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Self-Sufficient Villages: Cases of Southern Region of India

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Abstract: ***We are directed as well indirectly benefitted from nature, it is impossible for us to survive without it. We know that, a large number of medicines that we use and the foods we get from plants and animals. There are some many things which we can learn from nature and can be used for our future science and technology. Progress is directly related to nature. If we want our progress to be fast then we can copy nature. There are many examples which clearly show how nature helps us in our day to day life. By studying polar bear's fur, we can get to know about better insulation, the design of helicopter resembles bee, firefly depicts light. etc. The major cause to nature done by the lifestyles we have adopted. As we are impatient and always want to change things according to our choice, we inefficiently use natural resources. Our preference has changed from natural tapestry to technology. We should not exploit naturally available resources like oil and gas which takes years of time to produce, we should invent technologies which are innovative. This includes biogas produced biomass; efficient biomass producing electricity and fuel for kitchen, wind turbines can be used, solar panels can extract energy from the sun and can be converted into electricity. We need to change lots of things in our surroundings in order to attain sustainable livelihood. Decentralized development can be the base of our development. According to a report in India concluded that all the demands of electricity, fuels can be met by the careful and sensible use of locally available biomass, for a community size Taluka. No development model can ever be successful, if our greed for materials, resources and energy come to an end. Consumption of energy resources and encouraged greed is the base of economic models at present.***
Keywords: natural tapestry, biomass, energy resources, sustainable livelihood, biogas.

I. INTRODUCTION: PARTICIPATION OF YOUTH IN ENVIRONMENT IMPROVEMENT

The future of the world lies in the safe hands of our young generation and they are held responsible in making this world a better place to live. However, it is the moral responsibility of our older generation to guide the youth to achieve better tomorrow for everyone. Youth of today is full of energy, innovative, experimental thoughts and channelize their lives. All of us are in need and desire of a comfort, luxury and peace in life. But when it comes to human beings, they always demand forpersonal happiness and a better environment. There are various ways to achieve personal happiness. Basically, we are happy when we are contented or at peace. Environmental happiness can be referred as a community or nation building. This environmental happiness brings peace and pride for of our surroundings and gives us a feeling of proud ownership. If we succeed in creating peace and better environment for our work and living, then we will be able to create a happy and livable place. It is the responsibility of every individual to contribute in improving the environment and converting it into a better place to live in. This effort will feel us proud in being a part of this transformation. We should very well understand that whatever we are and what all we have received is just because of the country and society. Therefore, it is our duty to return back to the society. The human being essence lies in gratitude. Personal infrastructure is nothing but health, happiness and well-being. With the improvement in our personal "infrastructure" we can bring improvement within ourselves and this will help in our personal and emotional growth. We should be able to return what all we have received in order to help the society. When both these activities are carried out hand in hand than it gives us a great joy and satisfaction. We are more concentrated towards satisfaction in our basic needs and demands. Once we are contending, we can work for the improvement of the environment and help in making it better as well. Helping needy students, cleanliness of our surroundings, energy savings, judicious use of natural resources, etc. can all be part of our work for society. Conservation of energy will help the society. Similarly, whatever we do to help others is also accounted as social work. The mantra which each one of us should follow is to act locally and think on national level. All of us should be able to develop a "can do" approach. Nothing is impossible in front of our strong will power and straightforward attitude. The mind is very active at a young age and hence the youth of our country is full of innovative ideas. One should always have a positive approach. We should never allow negative things to hinder our way. This is the working approach of nature. Nature never tries to suppress another branch just like a tree. Hence we should never try to bring others down. This is the best mode of development where the entire system is upgraded simultaneously.

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We should follow nature in whatever we do. 54% of the total population in India are below the age of 25 years is 54% and majority resides in rural areas and is with any employment opportunity. To create wealth, improvement in their quality of life and bringing everyone into the mainstream of development, creation of rural-based enterprises are required. If we want to improve and develop our nation than we should work for the up-liftment of the rural people.

A. Case Study 1: Ankapur, Andhra Pradesh

Village Ankapur is a small village in Andhra Pradesh. Its outstanding achievements in the development of agriculture recognized the village as a Model Village by International Rice Research Institute (IRRI), Manila, Philippines. It contributes in the cultivation of various commercial crops and vegetables. Ankapur is located in Armoor Mandal of Nizamabad District in Telangana. The village has a history of 400 years old. The overall development of the village made it a Model Villages in the country. According to the elders of the village, till 1920 Ankapur was a passive village.



Ankapur village has set a record in India with progressive farming.

Figure 1: Farmers of Ankapur Source: Deccan Chronicle, Jan 2015

The Nizamsagar branch canal provides water for irrigation. From the year 1920-70, the villagers were in the cultivation of local rice. The villagers adopted traditional practices. Sri Hema Chandra was the Assistant Director of Agriculture (ADA) in 1970-71. Hybrid seed production was introduced by him. Farmers were convinced by the profit they will get and so they gradually opted commercial seed production. The farmers adopted modern methods and they were succeeded. he village has basic facilities like educational facilities, financial services, utility services, rural retail area, health facilities, etc. There are about 800 households in the village. They have cable connection which is the source of entertainment for them. They have telephone facility in the village. Their own cars, tractors, Lorries, buses, etc., for transportation. Over the period of time, there was an increase in agricultural labor wages. Due to this, the laborers from the neighboring districts migrated to this village in search of occupational opportunities.



Figure 2: Farming in Ankapu Source: The Hindu, Oct 2014

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The poultry in Ankapur has cows (982), she-buffaloes (200), bullocks (44), sheep (300) and goats (174). The village has open marketplace and the products are sent to faraway places.

The profit gained is utilized in the infrastructure development of the village and also vehicular facilities for the villagers. The villagers are not interested in constructing houses or to acquire property for them. Instead, they preferred to construct 1½ km road which had an estimate of Rs.4 lakhs over and above the estimates made by the public department. In 1986, Rs. 7.5 lakhs was utilized in the construction of a three storied Panchayat office building. They also constructed a bridge across Nizamsagar canal branch which cost them about Rs.40, 000/-. Overhead tank for drinking water was constructed out of Rs. 1 lakh. The village has a MahilaMandaliSangam. The MahilaMandali members are responsible to maintain a fair price shop. They run the shop on no profit and no loss basis. They had to family planning norms and had to undergo an operation after giving birth to two or three children. They loved to play Kabaddi, cricket (children) and the badminton. The other source of entertainment was movies. Most of the households have cable TV facilities to entertain themselves. There are some social evils prevailing in the village, such as intake of alcohol. A dowry system is one of the social evil in Ankapur village. There is no police station for the safety of the villagers. There is no case pending in any court. A complete freedom is given to the villagers to follow any religion.

1) Conclusion

a) It is a closely knitted organization.
b) Women are employed in agricultural activities like sowing, weeding, harvesting and supervision of farm labor.
c) The replaced traditional agriculture to commercialization of agriculture.
d) Importance to women was given.
e) Women participation in domestic activities.
f) Raising three crops in a calendar year.
g) Lesser use of chemical fertilizer and pesticides.
h) Production of commercial crops like turmeric, and vegetables.
i) No land left without cultivation in the village.
j) Inter-crop cultivation of turmeric and maize.
k) The water is collected in a pond on the elevated structure and then the same was diverted to the farm lands.
l) Disciplinary committees are formed at village in order to punish the guilty.
m) The village market was set up in order to help the local people to sell their commodities.
n) Financial support given by the banks.
o) The main concern of the farmers is organic and sustainable which ultimately protected the natural resource base of the village over the years.
p) Attention towards soil health problems.
q) Farm operations are generally taken care of women and men were involved in marketing related works.

B. Case Study 2: CSMA in Andhra Pradesh

In Andhra Pradesh, Community Managed, Sustainable Agriculture (CSMA) is giving higher returns to farmers at low cost. Modern agriculture is based on the use of quality of seeds which have high-yielding property, chemical fertilizers, water for irrigation, chemical pesticides, etc. The small farmers use chemical fertilizers and pesticides. The state has recorded suicides committed by the farmers in the recent past. Indira KrantiPatham (IKP) is supported by CMSA and managed by federations of women's SHGs. When the program was started, it had only 400 acres of land in 12 villages which rose to 1.3 million acres in the year 2009 in 3171 villages. The program was spread over 18 states in India covering 23 districts. The fund collected by the end of 2008 was Rs. 4000 billion, which was utilized for the up liftment of farmers. The basic process followed in CMSA is as highlighted:

1) The farmers are made aware of pest prevention techniques and integrated pest management (IPM).
2) Biological methods like neem extracts were used instead of pesticides.
3) Chemical fertilizers were replaced by microbial formulations, composting, vermin-culture and bio-fertilizers.
4) Conventional fertilizers were replaced by tanks silt, green manure crops, and soil inoculation.
5) Multiple cropping systems were introduced, to increase the fertility of the soil.

Sustainable technologies replaced chemical fertilizers and pesticides, were replaced with sustainable technologies and practices. Organic agriculture was introduced.

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After the detailed study of the project we can conclude that it was an economic system for agriculture. A report made by the analysis done in five districts with 400 families shows that CMSA yields are more profitable than those of modern agriculture.

C. Case Study 3: Tirur, Kerala

A biogas plant was established in schools to convert waste into wealth in Tirur Block of Malappuram district of Kerala.
A bio gas plant is installed by block Panchayat which was fuelled by the remains of the midday meal. This facility is used by nearby hotels also for the disposal of their waste. The energy generated from these bio gas plants was enough to cook the midday meal for the schools. The slurry was also used in the school gardens in the form of manure. The bio-gas plant is used as an experiment to demonstrate to children and others and make them aware as to how waste can be utilized and can be converted into a useful resource. Annual action plan was prepared by the association of parent and teachers and for the implementation government approved agency was selected. The key element for such plants is sustainability. Maintenance Committee was formed for the supervision. With the contribution of teachers the operation of the plant is successful. After the results achieved by the success of the plant for more plant were installed by the block Panchayat.

D. Case Study 4: Kaliyapalayam, Tamil Nadu

Kaliyapalayam is a small village in Tamil Nadu. The village is nearly 374 km away from Chennai. An ecological sanitation initiative was launched in 2002 by the Society for Community Organization and Peoples Education (SCOPE). With the introduction of the scheme there was reduction in open defecation and also prevention in pollution of water. In the initial stage, eco-San toilets were constructed in 18 households. The villager readily accepted the concept of eco-San toilets. In the first model collection of urine and feces was done in two different chambers. Later on, this was replaced by another modified model, which consisted of three chambers in which urine, feces, and wash water was collected. A mud pot is buried in the ground in which urine is collected and filter bed collected the wash water. The initial costs of the eco-San toilets were high, but it was eliminated in front of health benefits. Assured irrigation at zero cost to banana trees next to the toilets. The sale of manure and urine contributes to the overall income of the village. An estimate of 200% on investment over a life span of a toilet.

E. Case Study 5: Ranga Reddy, Andhra Pradesh

A joint project was undertaken by DFID and the Government of Andhra Pradesh. The main aim was to introduce various technologies for different building parts. A low cost and eco-friendly technology identified the roofing systems, walls and foundation designs. The technologies were selected on the basis of the following:

1) Durability
2) Material and skill availability.
3) Consumption of energy
4) Total cost
5) Generation of income
6) Acceptability and
7) Maintenance.

In Ranga Reddy District of Andhra Pradesh, 56 buildings were constructed. Renewable energy is used which favored low CO_2 emissions. Rice husk and ash is one of the material used for making bricks. The buildings were made out of these bricks.

F. Case Study 6: Kuthambakkam in Tamilnadu

Kuthambakkam, a village in Tamilnadu. The village was known for its social evils. But the picture has changed after the development. A chemical engineer, Elango Rangaswamy was elected Panchayat President of the village. He took a pledge for the development of the village. He resigned from his job from Central Electro Chemical Research Institute, Chennai in 1994. His priority was to replace the thatched roof to build houses for the villagers. Government assisted him to get raw materials and convinced rural people to donate their labor. The roads were laid, which included sewer lines. He then came up with an idea of producing consumable items by the villagers, such as food and everyday consumables. He took a decision to produce the items in his own village instead of buying the same from the nearby markets.

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Figure 3: Involvement of Villagers Source: IJRS, Oct 2008

He was inspired by the Gandhian philosophy of self-reliance.

1) Conclusion

a) The processing of toor dal was done in Kuthambakkam and neighbouring villages.

b) Elango constructed a machine to mix soap ingredients to make soap.

c) Health and hygiene is also essential for everyone, which requires maintaining toilets for them.

d) The oil was extracted from the ground nuts.

e) He made a contract with a shoe manufacturer. The top portion of a shoe was knotted with women. Jute and other materials are also used to produce handbags and purses.

He has several ideas in giving employment opportunities for the villagers. He involved adults in the processing of toor dal, oil making out of groundnut, making of soap, articles made out of jute, etc. But, the issue related to employment for the young generation was not fulfilled. The youths were frustrated as there was no work for them after they passed 10 and 12th. Therefore, he decided to execute outsourcing projects. These projects gave employment opportunity to young generation. His idea was to generate employment opportunities for the youths of the village. Many big companies started offering employment to rural people. But time and money was spent in order to reach the companies. He was able to convince the companies for the outsourcing some of its work in the villages. His background of engineering assured the youth are going to produce quality work. A proper training was given wherever necessary. He wants to upgrade the neighboring villages in the same manner.

G. Case Study 7: Oddoor, Karnataka

Oddoor farms are located near Mangalore, Karnataka. It was 120 acres of barren land, which is now converted into a lush green farm. This was made possible with the creation of an artificial lake. The lake helped in raising the water table in the surrounding area.



Figure 4: Artificial Lake, Oddoor, Karnataka Source: The Alternative.in, 2013

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A lot of time was taken to create a lake, but now the water collected in the lake can irrigate the entire farm. The water helped in developing the green spaces. The farm produces fruits and vegetables.



Dairy farm owns cows that supplies milk, which is taken up by the Karnataka Milk Federation.

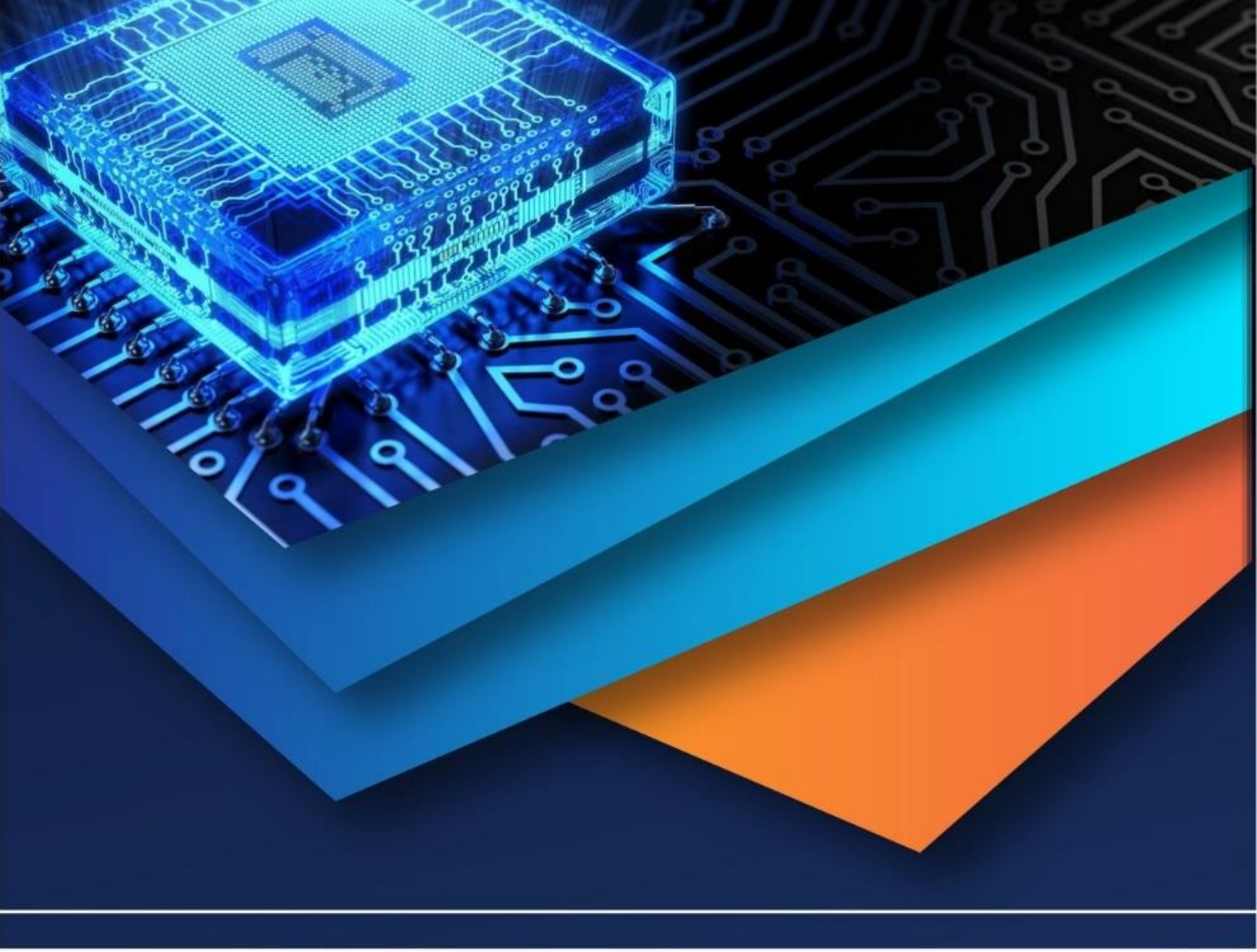
Figure 5: Cowshed Source: The Alternative.in, 2013

A separate shed has been constructed for calves and cows. Grass is grown on their own farm.
The self-sufficiency of the farm includes production of manure which is used in the generation of electricity generated. The bio gas generated is also used in the kitchen. The use of slurry in the form of manure.

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