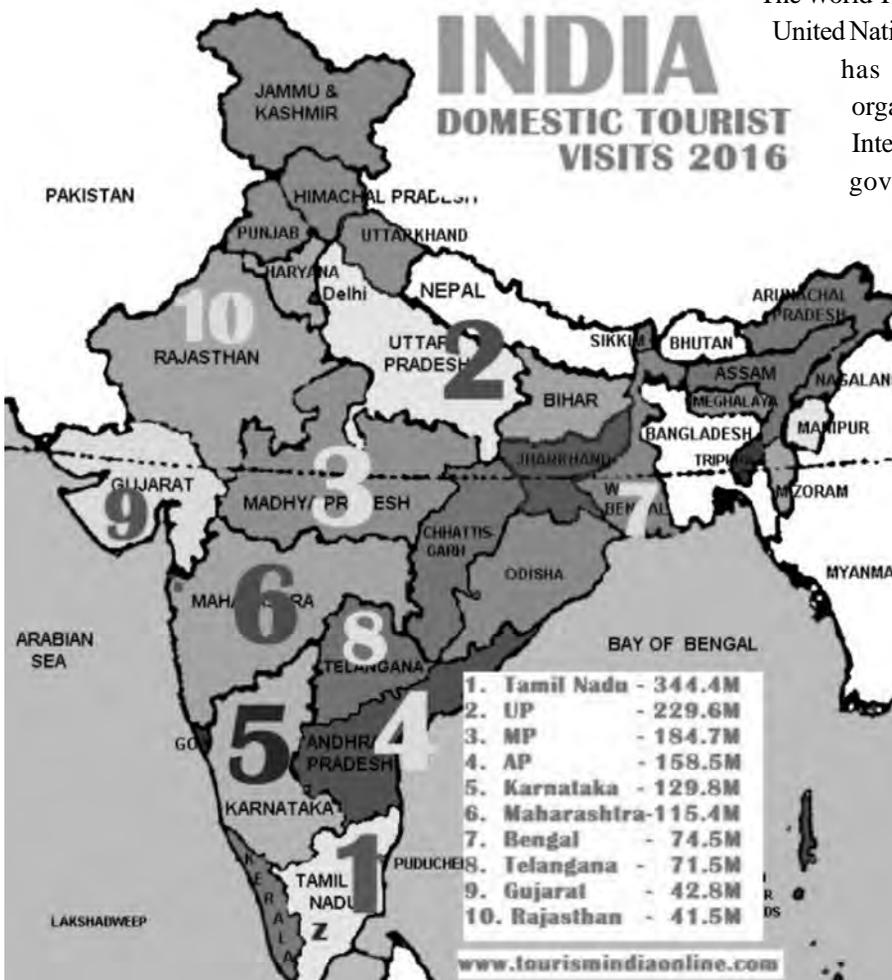
- Many of Indian, Heritage Resources (both tangible and intangible) is deteriorating because of poor maintenance/Tourism literacy among the host communities.
- Lack of likelihoods opportunity in the heritage villages leads to migrations to nearby urban centers
- Most of the local community is not aware of the importance of protecting their heritage sites and its historical and archeological importance.
- Lack of institutionalized system to promote and develop the economic impact of heritage villages.
- Lack of skilled guide services, Hospitality services, marketing are other important development issues
- Weak governance and Social inequality
- Developing Local Cultural Routes (LCR) which facilitates visibility of minor sites in villages was not given priority
- Lack of promotion of public private community partnership in Heritage Conservation/Tourism Development, share the expertise, Training and Capacity Building, awareness – raising and dissemination and Heritage /Tourism Literacy.

2017 as the International Year of Sustainable Tourism for Development

The United Nations 70th General Assembly has designated 2017 as the International Year of Sustainable Tourism for Development (A/RES/70/193). This is a unique opportunity to raise awareness of the contribution of sustainable tourism to development among public and private sector, decision-makers and the public, while mobilizing all stakeholders to work together in making tourism a catalyst for positive change.

The World Tourism Organization (UNWTO), the United Nations Specialized Agency for Tourism, has been mandated to facilitate the organization and implementation of the International Year, in collaboration with governments, relevant organizations of the United Nations system, international and regional organizations and other relevant stakeholders.

The 2030 Agenda considers sustainable tourism as a sector of development, job creation and the promotion of local culture and products. Tourism is part of the Sustainable Development Goals and contributes decisively to almost all 17 Goals through its impacts on fighting poverty, promoting decent jobs, improving gender equality and the livelihoods of young people or the fight against climate change



In the context of the 2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDGs), the International Year aims to support a change in policies, business practices and consumer behavior towards a more sustainable tourism sector that can contribute to the SDGs.

The International Year of 2017 will promote tourism's role in the following five key areas:

- (1) Inclusive and sustainable economic growth
- (2) Social inclusiveness, employment and poverty reduction
- (3) Resource efficiency, environmental protection and climate change
- (4) Cultural values, diversity and heritage
- (5) Mutual understanding, peace and security.

Way forward to use the opportunity of 2017, the International year of Sustainable Tourism for Development

- Heritage /Tourism Literacy, Heritage walk with Local Panchayat by the People Institutions
- Cultural Immersion Programme for Domestic and International Tourist in the little known sites of our People Institutions
- Village Tourism
- Development Tourism
- Promotion Local Tourism circuit in collaboration with Educational Institutions and various stakeholders of Tourism.
- Special Guide Trainings and Community Guides with collaboration.

Enhancing and reviving soils for adapting to climate change

Adhinarayanan R*

Soils are the foundation for agriculture, livestock production and forestry. Proper management of soil ensures clean water, capture of carbon dioxide from the atmosphere and provides many other ecosystem services. Seasonal variations in rainfall due to climate change have increased the risk of farming in rainfed regions. Long dry spells in rainfed farming could not provide adequate moisture for crops resulting in crop failure and re-sowing of crops. Increased cost of cultivation and high risk with less adaptive capacity of farmers made them opt for organic agriculture. A pilot project to address climate change and find adaptation measures with the support of GIZ, New Delhi has been implemented in Kilankulam village of T. Kallupatti block from 2011 to 2014.

Effects of climate change on rainfed agriculture

- High intensity rainfall eroded the top soil and silted tanks in the downstream.
- Loss of top soil resulted in reduction of physical and chemical properties of soil.
- Use of chemical fertilizers hardened the soil and reduced water infiltration and the moisture holding capacity.
- Increased temperature and decreased soil moisture holding capacity led to reduction of crop yield and total crop failure at times.



Rainfall

- Change of rainfall season. This study plot area was not receiving enough amount of rainfall for cultivating rainfed crops during July and August. However, the area receives increased amount of rain in summer.
- North East monsoon distribution of rainfall is not as per the expected seasonal distribution; generally, the rain is caused by low pressure or cyclone in Bay of Bengal. Heavy downpour received for a short period has not been helpful for the crop cultivation. Decrease in total number of rainy days from 47 days to 40 days is the change observed over the last 40 years.

Soil

Soil type of the land is broadly classified into two categories by the local communities as “pottal” (clay with less moisture holding and fertility) and “karisal” (black cotton soil with high moisture holding capacity and good fertility compared to pottal soil). Totally, 55% of the agricultural land soil type is pottal, which is not suitable for cultivation and requires more input cost for crop cultivation. Sensitivity of this non-climatic factor on crop production manifests as wilting of plants due to non-availability of moisture and has led to crop yield loss or total failure.

* Mr. Adhinarayanan R, Programme Leader, Climate Change

Multiple uses of tank silt application

Water storage	Nutrient	Value in Rs.	Adaptation
50,000 litres in tank	Nitrogen	71.00	Physical properties of soil positively changed
Increase moisture holding capacity	Phosphorous	32.50	Change of pH 0.5 to 1.0
Increased rate of ground water recharge	Potash	324	Reduction and control of GHG emission by not using inorganic fertiliser
		427.50	

Temperature

- High temperature is experienced only during April, May and June. Now, the high temperature continues up to August. Also, the temperature has increased by one to two degrees more than the last 40 years (maximum 42°C)



- During increased hot weather, crops require more wetting/moisture to complete the crop cycle; otherwise, there will be crop failure (crop yield decrease or total crop failure).

Tank silt application – Adaptation to climate change

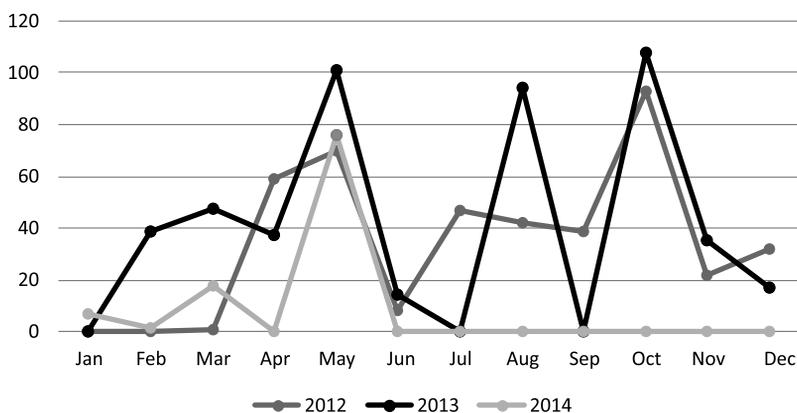
- 50 cubic metres (to 25 tractor tipper load) of tank silt was excavated and applied in rainfed farm lands. Tank silt was applied to 105 farmers in 104 acres of agriculture fields. Cost of 50 cubic metres tank silt excavation and transport was Rs. 3500.
- Tank silt was applied to the lands to change the physical characteristics of soil and to ensure nutrient enhancement. Out of 31 samples studied, 6 samples were analysed five times to observe the changes in pH, electrical conductivity and organic carbon.
- Tank silt was primarily applied to 73 acres of pottal land belonging to 74 farmers; the land has low water holding capacity and is saline in nature. The silt was also applied to 31 acres of Karisal for 31 farmers.
- Through this tank silt excavation, additional water storage of 5200 cubic metres is created in Kilankulam tank. The pits are filled in the first rain and this storage acts as a dead storage and is useful for the livestock and ground water recharge.

Rainfall status

The effect of adaptation strongly depends on rainfall received during the cropping period. The rainfed farming activity takes place between July and May. The table and graph shows rainfall data of the project area collected from automatic rain gauge installed at Kilankulam and Muthulingapuram villages by People Mutual of DHAN Foundation. (refer table 1 & 2 in page 21)

Table 1. Kilankulam rainfall (mm)

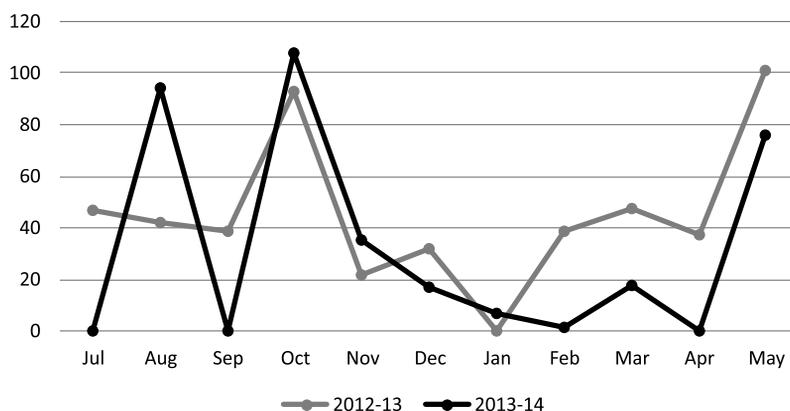
Month	2012	2013	2014
Jan	-	0	6.5
Feb	-	38.5	1.5
Mar	1	47.5	17.5
Apr	59	37.1	0
May	70	101	76
Jun	8	14	NR
Jul	47	0	NR
Aug	42	94.5	NR
Sep	39	0	NR
Oct	93	107.5	NR
Nov	22	35.5	NR
Dec	32	17	NR
	410	492.6	101.5



NR- Not recorded, Source: Automatic rain gauge, Kilankulam village

Table 2. Crop season rainfall (Rainfall data of Kilankulam village)

Month	2012-13	2013-14	Remarks
Jul	47	0	Land pre-paration
Aug	42	94.5	Sowing
Sep	39	0	Sowing
Oct	93	107.5	
Nov	22	35.5	
Dec	32	17	
Jan	0	6.5	
Feb	38.5	1.5	
Mar	47.5	17.5	
Apr	37.1	0	
May	101	76	
Total	498	356	



Soil pH Analysis		
Soil pH Analysis Treatment	Soil pH Analysis Control	Soil pH Analysis Change
8.21	8.36	0.15
8.85	9.1	0.25
8.92	8.82	-0.1
8.56	9.23	0.67
8.17	8.8	0.63
8.78	9.14	0.36

Soil pH Analysis		
Soil EC Analysis Treatment	Soil EC Analysis Control	Soil EC Analysis Change
0.1	0.12	0.02
0.26	0.35	0.09
0.24	1.45	1.21
0.39	0.63	0.24
2.54	2.8	0.26
0.23	0.88	0.65

Crop	Yield (Kg. per acre)		Increase of yield (%) compared with		
	Control	Normal	Treatment	Normal	Control
Barnyard Millet	100	700	1,400	100.00	1,300.00
Maize	909	1,400	1,067	-23.78	17.38
Paddy	2,448	2,880	3,500	21.52	42.97
Pearl Millet	328	600	417	-30.50	27.13
Cotton	70	350	222	-36.57	217.14
Chilly	100	650	625	-3.84	525.00

There was consecutive drought in the pilot project implemented period. The average annual rainfall of T. Kallupatti block is 806 mm. Analysis of long-term rainfall data (1901-2004) shows that the district receives rainfall during NE monsoon (47%), SW monsoon (32%), summer (17%) and winter (4%). Out of the total rainfall, July to September rainfall decides the farming pattern. Generally, during this period, 258 mm rainfall is received and it is highly sufficient to carry out all agricultural activities. However, in the study period, the pilot project area received 128 mm (15.9%) and 94.5 mm (11.72%) in 2012 and 2013, respectively against the normal annual rainfall.

Variation in the south west monsoon was 18.20% for 2013. It clearly shows that the climate changed in the rainfall aspect. Overall, the gap in the rainfall for 2012 was 396 mm (49.13%) and 313.40 mm (38.88%) for 2013. With this deficit rainfall, the farmers carried out rainfed agriculture. It was a very good opportunity to observe the result of adaptation activities in the field.

Impact of tank silt application as an adaptation

Tank silt and soil Electrical Conductivity:

Electrical conductivity (EC) is one of the important factors



to determine crop growth and yield. The field was continuously irrigated by using ground water having salinity. Excess use of inorganic fertiliser leads to increase in EC value of soil. Application of tank silt has resulted in reduction of EC in all the agricultural fields. The reduction of EC ranged from 0.02 to 1.21.

Tank silt application and organic carbon availability of soil:

Tank silt has significant amount of organic carbon (0.89%). A quantity of 50 cubic metres of tank silt changed the organic carbon content of soil from 0.03% to 0.40%. It has considerably increased the moisture holding capacity of the soil.

Tank silt application effect on crop yield:

There was 63% to 200% increase in the yield of various crops when compared to the normal plot; the yield increase was 15% to 93% when compared to the control plot. The study result showed that there was notable yield increase in the treated plots, thereby giving the farmers the much needed adaptation mechanism to practise agriculture with reduced risk exposure.

Conclusion

Tank silt is a locally available and a low-cost substitute for chemical fertiliser. It has demonstrated its efficacy in augmenting adaptation capacity of rainfed farms to climate change in the study area. It has proven multiple benefits for climate resilient farming that can be promoted on a large scale.

Marching towards Child labour free Madurai

Naguveer Prakash V*

Child labour is regarded as a worst form of violation of fundamental rights of the child. The UN's Minimum Age Convention, 1973 has defined the minimum age for the child for admission in employment as 14. The UN's Worst Forms of Child Labour Convention, 1999 has redefined the age as below 18 years(from 14 years of age to 18 years for hazardous works). Child labour has consequence like child slavery, sale and trafficking of children, bonded labour, forced extended hours of working, child sexual abuse and child pornography, illegal, immoral and criminal activities and even engagement of children in armed conflicts.

It is heartening to take note that in this technology and communication driven century there were more than 168 Million children being engaged as child labours. Among them nearly 120 million children were engaged in hazardous works. Does anyone of you believe that nearly 43% (73 million) of the child labour being engaged is below 10 years of age. Child labour has created a grey economy, as the child is either paid meager wages or never paid at all. This results in unemployment among the eligible work force thereby bringing down the actual growth.

In India the trend of child labour is decreasing significantly 65% from 2001 to 2014. Yet India has as many as 38.7 Million child labour; 8.8 Million being engaged in hazardous works. To ensure child labour free India and to save guard the rights and privileges of the children, government of India has been doing a lot to eradicate child labour. On 13 June 2017, the Government of India deposited with the International Labour Office the instruments of ratification of the two above said fundamental ILO Conventions concerning the elimination of child labour. This abides India to make concrete efforts for eradication of the child labour practice. This is a welcome development as the government will now move towards the goal of total ban on child labour.



Moving towards the Goal of Declaring Child Labour Free Madurai

As a part of World Day Against Child Labour, the district administration has made efforts to create awareness so as to bring an end to the practice of child labour in Madurai district. Week long awareness campaigns on the cause were organised. The district administration roped in DHAN Foundation to take up the crusade against the evil. DHAN's Madurai offices made efforts to sensitize the masses by engaging them in the campaign through its federations. Events like oration, poetry and skits were organized for the community members and the adolescent girls. Many actively participated and raised their voice and thoughts over the evil. The district officials also attended these events to speak out the cause and the administration's efforts to bring in the social transformation. They appreciated the community members and adolescent girls for their involvement and efforts to portray the child labour practices in open forum. The clarity of thought and the presentation of the objectives have got well received among the participants.

Speaking in one of the event being organized by DHAN, S.P. Shanthi, district labour welfare officer narrated the district administration's drive and desire to ensure that Madurai is child labour free. She appreciated the

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community members and adolescent girls for their involvement and efforts to portray the need to eliminate the child labour practices. She observed that the sensitization among the community members will make the task effortless as they could help share the place where child labour is in practice.

Though poverty is laid as primary reason for children being engaged, government has allocated special funds for ensuring income from livelihoods for the parents of children engaged in child labour. Schemes like Right to Education helps to encourage enrollment of children in primary education till their 14 year. The newly signed convention declares employment of below 18 years in hazardous works as illegal. She also emphasized the need for ensuring girl child education as a tool for empowering women and a hindering factor of girls being engaged as domestic helps at earlier ages.

She called on everyone's support for this cause to ensure a bright future for our kids. When public responses showed there were no child labours among the families of the participant, she appreciated them for guarantying good environment for their children. By joining together with the 35,000 women folk in Kalanjiam we could attain the objective of child labour free Madurai sooner she emphasized.

The objective is not that ease, as per the government order 2007 to get a district declared as child labour free the district administration should not get any complaints/proof against child labour in any of its 32 department over one year period. Only when the 32 departments issue a No Complaints (child labour) certificate after one year of observation, the district could be declared as child labour free. The official also shared how she could get a backward district like Sivaganga get child labour free with her three years of consistent efforts through support of all. It is the only district in the state of Tamil Nadu to get declared child labour free.

On 12, June during the occasion of World Day Against Child Labour event the district collector Veeraraghava Rao preceded over the occasion and seeks public support to make sure that the children engaged in child labour were back to schools. He distributed the commemorative plaque for the nicely portrayed themes and presentations.

The seed to bring smiles in the faces of poor children engaged in labour has been sown. Certainly the community and institutions like DHAN Foundation will work in tandem with the city administration to realize the dream by lighting the candle of knowledge among the underprivileged children and ignite their little minds to dream bigger and wiser.

Climate Change Adaptation: What Next?



Art by: K. Sundararajan



Takiguada Watershed works of DHAN with the support of NABARD has helped to rejuvenate groundwater level in this region. The various methods and structures aided to conserve the soil erosion. The groundwater level has drastically improved helping the farmers to do agriculture and allied activities more confidently. It has improved the overall economic scenario.

This watershed works were considered by NABARD as a model for conservation through participatory interventions.



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