

# Climate Change and Food Security

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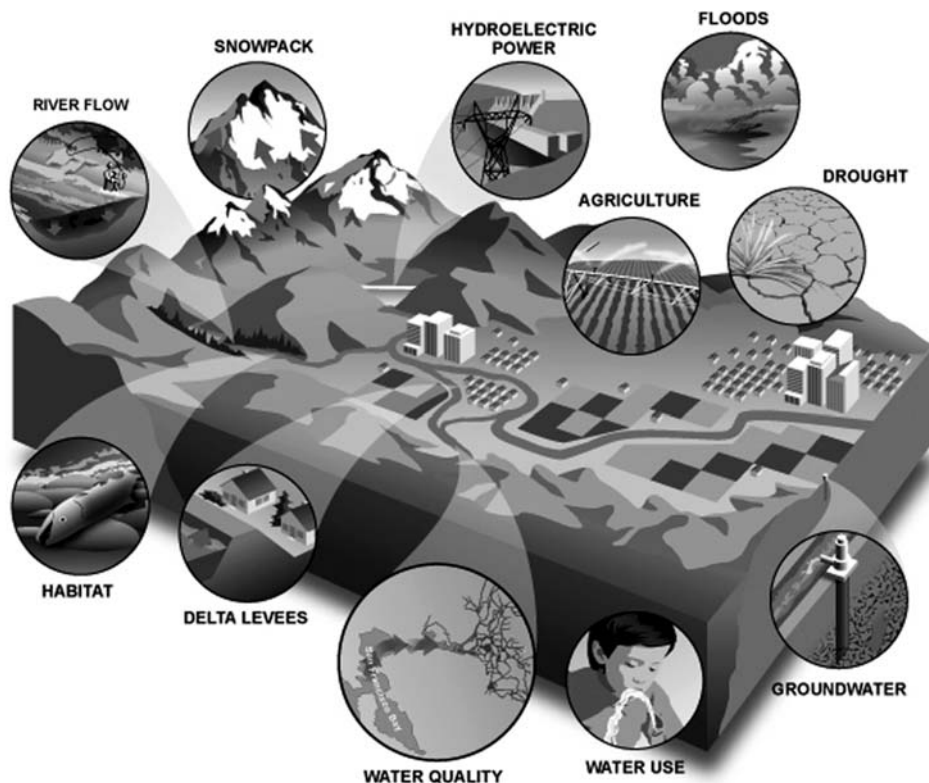
## Climate Change

Climate change is a significant and lasting change in the statistical distribution of weather patterns over periods ranging from decades to millions of years. It may be a change in average weather conditions, or in the distribution of weather around the average conditions (i.e., more or fewer extreme weather events). In its recently released Fourth Assessment Report, the Intergovernmental Panel on Climate Change, of the United Nations, concluded there's a more than 90 percent probability that human activities over the past 250 years have warmed our planet. The industrial activities that our modern civilization depends upon have raised atmospheric carbon dioxide levels from 280 parts per million to 379 parts per million in the last 150 years. The panel also concluded there's a better than 90 percent probability that human-produced greenhouse gases such as carbon dioxide, methane and nitrous oxide have caused much of the observed increase in Earth's

temperatures over the past 50 years.

Climate change is already showing us what's in store for our future. It keeps on giving warning signs that we continue to neglect. Growing temperature, variation in duration and pattern of rainfall, increase in both frequency and magnitude of natural calamities and above all global level fight over natural resources- land, oil, water, minerals etc. shows how precious these natural resources are becoming. Not only Industries, natural resources are misused for agriculture, to keep in tune with the global food needs.

The challenge posed by Climate change to agriculture also leaves a big question mark over future food security and also on lives of billions farmers who depend on it. Agriculture is now seen as an unviable livelihood option, the fact being visible from migration of youths in villages towards nearby towns and cities, which is due to the fact that income from agriculture is becoming more



Courtesy: <https://www.e-education.psu.edu/geog438w/node/240>

and more unreliable. Agriculture uses 70 % of world's fresh water availability, which is becoming more and scarcer. But we need more food, more and more food to keep our world hunger free.

### Impacts of climate change

The IPCC in its fourth assessment report on Climate change has observed the following as impacts of climate change on human and natural environment.

- ✘ Eleven of the last twelve years (1995-2006) rank among the twelve warmest years in the instrumental record of global surface temperature (since 1850). The temperature increase is widespread over the globe and is greater at higher northern latitudes.
- ✘ Land regions have warmed faster than the oceans
- ✘ Global average sea level has risen since 1961 at an average rate of 1.8 [1.3 to 2.3] mm/yr and since 1993 at 3.1 [2.4 to 3.8] mm/yr, with contributions from thermal expansion, melting glaciers and ice caps, and the polar ice sheets. Whether the faster rate for 1993 to 2003 reflects decadal variation or an increase in the longer-term trend is unclear
- ✘ Observed decreases in snow and ice extent are also consistent with warming. Satellite data since 1978 show that annual average Arctic sea ice extent has shrunk by 2.7 [2.1 to 3.3]% per decade, with larger decreases in summer of 7.4 [5.0 to 9.8]% per decade. Mountain glaciers and snow cover on average have declined in both hemispheres.
- ✘ From 1900 to 2005, precipitation increased significantly in eastern parts of North and South America, northern Europe and northern and central Asia but declined in the Sahel, the Mediterranean, southern Africa and parts of southern Asia.
- ✘ Globally, the area affected by drought has likely<sup>2</sup> increased since the 1970s. It is very likely that over the past 50 years: cold days, cold nights and frosts have become less frequent over most land areas, and hot days and hot nights have become more frequent. It is likely that: heat waves have become more frequent over most land areas, the frequency of heavy precipitation events has increased over most areas, and since 1975 the incidence of extreme high sea level<sup>3</sup> has increased worldwide.
- ✘ There is observational evidence of an increase in intense tropical cyclone activity in the North Atlantic

since about 1970, with limited evidence of increases elsewhere. There is no clear trend in the annual numbers of tropical cyclones. It is difficult to ascertain longer-term trends in cyclone activity, particularly prior to 1970.

- ✘ Average Northern Hemisphere temperatures during the second half of the 20th century were very likely higher than during any other 50-year period in the last 500 years and likely the highest in at least the past 1300 years.
- ✘ Changes in snow, ice and frozen ground have with high confidence increased the number and size of glacial lakes, increased ground instability in mountain and other permafrost regions and led to changes in some Arctic and Antarctic ecosystems.
- ✘ There is high confidence that some hydrological systems have also been affected through increased runoff and earlier spring peak discharge in many glacier- and snow-fed rivers and through effects on thermal structure and water quality of warming rivers and lakes.
- ✘ In terrestrial ecosystems, earlier timing of spring events and pole ward and upward shifts in plant and animal ranges are with very high confidence linked to recent warming.
- ✘ In some marine and freshwater systems, shifts in ranges and changes in algal, plankton and fish abundance are with high confidence associated with rising water temperatures, as well as related changes in ice cover, salinity, oxygen levels and circulation.
- ✘ Of the more than 29,000 observational data series, from 75 studies, that show significant change in many physical and biological systems, more than 89% are consistent with the direction of change expected as a response to warming

### Projected Impacts of Climate change

- ✘ There is high agreement and much evidence that with current climate change mitigation policies and related sustainable development practices, global GHG emissions will continue to grow over the next few decades
- ✘ Continued GHG emissions at or above current rates would cause further warming and induce many changes in the global climate system during the 21st century that would very likely be larger than those observed during the 20th century

- ✗ Very likely increase in frequency of hot extremes, heat waves and heavy precipitation
- ✗ Likely increase in tropical cyclone intensity; less confidence in global decrease of tropical cyclone numbers
- ✗ Pole ward shift of extra-tropical storm tracks with consequent changes in wind, precipitation and temperature patterns
- ✗ Very likely precipitation increases in high latitudes and likely decreases in most subtropical land regions, continuing observed recent trends
- ✗ Terrestrial ecosystems like tundra, boreal forest and mountain regions because of sensitivity to warming; Mediterranean-type ecosystems because of reduction in rainfall; and tropical rainforests where precipitation declines are to be affected
- ✗ Coastal ecosystems (mangroves and salt marshes) and Marine ecosystems (Coral reefs) will be affected due to multiple stresses
- ✗ Agriculture in low latitude will be affected due to water scarcity
- ✗ Ocean acidification through reduction in average global surface ocean pH of between 0.14 and 0.35 units over the 21st century. While the effects of observed ocean acidification on the marine biosphere are as yet undocumented, the progressive acidification of oceans is expected to have negative impacts on marine shell-forming organisms (e.g. corals) and their dependent species

### **Impact of Climate change in India**

In the National Plan on Climate change report the Indian Government has stated the following as the observed changes in the climate

#### **Changes in Climate and weather events**

- ✗ The surface air temperature at the national level has shown a increase of 0.4° C over the past century. A warming trend has been observed along the west coast, in central India, the interior peninsula, and north-eastern India. However, cooling trends have been observed in north-west Ind.
- ✗ A trend of increasing monsoon seasonal rainfall has been found along the west coast, northern Andhra Pradesh, and north-western India (+10% to +12% of the normal over the last 100 years) while a trend of decreasing monsoon seasonal rainfall has been observed over eastern Madhya Pradesh, north-eastern India, and some parts of Gujarat and Kerala (-6% to -8% of the normal over the last 100 years).ia and parts of south India.
- ✗ States of Gujarat and West Bengal has shown increasing trend of drought and floods, while Orissa shows a decreasing trend. Overall changes is negligible
- ✗ The sea level rise was between 1.06-1.75 mm per year. These rates are consistent with 1-2 mm per year global sea level rise estimates of IPCC.

#### **Projected Changes over 21st Century**

- ✗ Annual mean surface temperature rise by the end of century, ranging from 3 to 5° C under A2 scenario and 2.5 to 4° C under B2 scenario of IPCC, with warming more pronounced in the northern parts of India, from simulations by Indian Institute of Tropical Meteorology (IITM), Pune
- ✗ Summer monsoon intensity may increase beginning from 2040 and by 10% by 2100 under A2 scenario of IPCC
- ✗ Changes in frequency and/ or magnitude of extreme temperature and precipitation events.

#### **Possible Impact of Climate Change in India**

- ✗ Changes in key climate variables, namely temperature, precipitation, and humidity, may have significant long-term implications for the quality and quantity of water. River systems of the Brahmaputra, the Ganga, and the Indus, which benefit from melting snow in the lean season, are likely to be particularly affected by the decrease in snow cover. A decline in total run-off for all river basins, except Narmada and Tapi, is projected. A decline in run-off by more than two-thirds is also anticipated for the Sabarmati and Luni basins. Due to sea level rise, the fresh water sources near the coastal regions will suffer salt intrusion.
- ✗ Changes in climate may alter the distribution of important vector species (for example, malarial mosquitoes) and may increase the spread of such diseases to new areas.
- ✗ Quantity and quality of food production to be affected.
- ✗ 77% and 68% of the forest areas in the country are likely to experience shift in forest types, respectively under the two scenarios (A2 and B2 of IPCC), by

the end of the century, with consequent changes in forests produce, and, in turn, livelihoods based on those products. Correspondingly, the associated biodiversity is likely to be adversely impacted.

- ✗ Vulnerable regions like Coastal, arid and semi-arid zones are to be affected more by Climate change. About 40 million hectares of land is flood-prone, including most of the river basins in the north and the north-eastern belt, affecting about 30 million people on an average each year. Such regions may be particularly impacted by climate change
- ✗ A mean Sea Level Rise (SLR) of 15-38 cm is projected along India's coast by the mid 21st century and of 46-59 cm by 2100. In addition, a projected increase in the intensity of tropical cyclones poses a threat to the heavily populated coastal zones in the country (NATCOM, 2004).

### Climate and Agriculture

Climate change leaves no development priority untouched, and the most important effect is on agriculture and its long term sustainability, which is vital to cater the primary developmental need "food for mouth" and also serves as a livelihood of billions of people. Agriculture is impacted by climate change, by way of drought, heat stress, desertification, changes in rainfall patterns (quantity of rainfall, its distribution across the globe and variation in on set of monsoons) and flooding. Not only this agriculture and forestry are also major emitters of greenhouse gases. Hence there is impact of agriculture on climate change and also there is the impact of climate change on agriculture, the latter being the more cause of concern (Industries share over climate change is considerably more)



**Impact of Climate change on Agriculture**

### Impact on food production

The total food production in India was estimated to be 252 million tonnes in 2011-12. Of this Rice occupies 45 % of total areas under cereals and 24% of the total cropped area in the country. The production of rice has shown an upward trend during the period 2005-06 to 2008-09 and it reached a record level of 99.18 million tonnes in 2008-09. The production of rice which declined to 89.09 million tonnes in 2009-10 due to long spells of drought has increased to 102.75 million tonnes in 2011-12, the highest ever. The area coverage under wheat has shown an upward trend by increasing from 26.38 million hectares in 2004-05 to 28.89 million hectares in 2011-12. The productivity of wheat which was 2602 kg/hectare in 2004-05 has increased to 3057 kg/hectare in 2011-12. The maize production has also shown a considerable increase, presently being 21 million tonnes.

**Table :1 Agricultural production scenario**

Commodity	Production in 1950(Million tonnes)	Production in 2011-12 (Million tonnes)
Food Grains	50	252
Vegetables	58.50 (91-92)	125
Fruits	28.60 (91-92)	63.5
Milk	17	104.8
Egg	1.8 billion	53.5 billion
Fish	0.75	7.3

Source: Hari.S.Gupta. FAO-EPSCO Consultation: Role and Emerging partnerships for crop improvement in India. IARI, New Delhi (ppt)

The table above may show a green picture. But the fact is that food production has increased at a rapid rate post green revolution, but it has been increasing at very small percentage over the past decade is really a cause of concern. The highest annual average increase in grain production was 6.1%, recorded during the 1980s; but the annual increase in grain production dropped to 1.5% in the 1990's.

Long-term productivity and sustainability of irrigated agriculture in the Indian and Pakistan Punjab, confirmed that there was much higher and more rapid growth of yields for food crops due to green revolution.

However, the results suggest that most of India's higher growth was due to the more rapid growth of inputs. Though overall productivity growth in the Indian Punjab was higher, it was not by a large margin. The results of this study also raise serious concerns about the long-term sustainability of intensive irrigated Green Revolution systems due to resource degradation

Moreover there is no adequate and convincing evidence on impact of improved technologies and policies followed during different periods since 1951 in reducing variation in production and resulting risks. Foodgrains production is found to be highly unstable in the states of Maharashtra, Tamil Nadu, Orissa, Madhya Pradesh, Rajasthan and Gujarat over the years.

Productivity of most crops is expected to decrease marginally by 2020, but by 10- 40% by 2100. Increased droughts, floods and heat waves will increase production variability.

Several other studies projected increase or decrease in yields of cereal crops (rice, wheat, maize and sorghum), Oilseed and pulses crops (soybean, groundnut, chickpea, brassica (mustard) and pigeon pea) depending on interaction of temperature and CO<sub>2</sub> changes, production environment, season and location in India (Table VI). Still the climate change impact studies have not conducted on several important crops in India such as sugarcane, cotton, jute, sunflower, potato and onion etc., which may be done in future for



better assessment of vulnerability of Indian agriculture due to climate change. However, these studies have indicated that the direct impacts of climate changes would be small on 'kharif' crops but overall 'kharif' agriculture will become vulnerable due to increased incidence of weather extremes such as onset of monsoon, duration and frequency of drought and floods, and pest incidence and virulence. Production of 'rabi' crop is relatively more risky due to projection of larger increase in temperature and higher uncertainties in rainfall. Unless considerable adaptation takes place, this would result in decreased winter or 'rabi' production.

With respect to India the estimated demand for food grains including pulses is 285 million tonnes in 2020, while the present production is 252 million tonnes says Harish Gupta and poses a question whether India will be forced to import food grains by 2020. In increasing the food production, he sees climate change to be the biggest obstacle

Under present circumstances of the changed climatic situation and scarcity of resources, it will be very difficult for us to increase the food production by 60 % by 2050 to feed 9 billion and more people. Various studies made in India with respect to impact of temperature and rainfall on yield pattern of major food crops, shows that even a degree raise in temperature can cost too much (table 2).

**Table.2 Effect of climate change on productivity of major food crops in India**

S.No	Crops	Production 2011-12	Impacts
1	Paddy	102.75 million tonnes	an increase of 1-4°C the grain yield reduced on average by 10% for each degree the temperature increased <sup>54</sup>
2	Wheat	80.6 million tonnes	country's annual wheat output could plunge by 6 million tonnes with every 1°C rise in temperature. <sup>51</sup>
3	Maize	21 million tonnes	Assessments indicate a reduction in yield by 3.0%, 9.3%, and 18.3%, in 2020, 2050 and 2080 from current yields <sup>59</sup> due to variations in rainfall and temperature

Though the temperature increase is expected to reduce the yield of other crops like leafy vegetables, chickpeas and other legumes, onion, tomato and castor, the increase in CO<sub>2</sub> concentration is likely to benefit these crops through enhanced growth, higher dry matter production and yield, which will have a natural mitigating effect which gives us some console.

Climate change poses a grave threat to global food security, adding further stress to an already creaking global food system. Research commissioned for the GROW campaign suggests that food prices could double by 2030, with around half the increase driven by the effects of climate change.

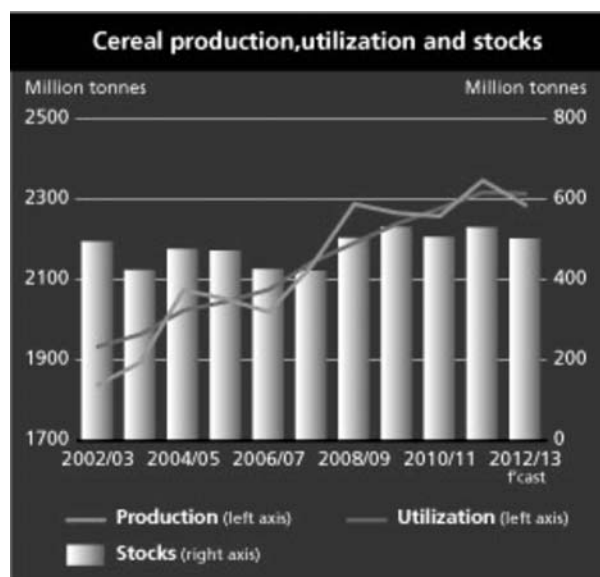
Increased droughts and floods leading to production variability, changes in microbes, pathogenic and pest infestations, impact on fish breeding, migration, and harvests, Increased water, shelter, and energy requirement for livestock, Animal distress due to heat; effects on reproduction and loss of 1.5 million tons of milk by 2020 and Imbalance in food trade due to positive impacts on Europe and N.America, and negative impacts on India are observed to be the other challenges to Indian agriculture

The CRRI Vision 2030 report states that conditions for rice production will deteriorate in many parts of India through water shortages, low water quality, thermal stress, floods and in the coastal areas, sea-level rise and more intense tropical cyclones which are all the consequences of climate change. A 15% decrease in irrigated rice yields in developing countries and a 12% increase in rice price is anticipated as a result of climate change by 2050. It is feared that a 20% decline in rice yields can occur in North-West India due to elevated CO<sub>2</sub> levels and temperature as well as lack of water. In the low-lying deltas and coastal areas of India, like Ganga, Godavari and Cauvery deltas, similar decline in rice production is anticipated due to climate change

impacted sea-level rises and associated intrusion of saline water. Considering the global level, the FAO estimates the world cereal production to be 2238 million tonnes in 2011-12. However it also reports that, at the current forecast level, world cereal production in 2012-13 would be 2.6 percent down from the previous year's record crop but close to the second largest in 2008. The overall decrease comprises a 5.2 percent reduction in wheat production, and a 2.3 percent reduction for coarse grains, while the global rice crop is seen to remain virtually unchanged.

World food grain reserves also have become dangerously low which is expected to trigger a major a major hunger crisis next year, the United Nations has warned. Failing harvests in the US, Ukraine and other countries this year have eroded reserves to their lowest level since 1974. The US, which has experienced record heat waves and droughts in 2012, now holds in reserve

Fig.1 Cereal production utilization &amp; stock status



Source: FAO World Cereal supply and demand brief Declining global cereal production in 2012 to further tighten supplies in 2012/13, Oct,2012: 04/10/2012

a historically low 6.5% of the maize that it expects to consume in the next year, says the UN.

Thinking futuristically by 2050 the world's population will be above 9 billion, most of the population growth is to occur in developing countries. Urbanization will occur at rapid pace, and about 70 percent of the world's population will be urban, compared to 49 percent today.

Income levels will be many multiples of what they are now. In order to feed this larger, more urban and richer population, food production (net of food used for biofuels) must increase by 70 percent. Annual cereal production will need to rise to about 3 billion tonnes from 2.1 billion today and annual meat production will need to rise by over 200 million tonnes to reach 470 million tonnes.

### **Effects of Climate Change on existing Programmes in DHAN collective**

The climate change under the Tankfed agriculture context will pose a threat to the village ecosystem. The threat to village ecosystem will be caused mainly because of the siltation and dysfunctional tanks which creates havoc on the standing crops which further affects the livelihoods of both the farmers and landless farming community. This will lead to push migration to urban areas which inturn will hamper the farming ecosystem. Thus it leads to loss of productivity, fertility and biodiversity.

The effect of Climate change will be in the form of uneven distribution of rainfall leading to crop failure. The distribution varies as late onset of southwest monsoon & early withdrawal of North east monsoon, Frequent long dry spell during cropping season, No change in quantum of rainfall but change in no. of rainy days (decreased rainy days) and Increase in summer rainfall. These variations in the precipitation had led to the extinct of few cropping pattern in local areas. Eg: Groundnut in Thirumangalam and Kallupatti blocks of Madurai district.

The climate change intensifies the natural disaster (flood and cyclone) frequency which inturn affects the development process. The other effects experienced are sea water intrusion and submergence of agriculture lands by backwaters is increasing and it affects the ground water and crop production and Sea level rise in terms of reduced sea shore area as felt by the community. Extreme temperatures in both summer (maximum) and winter (minimum) causes new health problems / new illness

### **Scope for DHANs intervention**

The new theme for Climate change is launched by DHAN Foundation, since many of the works we do through different thematic institutions qualify as activities for addressing Climate Change issues. The New theme on CCA will help to understand the issues related to climate change faced by the community, their coping measures and gaps in the same at the location and regional level. Scope exists for Climate Change Education to Action at individual and collective levels.

### **Proposed Programme Components**

The programme components suggested for the new theme of CCA are list as follows. It needs to be short listed by grouping the different components.

- ✗ Climate Change Research - documentation of local issues, review of existing activities and action plan could be tried. Pilots could be taken in the different contexts of existing theme and new areas.
- ✗ Climate Change Action – Catastrophe fund /cover support to crop insurance/ health insurance programme, Community fund for CCA, Contingency plan, promoting indigenous coping mechanisms
- ✗ Energy particularly on promoting renewable energy
- ✗ Afforestation – protecting as well as planting new trees
- ✗ Agriculture, conservation of bio-diversity and food security - Soil and moisture conservation measures
- ✗ Low cost and green technologies under each sector
- ✗ Disaster Risk Reduction – risk reduction, EWS, Preparedness, Prevention and Mitigation

The new theme would be piloted in Rural (Mullai, Marutham - Madurai district), Tribal (Kurunji), Coastal (Neithal -Nagapattinam and Ramanathapuram) contexts to understand the Climate Change effects at micro level and impacts for dissemination. The outcomes of the pilots could be utilised for finalising the components. The new theme has to prepare proposal for implementing the theme as pilot. It is high time that we develop good understanding on the issues of climate change and its effect on poverty. Capacity building of the staffs to inculcate the climate change sense and adapt it in their programs, Identifying the niche areas for Climate Change intervention and piloting of ecosystem based approach to evolve CCA models and developing tools for upscaling in similar context with necessary adaptations will be facilitated through this program.

## Way forward

Left with this scenario, we have a greater task ahead. The developing countries should carefully plan to combat climate change, through appropriate strategies to meet the future food demand. More output using limited inputs, whether it is land, water, fertilizers, seeds, crops etc., should be the focus. This would also warrant a major change in food habits from "low nutritive- high input consuming crops" ( rice, wheat) to highly nutritive-low input consuming crops (Millets). Advancement in scientific research, which leads to less use of resources, but to maximum returns without any further damage to environment is crucial (e.g., development of C4 rice). Today the world is following a "exploitative" culture without due consideration of the actions on the future society. The world we leave for the next generation must be able to cater all the basic human needs. The development plans of the nations must be formulated keeping in mind the needs of our sons and grandsons.

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# Herbal gatherers - Maruthi Mooligai Producer Company

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## Background

Kalanjiam Thozilagam Limited is an initiative of DHAN Foundation formed with the objective of increasing income of the poor through need and context business interventions. The poor people lack adequate business knowledge and support to start up a business initiative which can greatly enhance their livelihood. KTL plays a crucial role in bridging this gap. It provides market support, to reduce the problem of middlemen the people face, gives training and capacity building, promotes primary producer groups and marketing groups and enables them to form producer companies. Presently KTL is supporting marketing of agricultural commodities, sea food marketing (dry and fresh fish), bio fuel marketing (charcoal and fuel wood) and medicinal plants marketing. The herbal marketing has a great potential and currently it is procured from herbal gatherers, who collect the naturally growing herbs in foot hills of Himalayas, western ghats and Andoman and Nicobar islands etc., Ninety percent of herbs used for manufacturing herbal medicines in India comes from such collections. Commercial cultivation of herbal plants is yet to pick up in large scale. The KTL has supported formation of Mauruthi Mooligai Producer company limited to support the herbal gatherers recently. The need for the same and how the activity is organized is presented here.

## Availability and Distribution of Medicinal Plants

India has 15 Agro climatic zones and 17000-18000 species of flowering plants of which 6000-7000 are estimated to have medicinal usage in folk and documented systems of medicine, like Ayurveda, Siddha, Unani and Homoeopathy. About 960 species of medicinal plants are estimated to be in trade of which 178 species have annual consumption levels in excess of 100 metric tonnes.

Medicinal plants are not only a major resource base for the traditional medicine & herbal industry but also provide livelihood and health security to a large segment of Indian population. The Indian medicinal plants and their products also account of exports in the range of Rs. 10 billion.

## Market Potential

There is global resurgence in traditional and alternative health care systems resulting in world herbal trade which stands at US\$ 120 billion and is expected to reach US\$ 7 trillion by 2050. Indian share in the world trade, at present, however, is quite low.

## Herbal gatherers

Herbal gathering is a traditional livelihood activity of people particularly women folk living in foot hills of different mountain ranges. In southern districts of Tamilnadu, foot hills of the western ghats are found to be rich in a array of medicinal plants which are gathered by the people. Generally women whose health condition prevents them from doing hard physical labor concentrate on herbal gathering. Hence old women, destitute, landless belonging to most backward or tribal community engage in this activity. They used to start from the village as early as 5 am, walk a few kilometer ranging from 2 to 5 km to reach the foot hills. They will collect whatever herbs they find in gunny bags and return by afternoon or by evening The following are the issues that herbal gatherers face



- ✗ They are largely unorganized and market their produce individually.
- ✗ They used to carry very little quantity they have gathered, to nearby towns for marketing which consumes money and time.
- ✗ Often the middlemen and traders, cheat them with incorrect weightment and lesser price underrating the quality and also lowering the market price.
- ✗ They do not have enough facilities for storing and drying the produce

### KTL's Intervention

In order to solve the problem of herbal gatherers who belong to the poorest of the poor category and effort to organize these herbal gatherers has groups, collectively procure and market the medicinal herbs KTL started forming the primary herbal gatherers groups as early as 2005-06. The primary gatherers group usually consists of 10 to 20 members, mostly women. The formation of such groups was initiated in Battalagundu block, of Dindukal district, as a support to the Kalanjiam women initially and later the support was extended to non-members also. As the initiative started providing good results and additional income earning to the members the activity was expanded to other areas like Appanthirupathi, Alanganallur, T.Kallupatti and Kottampatti blocks in Madurai District, Theni and Periyakulam Blocks in Theni districts and few villages in Virudhunagar, Ramanad and Sivakangai districts. Currently more than 1000 such herbal gatherers were organized.

KTL also provides support for training and capacity building on good farm collection practices (GFCP) and also on the different medicinal plants and their large scale market potential. More specifically training was given to herbal gatherers on regenerative method of

harvesting, without uprooting the entire plants but plucking specific parts of them based on need, so that they grow again and again and make the livelihood sustainable.

Procurement centers were also opened in the vicinity of herbal gathering villages, to support the primary herbal gatherers groups . These centers have facilities like weighing machines, tarpaulins, enough storage place etc. Procurement centres were opened after assessing the quantity of herbs that are supplied from the village, , distance to nearby town and number of primary gatherers groups to which the center can provide its service.

Since most of the gatherers are illiterates, KTL appoints a business associate in a cluster for facilitating the purchase, sales and stock maintenance. The thirty two primary producer groups were promoted by KTL, which was now organized into a producer company called Maruthi Mooligai Plants producer company limited.

### Area of Operation

The Maruthi Mooligai Producer company has exposed its Medicinal plants activity in 65 villages and in 7 districts viz., Madurai, Virudhunagar, Ramnad, Sivagangai, Dindigul, Theni and Tuticorin. It has so far established twenty procurement centers and four storage godowns. The storage godowns were located at Sivarpatti, Retraipatti, Ramanaikkanpatti & Appanthirupathi villages. The major medicinal plants procured and marketed through these centers were Thulasi, Vatta sarana kodi (punarnava), Melanelli, Sakkari Kolli leaves, Neem leaves, Karisalaanganni and Keezhanelli. The quantity of the major medicinal plants procured since 2006 and their procurement value is presented in the given table.

**Table: Medicinal Plants and Procured - April2006- March, 2012**

S.No	Medicinal plant	Quantity procured (kgs)	Value (Rs)
1	Thulasi	4,90,147	80,60,984
2	Vatta Sarana Kodi( Punarnava)	1,44,881	11,63,622
3	Melaanelli	1,07,535	7,14,746
4	Sakkarai Kolli leaves	28,093	7,18,188
5	Neem Leaves	1,35,412	8,70,771
6	Karisalaangani	90,799	8,28,582
7	Keezhanelli	10,408	2,16,899
<b>Total</b>		<b>10,07,275</b>	<b>125,73,792</b>

Besides this KTL also facilitating the marketing of Pirandai, Morniga leaves, Vallarai, Sirukurinjaan, Siriyaanangai, neem dried fruits, Oridhazh thamarai, Mudakkathan, Seendhil kodi, Vatta sarana roots, Avaram poo and leaves, Kozhinji, Nannari roots, Oomathai leaves, Nilapannai Kizhangu, Nelli kai, notchi, parpadagapul and Manjanathi kai.

### To conclude

The herbal gatherers has contributed their share to the Maruthi Mooligai plants producer company. The company has planned to mobilize Rs 1,00,000 as share to by the end of the financial year 2012. Since the gatherers themselves are the shareholders, in addition to the fair price, they will also be sharing the withheld price when Maruthi mooligai producer company makes a surplus.

**C**hittupillai aged 44 is a herbal gatherer by profession. Her husband Jyothi pillai and her son Selvaraj supports her in the activity. Chittupillai was eager to share her experience in herbal collection activity. "We usually go as a group of 5 to 10 women for gathering herbs. Our work starts at 6 am and extends to 5 to 6 pm. We travel few kilometers in search of herbs. The knowledge about herbs transferred through generations helps us to identify the herbs easily. We collect thulasi, vatta sarana kodi, Seendhal Kodii, Nernji kaai and Nernji plants, neem

leaves, Avarampoo, Moringa seeds and barks etc., After collecting we dry them and process them without dust and other unwanted materials. A one week of such a collection enables to market 15 to 25 kgs of dry medicinal plants. Earlier we use to travel to



Usilampatti which is 16 from our village Vadivelpuram. Now as we have our own procurement center at Veeruveedu which is 6 km from our village, it is easy for us to market our produce. Also correct weightment is ensured here and satisfied with the price. Through herbal collection each of our member earn Rs1000 to 1500/month. As the rainfall is very low this year we could not get enough herbs. Sometimes we travel as a group to distance places like Ottanchattiram, Kallimandhaiyam, Palani etc., in search of herbs. We carry prepared food that lasts for one or two days, stay there for 4 to 5 days, sometimes even a week to gather the herbs. We usually stay in our relative's house." Gathering Nerunji pods is a very difficult job, since the thorns in the pods will pierce our fingers. We used to have a cotton cloth band over our fingers while plucking. Yet the pods pierce our fingers and hence they have got hardened over the years

### Viruveedu procurement center

Viruveedu procurement center in Batthalagundu was opened in 2006 to enable the herbal gatherers in 32 villages around Batthalagundu to sell that produce at a fair market price. Eighteen Primary producer groups and 250 members were benefited through this center. The center has a railway weighing scale, tarpaulins, gunny bags and enough storage space for storing the herbal produce. Two business associates were also recruited to support the process. On peak season Rs10000-30000/ worth of worth of medicinal plants will be procured each day through this center. When the total quantity procured reaches 5 tonnes, it will be transported to the Storage godown in Silvarpatti. Silvarpatti storage godown also receives produce from Periyakulam procurement center. The major medicinal plants procured in this center Thulasi, Vatta Sarana Kodi( Punarnava), Mevaanelli, Sakkarai Kolli leaves, Neem Leaves, Karisalaangani and Keezhanelli. Pirandai, Morniga leaves, Vallarai, Siriyaanangai, neem dried fruits, Oridhazh thamarai, Mudakkathan, Seendhil kodi, Vatta sarana roots, Avaram poo and leaves, Kozhinji, Nannari roots, Umathai leaves, notchi, parpadagapul and Manjanathi kai also are procured through this center.



# Justice at door steps: Microjustice

R.Anusha \*

## Background

Access to justice for smaller legal issues confronted by them remains elusive for larger proportion of poor people living in our country. This obstacle hinders their active participation in the society and thereby their social development. Making easy the provision of justice to such micro legal problems in termed as 'Micro justice'. In other words, Micro justice is a support centre for poor people especially woman for making justice accessible and affordable against domestic violence, dispute relating to property and labor and against social issues. Providing timely justice right at their door steps for their socio economic development involving the principle of grass root democracy remains the core in this concept. Micro justice is one of the initiatives in the global movement of women self empowerment and has a very practical application in women based SHG federations, where a platform for executing this system already exists.

## Objectives of this Programme

- ✘ To create awareness on the issues faced by the members families from the people's organisation promoted by DHAN.
- ✘ To facilitate the grassroots democracy at village or slum level through Federation.
- ✘ To ensure the basic rights of Kalanjiam, Tank and Panchayat members
- ✘ To empower the federation leaders/Kalanjiam. Tank and Panchayat leaders for getting Justice to their members for sustaining the socio economic condition of the family.
- ✘ To create a space in important forum like Panchayat/ corporation/ lok adalath, Family court as counsellor, Police station Counsellor for access to get the justice with affordability.
- ✘ To support to members for getting Justice against domestic violence disputes regarding exorbitant Interest, Purchasing Land.
- ✘ To strengthen Kalanjiam Movement.



- Value building of Kalanjiam, Tank and Panchayat member families in relevance to Micro justice (preventing misuse of family ration card, government welfare schemes, illegal occupation of government lands)

### Why Micro justice Programme in DHAN People

**Institution:** In all democratic institutions, we find the three important systems viz. Legislative, Executive and

judicial. Our people institutions are nurtured towards working as a democratic institutions and they have a well defined executive and legislative system in operation. The Incorporation of Judiciary system into these institutions will enable them to function as a full-fledged people institutions. Hence the concept of Micro justice was introduced and piloted in few people institutions. The concept is being presently in operation in seven federations across four thematic programs

S.No	Programme	Federation
1	Kalanjiam Foundation	1. Sellur and Pudhur Federation 2. Gangai Federation 3. Kottampatti Federation
2	Vayalagam Foundation	1. T.Kallupatti Federation 2. Kottampatti Federation
3	CALL programme	1. Ramnad Federation
4	Panchayat Programme	1. Palamedu Federation

### Dhan's Experience in integrating Micro finance

**in to Micro justice:** Dhan's experience in Micro finance necessitates the integration of Micro finance activity with various sectors and sub sectors. Micro finance has emerged as a successful tool in alleviating rural poverty. Access to Micro finance services helps the poor to expand their choice for live hood opportunities and improve the quality of their life. The program has successfully integrated with health, education, livelihood and micro insurance schemes.

**Process followed:** To integrate micro justice with the existing components of the different federations, earlier experiences of the federations in handling local legal issues was documented, workshops with people leaders were organized at regional level and a idea note was generated. People insitutions for piloting this concept was idenfitted, system and structure for micro justice was created. The people and the staffs of the federation were enabled through series of capacity building programs and legal aid camps. A committee for Micro justice was formed with selected nine leaders from three federations initially. As the program expanded to other federations, new leaders were selected and at present there are eight leaders each representing one

federation. A training programme for selected leaders' on Micro justice was conducted.

### Principles for Micro justice

The following principles are to be ensured in delivering micro justice through our people institutions.

- 1. Creating a space for sharing:-** SHGs are the forums created already among the members. The regular monthly meeting provides a space for sharing the legal issues the members face. The members can also share their problems in their cluster meetings.
- 2. Space for Interaction:** The member register/voice her concern during the regular meeting. The special forum constituted in the federation would visit the member, interact with her and document the issues in detail.
- 3. Consultation:** The issues faced by the members needs to be brought to the notice of the federation, consultation will be done at federation level forum for making suggestion and evolving alternatives.
- 4. Facilitatng Negotiation:** The federation to facilitate resolve the issue through negotiation

between the two concerned parties.

5. **Facilitate for decision making:** Decision making needs to be facilitated rather taking decision on behalf of them.
6. **Transparency:** Concrete decisions made to resolve the issues and should be made transparent.

### **Collaboration with stakeholders**

To ensure effective delivery of services, the people institutions were facilitated to collaborate with Legal Aid movement and also with the National Legal Services Authority (NALSA). Legal Aid is a movement that envisages that the poor have easy access to courts and other government agencies. It implies that the decisions rendered are fair and just taking account of the rights and disabilities of parties. The focus of legal aid is on distributive justice, effective implementation of welfare benefits and elimination of social structural discrimination against the poor. It was taking these mandatory provisions of The Constitution of India in mind that the Parliament passed The Legal Services Authorities Act, 1987. The National Legal Services Authority is a statutory body which has been set up for implementing and monitoring legal aid programs in the country. The legal aid program adopted by 'NALSA' include promoting of legal literacy, setting up of legal aid clinics in universities and law colleges, training of paralegals, and holding of legal aid camps and Lok Adalats.

Collaboration with Madurai district legal aid committee was done through which training for para legal volunteers was given. One hundred and twenty five para legal volunteers from Kalanjiam and Vayalagam federations were so far trained as para legal volunteers.

Apart from this eight legal aid camps were organized in different people institutions viz., Gangai Vattara Kalanjiam, Sellur Vattara Kalanjiam, Pudhur and Vaigai Vattara kalanjiam at cluster level through which 82 petitions were generated.

### **Legal Aid Clinics at Federations**

The objective of the Scheme is to provide legal services to the poor, marginalised and weaker sections of the society, especially to the people living in faraway places including the places with geographical barriers, away from the seats of justice. The aim of the Scheme

is to provide inexpensive local machinery for rendering legal services of basic nature like legal advice, drafting of petitions, notices, replies, applications and other documents of legal importance and also for resolving the disputes of the local people by making the parties to see reason and thereby preventing the disputes reaching courts. The legal aid clinic is for the benefit of the people in the locality, the local body institutions should be impressed upon the need to co-operate with the functioning of the legal aid clinics and to realise that the legal aid clinic is aimed at promoting peace and welfare of the people in the locality. Legal aid clinic shall work like a single-window facility for helping the disadvantaged people to solve their problems where the operation of law comes into picture.

### **Functioning of legal aid clinic**

- ✗ An advocate will be available at the federation office on weekdays between 2 pm to 4.30 pm, on an specified date suggested by the federation i.e., he will be available one day/week on the specified week day
- ✗ The advocate will get rotated once in a month
- ✗ All the running cost will be met by District Legal Aid Authority.
- ✗ The federation has to arrange for infrastructural facilities for running the legal aid clinic which can be even the federation office premises

### **Duties of Advocates**

- ✗ Availability of legal advice at the door step of the needy
- ✗ Family counseling services
- ✗ Assist the members in drafting their petition
- ✗ Other legal help regarding court proceedings for cases filed already

The State Legal services Authorities shall conduct periodical review of the functioning of legal aid clinics.

### **Role of the Stakeholders in Legal aid clinic**

- ✗ The Block integrator monitors the follow-up action in the matter in which legal assistance has been provided.
- ✗ The lawyer so sitting in legal aid clinic is to perform like a Doctor in a hospital catering to the legal advice required by the needy persons.

- ✗ A register shall be maintained in the legal aid clinic it should be maintained by block integrator, register will contain the details of counsels who have worked in the clinic, nature of advice and the details of beneficiaries.
- ✗ Monthly progress will be sent to the region and copy of the report will be sent to the programme officer.
- ✗ Para –legal volunteers will assist the poor litigants in drafting, typing and presentation of miscellaneous application to the office

Legal aid clinics are planned to be piloted in Gangai, Pudhur, Sellur, Kottampatti kalanjiam federations and T.Kallupatti Tank federation and Mettupatti panchayat at Alanganallur. A legal aid clinic is initiated at Kottampatti on 18/07/2012. One panel advocate from Melur court will be available at Kottampatti federation on every Saturday from 2 to 5 pm, for providing legal aid services to our members. So far 152 petitions were received through the clinic. Another legal aid clinic was planned at Vellayampatti, Alanganallur block, Vadipatti Taluk, the village covered under pachayat and kalanjiam program of DHAN Foundation.

**Legal Literacy:** Legal literacy to members of people institution is facilitated through the micro justice by way of training and capacity building. Exclusive brochures and leaflets are designed for the same. The legal literacy is given regarding women related issues, social issues and financial issues. With respect to women related issues trainings on Law of Maintenance, Domestic Violence Act, Dowry prohibition Act, Marriage and Divorce (Hindu, Muslim and Christian) and Property rights to women.(Hindu, Muslim & Christian) are given. Training and awareness on laws pertaining to social issues like Consumer Protection Act(In this act it has to be categorized), Banking Service to Consumer, Consumer protection against professionals like Doctor and Advocate, Goods related Consumer Act, Right to Information Act, Human Right Act and Registration of Birth and Death Act 1969 is being given. Training on Exorbitant Interest Act, Negotiable Instrument Act (Pronote), Banking Act, Non Banking Finance and Insurance Act also are being given on need basis to people institutions.

## Development News

### Major crop output to fall by 0.5 per cent in 2012-13

Even though the overall agriculture sector is expected to do well in 2012-13, major crop production is projected to fall by 0.5 per cent, the Centre for Monitoring Indian Economy (CMIE) has estimated. This is due to fall out in production of non-food crops like soyabean, cotton and rapeseed. Cotton production is expected to fall by 7.8 per cent to 32.2 million bales in 2012-13 even though the acreage rose by over 12 per cent to 29.3 lakh hectares by June. A projected growth in output of livestock, forestry and fisheries, along with a modest 4 per cent rise in production of minor crops, is expected to lift growth of the agriculture sector to 2.4 per cent in 2012-13, the city-based research agency said. Kharif cultivation of foodgrains and oilseeds has been sluggish due to delayed rains. In order to boost cultivation of these crops, the Centre had announced a steep increase in their minimum support price (MSP) last month.



### Growing NPA in SHGs

NABARD has expressed its concern over the growing NPA in SHGs in the recent years, in the 2011-12 report of Status of SHGs in India. In absolute terms, the gross NPA against loans to SHGs increased from ₹1474 crore at the end of March 2011 to ₹2213 crore by March 2012. In percentage terms it increased from 4.72% last year to 6.09% during the current year. It was only 2.9% during 2009-10. This is a matter of concern for the microFinance sector and the causes for the declining performance of recovery are to be analysed and remedial action initiated urgently. The total gross NPA against loans to SHGs stood at ₹2212.74 crore as on 31.3.2012 against the total outstanding loan of ₹36340 crore. Among the regions, southern region with a NPA of 4.98% (3.79% last year) was the lowest while Central Region with an alarming 13.2% (10.7% last year) was the highest. What causes grave concern is the high NPAs in major states like Uttar Pradesh (12.5%), Odissa (11.9%), Tamil Nadu (9.6%) and Kerala(9%).

# Coir changed my life

S.Shankarapandian \*

## Introduction

Jaya aged 36 is a very ordinary woman living in a village called Silvarpatti, in Periyakulam Taluk, Theni District, Tamilnadu, India. No one expected that she would one day become an entrepreneur and also become the Secretary of Periyakulam Coir Cluster Kalanjiam producer company Ltd. How she got this opportunity and grabbed it to raise her standard of living and also her leadership qualities. This is her story

## About Jaya's Family

Jaya was one among the six children born in Silvarpatti village in Periyakulam taluk. Jaya has two elder brothers, two younger brothers, and one younger sister. Her father worked in Electricity Board as Lineman and expired 15 years ago. Her mother used to look after the five acres of agricultural land, which their family owned. Her eldest brother got a job in the electricity board on compassion grounds. The second eldest brother is looking after agriculture. Her two younger brothers were working as daily laborers in a nearby spinning mill. Her younger sister got married and presently settled in Madurai

## Jaya's Married life

Jaya got married to Mr.Velmurugan in 1991 at the age of 21. Velmurugan belongs to the same village Silvarpatti where Jaya was born. He had 1.75 acres of land, of which 0.75 acres is rainfed land. He also used to work as agricultural laborer. Her married life was pathetic. Her husband earned a meager income and also died at a very early age of 33 due to sudden heart attack. Her married life just lasted for 12 years. However Jaya was blessed with three sons

Velmurugan used to do agricultural works in his own land and Jaya was satisfied being a homemaker. Her husband was the only source of income to the family. One day, by third year of their marriage, her husband had the first heart attack. He was admitted in Government hospital at Periyakulam for the treatment, got recovered and got back home after three months.



However he was advised not to do any work that required more physical stress, so used to go for simple cooli works which fetched low wages. Jaya felt too difficult to run the family and take care of her three children with the meager income earned. They were in a financial stress.

To take care of the family Velmurugan decided to go to Kerala for Construction work, where the wages are more than in Tamil Nadu. He left his family and worked there for six months and later shifted his family to Kerala. They lived there for five years. Though the wages were good, the expenses were high and they could not save any money. He earned Rs200/day and around Rs5000 to Rs5600/month. A part of the money also went to meet the medical expenses. Unable to cope up with the situation and realizing that life was no better here, Jaya suggested that they can return back to Silvarpatti village itself land so they returned. On his return Velmurugan started a small tea shop and a cycle shop in Silvarpatti village. The shop gradually picked and they were able to earn good income, which touched even Rs1000/day at times. So the entire family felt happy and started regaining their confidence. They joined the kids in English medium school since Jaya was keen in giving



good education to his children. The fate struck then. Velmurugan had the second heart attack in 2003 and this time he did not survive the attack.

Jaya felt hell struck. The future was dark and she did not even mingle with others for the next three months. Some of the women in neighborhood suggested that she can join the self-help group called Murugan Kalanjiam, promoted by DHAN Foundation and which was managed by Periyakulam Vattara Kalanjiam, a Federation of Women Self-help. Hoping that it will give some relief to her problems and at the same time without much confidence she joined Kalanjiam in 2003.

#### After Joining in Kalanjiam:

Jaya was forced to look after the agricultural land of 1.75 acres that their family owned and started even working as agricultural laborer to take care of her children. She used to cultivate crops like Maize, cotton, tomato and flowers through which she could earn some income. Jaya used this income to save and to get small loans from Kalanjiam to meet her family consumption needs, which she would promptly repay. Jaya knew tailoring which she learned at the age of 18. Later she thought that she can buy a tailoring machine of her own and Kalanjiam helped Jaya in getting tailoring machine to do business from her home itself. She used to stitch upto five jackets per day at the rate of rupees 20 per jackets. From this she used to earn minimum of rupees 100 per day (i.e rupees 3000 per month). This improved her family situation to some extent.

Later she thought of buying a milch animal for which also Kalanjiam supported. The milch animal is looked after by her younger son. The animal yielded 12

litres per day and these used to be procured by a dairy producer group promoted by Kalanjiam in the village. The price was Rs17.50 /litre and hence this also contributed to the income of the family.

Jaya became a much more confident woman and started exploring more. Her interest turned towards the Periyakulam Coir Cluster Producer company (PECOCK) promoted by DHAN Foundation for benefits of families involved in coir making business. The company was located at Sengaulthaapatti Village, in Periyakulam Taluk, Theni District. Jaya paid Rs10000 as a share capital to the PECOCK PC and also became the Secretary of the Producer Company. At the same time she also started working as a laborer in this unit which fetched her additional income of Rs150/day. Jaya had the ability to learn things quickly. She now operates all three kinds of machines in the unit (i.e. Willowing, Slivering, and AYS). In addition to that she learned producing of frame Matt of different designs and shapes. She earns upto 4000 rupees per month as a wages in this unit.

Jayas sons also grew meanwhile. Jayas sons were now aged 20, 17, & 15 respectively. First two sons did schoolings upto 9th Standard and now working in spinning mill at Coimbatore earning Rupees 5000 per month and last one doing 10th standard currently. Jaya used to feel sad that even his younger son was not keen in his studies. The youngest son looks after the milch animals and not a regular attender to school. When enquired he said to Jaya that he has no interest in study and pursuing 10th standard only because of the compulsion. "I wished that all my three sons should get educated well and settle well in their life unlike their father. But they stopped and studies and went to work" Jaya used to feel.

**Table. 1 Jaya's Savings and Loan Status in Murugan Kalanjiam**

S.No	In the Year	Savings	Loans	Repayment	Interest
1	2006-07	3326	16200	1700	1271
2	2007-08	4782	14699	2799	2491
3	2008-09	6271	22557	3207	3075
4	2009-10	6271	22557	3207	3075
5	2010-11	9151	79100	49851	2868
6	2011-12	10599	29249	10279	214
7	2012-13	10026	3826	5018	-
8	2012-13	II Loan	18000	2858	655

Despite this only concern Jaya was satisfied with the present day situation of her family. Her family now has sufficient income from different sources, all because of the confidence Jaya gained after joining Kalanjiam.

**Table. 2 Income of Jaya's family/month- March,2012**

S.No	Particulars	Income Per Month in Rs
1	Earning from Coir Unit	3200
2	Earning through Milch animal	210
3	Jaya's first son earns	5000
4	Jaya's Second son earns	5000
<b>Total</b>		<b>13410</b>

### Jaya's other contributions

Jaya used to play a active role as a Kalanjiam member. She supported the federation to form three new Kalanjiam groups in Silvarpatti village by explaining its merits to the people. She helped five members in different Kalajiams to get their life insurance coverage claim at the right time. She also created awareness about availing scholarship from Kalanjiam to the unknown members. She explained the merits of paying Medical and Life Insurance to the various groups in the Silvarpatti Cluster and played a vital role in enrolling all members in those schemes. She also renders her support for problem solving among Kalanjiam members and addressing repayment issues.

### Impact of Kalanjiam on Jaya's life

- ✗ Jays's self- confidence and leadership qualities improved by miles.
- ✗ She became a Director in a Company by paying Rs.10000 as a Share Capital.
- ✗ She owns 8 Sovereigns of gold purchased after her husband's death from the various livelihood activities she undertook.
- ✗ She repaid Rs.50000 external loan she borrowed from a local money lender long time ago

### Jaya's Future Plan

Jaya wishes to purchase a land and built three separate houses for her three sons and marry them. In work, she mobilizes more number of labors to work in the producer company. She made to operate the coir unit for minimum of two shifts and maximum of three shifts per day in profitable manner and she wishes to increase the profit further. She also has plans for

building a New warehouse to store the finished produce separately and to buy a vehicle for the PECKOCK PC to pick up and drop the company employees. In the next five years she also plans the PECKOCK PC to go for a value added products like Pith Block, Geo textiles, etc., which still can give higher returns.

### Imidacloprid found to kill bees

Imidacloprid is the bestselling neonicotinoid insecticides all over the world including India. The pesticide is used to kill sucking and biting insects. A study published in the German science journal *Naturwissenschaften*, reveals how bees given minute doses of the widely used pesticide imidacloprid became more vulnerable to infections from a deadly parasite, nosema. Bee experts described this as clear evidence of the role pesticides play in the plight of bees. Although research into the furry insects may seem like a very academic exercise, bees are vital to human survival. More than 70 of the 100 crops that provide 90 per cent of the world's food are pollinated by bees, and Albert Einstein once predicted that if bees died out, "man would have no more than four years to live."

The study, led by Dr Jeffrey Pettis, the head of the US Department of Agriculture's Bee Research Laboratory, says: "We believe that subtle interactions between pesticides and pathogens, such as demonstrated here, could be a major contributor to increased mortality of honey bee colonies worldwide." Researchers found that bees deliberately exposed to minute amounts of the pesticide were, on average, three times as likely to become infected when exposed to a parasite called nosema as those that had not. The findings, which have taken more than three years to be published, add weight to concern that a new group of insecticides called neonicotinoids are behind a worldwide decline in honey bees, along with habitat and food loss, by making them more susceptible to disease.

## Periyakulam Coir Cluster Producer Company Limited

Theni District of Tamilnadu was known for their coir units which used to remain scattered and not concentrated. The coir industry was first introduced in Kombai of Cumbum block, as a source of alternative employment for the tea estate laborers, when they encountered problems in estate works, about two decades back by some youths of CPI party. Since 10 years, the business proliferated among other areas of the district but the spread was relatively slow in this cluster when compared to the total national growth of the industry. The coir industry spreads over 6 blocks namely Periyakulam, Theni, Cumbum, Uthamapalayam, Chinnamanur and Mayiladumparai of the district which are well apart from each other. Concentration of units is more in Cumbum block (mostly decorticating units) whereas in other blocks only few units have been established. It is an industrial cluster in a sense that 75% units are totally commercialized big units whereas only 25% of units are small and household.



To safeguard the interests of small scale coir units operating in Periyakulam Taluk of Theni District, DHAN Foundation promoted the Periyakulam Coir Cluster Producer Company Limited which got registered on Febraury 16, 2009. The producer company has a 10 member board with Mrs. Shanthi Venkatachalapathi, Mrs.Murugeswari Sadaiyan and Mrs.Jaya Mookkiah as President, Treasurer and Secretary respectively.

The Producer Company was formed after giving sufficient training to those involved in coir making. An exposure visit was arranged to Singampuneri Coir cluster where Coir pith making, Coir Spinning, Coir frame matt, Coir handicrafts, Coir automatic yarn spinning etc. were in operation. An awareness meet involving different stake holders like District Industrial centre, Coir Board, Canara Bank, local entrepreneurs and Kalanjiam members was organized on 11<sup>th</sup> Nov, 2008. A coir exhibition for identifying potential sellers and buyers was also organised. Capacity building of people involved in coir business, who were the members of Primary producer groups in Devadanapatti, Samathuvapuram, Jayamangalam, Melmangalam and Muthalakkampatti villages was done with the support of Coir Board.

### Establishment of Common Facility Centre (CFC)

A common facility center from where community could access services for production of coir fibre and provides a common platform for the women to work and earn profit from production was established with the support of Periyakulam Coir fiber workers Industries Cooperative society which gave 50 cents of land on a long term lease basis to District Industries center, Theni which was the implementing agency. DHAN played a vital role in establishment of this center by enrolling all the stakeholders. The factory building was established at the cost of Rs9.50 lakhs in 2012 square feet. An office building and workers amenities were constructed at the cost of Rs. 1.62 lakhs in 170 sq ft.

### Machineries

Automatic yarn spinning units (9 numbers), Willowing machine (3), Silvering machine (3), Hand winding machine (3), Bobbins (60) and Unwinding machines (3) were purchased at the cost of Rs. 12.25 lakhs and installed in CFC.

# One Village-One Variety scheme launched



One Village- One Variety scheme, a project on Cotton Cultivation was launched in Sengapadai Village, Thirumangalam, Taluk, and Madurai District on 09.08.2012. This scheme of Cotton Corporation of India (CCI) is implemented in Sengapadai and surrounding villages by DHAN Foundation, under its rainfed agricultural development program. The Thirumangalam Uzavar Maamandram, the federation of rainfed farmers promoted by DHAN Foundation will play a major role in implementing this scheme.

The Mr. P.T.Pillaivaar, General Manager of Cotton Corporation of India (CCI) presided over the function. Mr. Palanisami, the Program Leader of the Rainfed agricultural development program of DHAN foundation, Dr. Chellaiah, Professor and Head, Regional Research Station (RRC,TNAU), Arupukottai, Dr.K.Rajendiran, Professor of Agronomy, TNAU, Coimbatore, Dr.Rajaram, Professor of Entomology, RRC, Arupukottai, Mr.Sundar rajan, General Manager, Kalanjiam Thozilagam Limited(KTL), Madurai and 200 farmers from Sengapadai and other rainfed villages

participated in the event. Mr. Sangu Murugan, Community Accountant of Thirumangalam Uzavar Maamandram delivered the welcome address.

Mr. P.T. Pillaivaar, in his inaugural address said that "this One village-One variety scheme is a trigger project and is to be implemented for three years. CCI has supported the rainfed farmers in this area with technical guidance for the past two years, because of which the cotton yield has increased from 3 quintals/acre to 7 quintals. However this yield is not sufficient and we have to aim to produce 15 quintals per acre. I hope that this is the right time for the farmers to adopt the latest technology in rainfed cotton cultivation and go for good quality seeds, which can bring a tremendous change in the lives of farmers ". He asked the farmers to go in for quality seeds available with agricultural department and Srivilliputhur Cotton Research Station rather than using seeds from ginning factories supplied by local merchants. The aim of CCI is to increase the yield with low cost of inputs for optimizing returns, he added.

Mr. Palanisamy said "DHAN Foundation is working here from the year 2002, since we started implementing the National watershed development project for rainfed areas (NWDPA). About Rs20 lakhs worth of work was done in this village, through which 400 wells got rejuvenated, oorani's were de-silted, farm ponds were constructed and drinking water facilities were made. Collaboration with CCI happened two years ago through which technical training; soil testing and farm inputs were given to the farmers. Mr.Palanisamy also thanked the CCI, TNAU, Coimbatore and RRC- Aruppukottai for their regular support in giving technical guidance for cotton cultivation in villages around Thirumangalam. Mr.Palanisamy also briefed about the Thirumangalam Uzhavar Mamandram, the federation of farmers which plays a major role in improving rainfed farming in these villages. Crop insurance plans were introduced here and 149 automatic rain gauges were installed to measure the impact of drought. He said that farmer's cooperation is the most important aspect for success of any agricultural intervention in the area.

Dr.Chellaiah gave technical guidance for seed to seed cotton cultivation during his speech. He stressed that good quality seeds and timely sowing decides the yield of the crop. "He added that the one village and one variety scheme is to ensure that a single variety is sown by all villagers during the same time, which helps in easy pest management". He said that land preparation

for the next crop should follow immediately after the harvest of the standing crop, in rainfed conditions. Cotton crop should not be left as such in the field after it stops yielding and should be ploughed down. Summer ploughs using disc plough, makes land uneven and enables the land to save more water by preventing run off. It also controls weed growth. Applying enriched farmyard manure can be practiced by farmers, since bulk loads of FYM is unavailable nowadays and transportation costs drills a hole in farmers pocket. Instead of five tonnes of FYM, 300 kg of FYM can be enriched with 50 kg of super phosphate and can be applied after 30 days. Buying quality seeds and seed treatment with carbendazim/trichogramma after delinting will control occurrence of sucking pests to large extent. Instead of broadcasting of seeds, line sowing should be practiced, which will reduce the cost of labour in weeding and also helps to maintain adequate plant population. Split application of fertilizer, basal and the two top dressings (after two weeding) should be practiced. The most important thing is the care during plucking. It should be ensured that only the full matured pods get plucked. Also while marketing segregate the good quality ones from pest infested pods, so that better price is ensured for the produce.

Dr.Rajendran, in his speech said that the demand for cotton in India is 245 lakh bales. Last year 320 lakh bales were produced and the excess got exported. This



year 30 % reduction in cotton production is expected. Maharashtra, Gujarat, Punjab, Haryana, Rajasthan, Tamil Nadu and Andhra Pradesh are among the 11 states that grow cotton in India. 50 % of the cotton produced comes to ginning mills in Tamilnadu . The demand for cotton in Tamilnadu every year is 120 lakh bale(1 bale = 170 kg cotton), while the production in Tamilnadu accounts only to 5 lakh bales. He also expressed that there is high potential for getting higher yield and advised farmers to go far line sowing and continue to grow SVPR-2 variety that is most suited to Thirumangalam belt. He also asked the farmers not to go far Bt cotton, since they fetch low price in cotton markets than the Surabhi cotton. He also shared his experience during his visit to Brazil. He said he was astonished to see domestic water being efficiently for irrigating cotton crop, in villages that suffers from water and rainfall scarcity. Water is used very cautiously by the people there, knowing its importance. The cotton yield was

also high to a tune of 25 quintals /acre, where farmers here struggle to get even 7 -10 quintals.

Dr.Rajaraman delivered a lecture on pest management in cotton. Stem weevil menace was expressed as the major problem and he suggested usage of Imidachlorprid @ 5ml/kg for seed treatment and further spraying of Chlorpyrifos @ 1ml/liter after 15 days of sowing, apart from neem cake application @ 100kg/acre after last plough. Mr.Sundarajan, from KTL, expressed his concerns that even after repeated requests many farmers are reluctant to adopt line sowing, which really can assure good returns apart from reducing the weeding cost. He said seed treatment is like giving immunization for babies and farmers should realize its importance.

Ms.Kalavathi, President of the Sengapadai Panchayat Union, thanked the gathering.

### Thirumangalam Uzhavar Mamandram -A brief

DHAN Foundation initiated its rainfed agricultural development program in 2<sup>nd</sup> Oct,2002, in Thirumangalam and surrounding villages. Farmers groups were formed as a part of this program, which grew gradually and now got established as Thirumangalam Uzhavar Mamandram, managed and run my farmers themselves

Total Farmers groups	:	116
Total Families covered	:	1828
Villages	:	30
Panchayats	:	16
Savings	:	73.13 lakhs
Member loan outstanding	:	82.87 lakhs
Bank loan outstanding	:	28.93 lakhs
Common Fund	:	18.50 lakhs
Loans Distributed so far	:	757.59 lakhs
Total Bank loan availed so far	:	59.44 lakhs

#### Association with other organizations

- ✗ With CCI to implement One Village – One variety scheme
- ✗ With NABARD to form farmers groups, give trainings and exposure visits
- ✗ With IDRC & SIDA to implement Revalorizing small millets in South East Asia in Thirumangalam Block

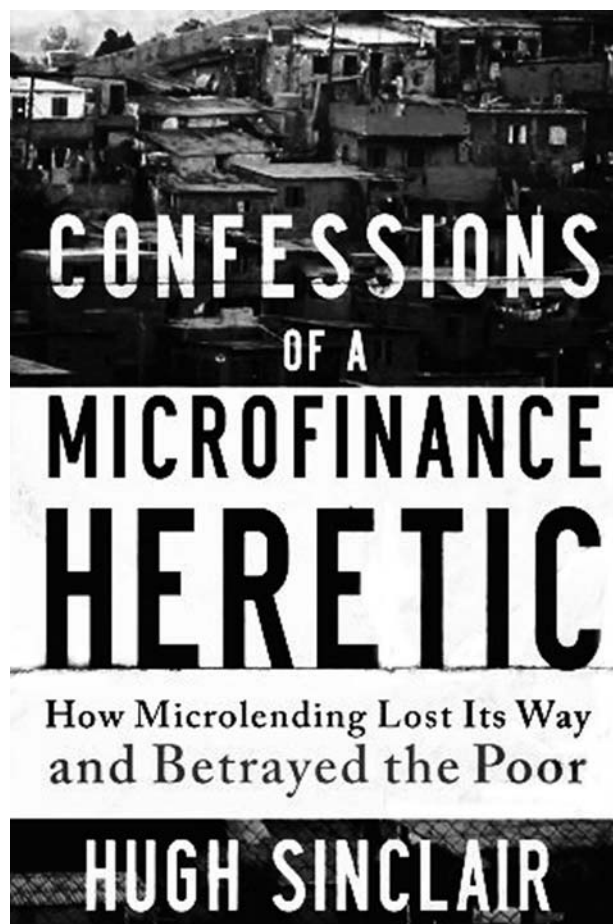
# Confessions of a Microfinance Heretic

## How Microlending lost its way and Betrayed the Poor

Confessions of a Microfinance Heretic- How Microlending lost its way and betrayed the poor was a book written by Hugh Sinclair who had first hand experience on working in microfinance institutions and also in some microfinance funds. This book seems like a sequel to the book "Confessions of an economic hitman" by John Perkins. In an impressive style of writing filled with wits and sarcasm Sinclair shares about Microfinance institutions, microfinance funds, rating agencies and peer to peer microfinance institutions. He however does not find fault with the concept, but with the way in which it is misused by the greedy MFIs. The concept of Microfinance, off late was used with selfish intentions by mushrooming microfinance institutions in developing countries. India is no exception from that. Many microfinance companies operate with profit motive, charging exorbitant rate of interest and poaching the customers of other MFI.

Sinclair says his claims will be neglected and brushed away, by the giants in the field for the fear that it will put an end to the image as "savior of poor". The books capture the irony of the loans which are meant to benefit poor through productive utilization being used for non-productive purpose by and large. The book also says how exorbitant rate of interests even more than 100 % is charged by many MFIs.

Sinclair narrates his first experience of computerizing the all the branches of a MFI called LAPO (Lift above Poverty organization), functioning in Nigeria. He along with an expert Jose Manuel, tried to install a reasonably good software called M2 in LAPO. The process began with streamlining the manual accounts which turned out to be a very tedious process as the data was inaccurate. He goes into detail about the lending practices of LAPO which is beyond all ethical standards. LAPO not only charged exorbitant interests, but also collects savings from the poor which is against the law, has high turnover of clients, high default rates and which provides false information to funding agencies. Hugh Sinclair also states how the microfinance funds like Grameen Foundation USA, Oxfam Novib, Calvert Foundation, BlueOrchard, Kiva etc.. which funded LAPO turned blind to this fact, even when the



real status of LAPO was exposed by rating agencies like Microrate and Planet rate.

Hugh Sinclair states with humor about how proposals are made by few institutions. Sinclair had the opportunity to come across a proposal written by the organization Triple jump (presumably where Sinclair worked) to facilitate funding to LAPO. The proposal to Calvert foundation was nothing but a cut and paste of the proposal submitted to ASN-Oxfam. Triple Jump the Organization which did the due diligence for both the organizations covered the real facts and gave a rosy picture about LAPO to facilitate funding. Sinclair who worked for Triple Jump was forced to quit the job, since he questioned these anomalies but won a court case in his favor and got a lump sum settlement in the process.

The Microfinance funds, the MFIs and the so called experts in the field were very careful enough to protect the image of MFIs as savior of poor and neglect the facts. He also captures how multiple lending and bad appraisal led to downfall of MFIs in Nicaragua and Andrapradesh in India. He also analysis how Compartamos and SKS floated shares, which only benefited the workers in the respective organizations and also the CEO of Accion, who earned a substantial income because of her decision to invest in Compartamos.

Sinclair also notes the double standard of Mohammed Yunus of Grammeen Foundation, who speaks against MFIs which act as loan sharks but in reality continue to have relationship with them. Sinclair also quotes how the same photo of a women beneficiary that appeared in the website of three different NGOs including Kiva. Kiva the P2P model clearly exploits the emotions of the donors in best of interest of its growth. The P2P model of the Kiva, boasts of the individual donor to know who the ultimate beneficiary was even while donating online. The case studies of the members and groups along with their photo will feature in the website

of kiva. The donor can choose which member and which activity they can finance and he was facilitated even to lend amount even as low as twenty dollars. Kiva also assures that the amount will be returned to the donor in the span of three years without any interest. This no cost fund thus received Kiva from donors, when ultimately reaches the poor comes with an exorbitant interest rate tag.

He also mention about the "no pago" movement in Nicaragua, which is the result of unhealthy lending practices and multiple lending. A single kite maker managed to get loan from all the 19 MFIs that were the part of Nicaraguan Microfinance association.

Sinclair also notes that there are also good MFIs which follow ethical standards in lending. Some these MFIs are smaller MFIs but the impact they make on the lives of poor are great. To solve the problem of exploitation by MFIS Sinclair suggests for a cooperative model in microfinance.

The member owned people SHG federations operates on cooperative principles built on a suitable model was perhaps the one Sinclair means. ■

### Development News

#### Urea deep placement technology

Urea is the nitrogenous fertilizers widely used by millions of rice farmers across the globe both for irrigated and rain-fed rice. Many farmers still practice broadcasting method of urea application to fertilize paddy plants standing in flooded water. This practice is highly inefficient - about two-thirds of the fertilizer is lost as greenhouse gas or becomes a groundwater pollutant. A technology called Fertilizer deep placement (FDP) is followed in Bangladesh, which ensures 40 % more efficiency of urea utilization. IFDC a public international organization addressing critical issues such as international food security, has joined hands with Bangladesh Ministry of Agriculture and the Rice Research Institute and the private sector (small private entrepreneurs) to develop FDP technology based upon urea supergranules (when used with urea fertilizer, FDP is called UDP - urea deep placement). Urea deep Placement is a simple but a very effective technology which involves the placement of 1-3 grams of urea supergranules or briquettes at a 7-10 centimeters (cm) soil depth shortly after the paddy is transplanted. UDP increases nitrogen use efficiency because most of the urea nitrogen stays in the soil, close to the plant roots where it is absorbed more effectively. The benefits of the technology are significant - a 20 percent increase in crop yields and a 40 percent decrease in nitrogen losses.

By 2008/09, the Bangladesh Department of Agricultural Extension spread UDP technology to 500,000 hectares (ha) of paddy fields, increasing production by 268,000 metric tons (mt) annually. Farmers using UDP had additional annual net returns of \$188/ha. (Bangladesh's average per capita annual income is about \$500.) UDP use reduced Bangladesh's urea import costs in 2008 by 50,000 mt, saving \$22 million in fertilizer imports and \$14 million in government subsidies. The additional rice has made 1.5 million more Bangladeshis food secure. The Government of Bangladesh began expanding UDP technology in 2009 to 2.9 million more farm families on 1.5 million ha. In 2011, rice production is expected to increase by almost one million mt, ensuring food security for an additional 4.2 million Bangladeshis. FDP trials have also been conducted in Afghanistan and India. In India, IFDC scientists examined the effect of deep placement of briquettes made of urea, diammonium phosphate and potassium chloride compared with broadcasting NPK (nitrogen, phosphate, potassium). Deep placement resulted in similar or higher grain yields obtained with 40 kg/ha less nitrogen used.