

## Periyar PURA: A Model for the Development of Rural India

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The economic liberalisation enunciated during the final decade of the 20th century has gained momentum in this decade as evidenced by a growth rate of around eight per cent of the GDP. However, the benefits of this growth have been confined mostly to urban areas, neglecting the rural areas. Poverty and lack of basic facilities such as schools, health services, roads, electricity, communication, etc., have resulted in the migration of the rural population to cities to seek better lives and jobs. If the nation has to prosper by 2020, rural development should be undertaken on a war footing to bridge the urban-rural divide, utilising the concept of PURA.

Periyar Maniammai University, Vallam, Thanjavur, Tamil Nadu launched a rural development programme based on the ideas of its mentor and social reformer Thanthai Periyar, who proclaimed that villages should get the same amenities as enjoyed by people in cities and towns.

Sixty-five villages situated on the south west of Thanjavur District and north of Pudukkottai District of Tamil Nadu are adopted by Periyar Maniammai University for implementation of sustainable development projects to give economic uplift. The staff and students conducted a socio-economic survey by using the techniques of Participatory Rural Appraisal (PRA) and Focused Group Discussion (FDG) for all the villages and created a database of physical infrastructure, natural resources, population, cropping pattern, subsidiary avocation, etc., to identify priority needs. These priority needs are being addressed, one by one, as specific projects. Local inhabitants of the villages participate in these projects, plan, implement, evaluate and maintain to archive economic sustainability. All these developments are being implemented by utilising the natural and local resources for sustained development without endangering the environment.

His Excellency the former President of India, Dr. A.P.J. Abdul Kalam, has advocated the concept of Providing Urban Amenities for Rural Areas (PURA) through physical connectivity, electronic connectivity and knowledge connectivity that will lead to economic connectivity and provide villagers with livelihood security. This concept of PURA, in all respects, resembles the programme of rural development adopted in the year 1996 by Periyar Maniammai University, Vallam, Thanjavur. During his visit on December 20, 2003, His Excellency then President of India inaugurated the PURA scheme and affectionately named it as Periyar PURA.

Periyar Maniammai University, with the participation of all Periyar institutions, 8,000 students and 850 faculty/staff, has developed a model for a National Development Programme (NDP) of overall rural development that includes enhancing the teaching skills of school teachers and improving the students' understanding in various subjects.

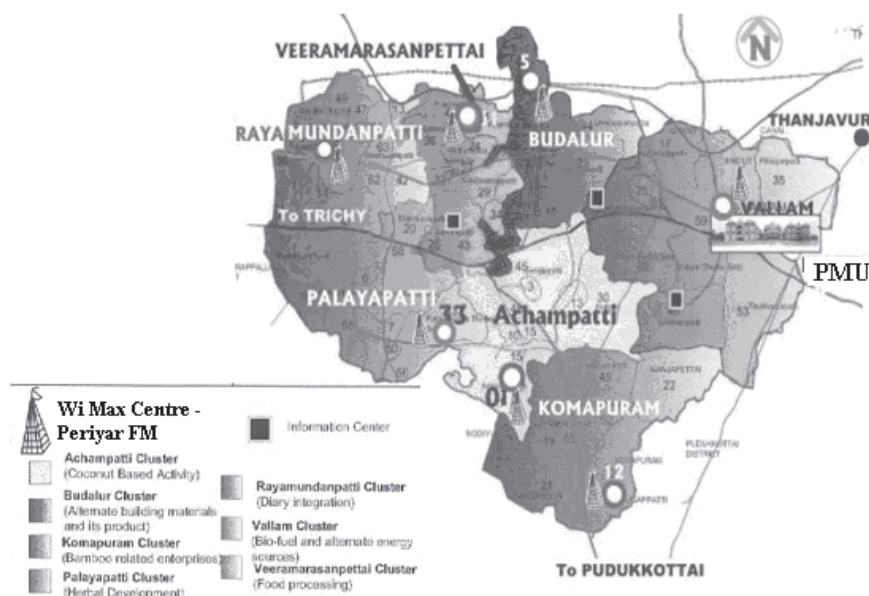


Figure 1. Periyar PURA Village in Thanjavur and Pudukkottai Districts, Tamil Nadu, India

### Periyar PURA clusters and their activities

All the sixty-five villages of Periyar PURA were grouped into seven clusters (Figure 1) based on the availability of local and natural resources (soil, water, weather, biodiversity, geographical boundaries and human resources). Each cluster concentrated on developing products of specified fields so that the wealth generated would be circulated within the Periyar PURA villages.

Sl. No.	Cluster	Economic Activity
1	Achampatti	Coconut-based activity
2.	Budalur	Alternative building material
3.	Komarapuram	Bamboo-related enterprise
4.	Palayapatti	Horticultural developments
5.	Rayamundampatti	-Dairy developments
6.	Vallam	Bio-fuel and alternative energy
7.	Veeramarasanpatti	Food processing

## I. Physical Connectivity

The network of roads in the Periyar PURA villages was not in a good condition. Periyar PURA, with NSS volunteers and NCC cadets, has renovated some of the primitive roads with the participation of the villagers. Periyar PURA persuaded the district authorities to carry out road improvement work in Budalur - Komapuram as well as Veeramarasanpettai-Muthuveerakandiyanpatti-Avarampatti-Nandhavanapatti-Muthandipatti - on to National Highway (NH-47).

With assistance from M/S Pure-O-Tech (P) Ltd, San Diego, California, USA, a water purification plant was erected at Muthuveerakandiyanpatti. The purified water supply was also extended to Veeramarasanpettai and Avarampatti villages.

To alleviate the problem of inadequate housing facility, Periyar PURA has coordinated with State Bank of India, which extended housing loan to beneficiaries to the extent of rupees seven lakhs to Rayamundanpatti cluster area. Periyar PURA has been persuading the district authorities to carry out kacha, pakka and KVT house building programmes in the PURA villages.



**Former President of India His Excellency Dr. A.P.J. Abdul Kalam inaugurated Water Purification Plant at Muthuveera Kandiyampatti village on 24.09.2006**

## 2. Electronic Connectivity

Village knowledge centres have been established, one in each cluster, to exchange and disseminate information and technology required by rural population. These knowledge centres have been connected with the main campus at PMU. Seven villages are connected through wireless broadband Wi-Max technology and Periyar FM 90.4 MHz. In order to disseminate information on the concept and activities of Periyar PURA across the global community an exclusive website [www.periyarpura.org](http://www.periyarpura.org) is being maintained.



**School children participated in FM Radio Windsor participated in FM Radio interaction programme**



**Dr. Robin Wright  
Professor, School of Social Work  
University Programme in Periyar  
Maniammai University**

### **3. Knowledge Connectivity**

Regular training programmes were organised on computer operation, bakery, mushroom cultivation, bio-manure, welding, plumbing, sheet metal rolling and electrical appliances. NCC cadets, NSS volunteers and Periyar Matriculation school students enchant Periyar PURA ideals and activities through multimedia street shows among villagers.

Training on bamboo propagation and products was imparted to the people of Komapuram cluster, availing the services of NMBA. In collaboration with M/S Mico-Bosch, vocational training programme is being organised for carpenters, electricians, masons, and auto electricians with power tool operation. Trained beneficiaries are provided loan facility for the purchase of machineries and tools. M/S Cethar Vessels and BHELSEA of Trichy, in collaboration with Periyar PURA, has offered employment-guaranteed training on welding, sheet metal rolling, etc. Some of the unemployed youth from these villages have taken training with a stipend of Rs.1400/- per month.

Total sanitation has been provided to three of the Periyar PURA villages, Veeramarasanpettai, Rayamundanpatti and Achampatti. Periyar Maniammai hospital mobile medical team and NSS volunteers are periodically visiting all the villages to attend to their health needs.



**Welder Training given through BHELSEA**



**Distribution of certificates  
For Mason trainees**

#### 4. Economic Connectivity

Periyar PURA is programming to provide job avenues continuously. Establishment of one modern laundry at Pillayarpatti and one unit of Fiber Reinforced Products (FRP) at Budhalur, coir product unit at Pudhupatti, pottery production unit at Manaiyeripatti and digital studio at Vallam at a cost of Rs. 55 lakhs are prime examples to emulate. The 80 SHG members of three villages in Rayamundanpatti cluster are provided with a loan of Rs. 24 lakhs for the purchase of milch animals and pasteurisation and pocketing facility by the State Bank of India, Thanjavur.

Periyar PURA is conducting an annual two-day agriculture conference along with CII on sustainable agriculture. Farmers' Forum is formed for watershed management, cropping activities and to provide linkage with knowledge generators and entrepreneurs.



**System of Rice Intensification**

Jatropha, a bio-fuel yielding plant, is cultivated in the campus on a large scale. The use of the bio-diesel will not harm the environment. In the surrounding villages, farmers are supplied with saplings to grow Jatropha plantation to promote the use of clean renewable alternate fuel.

Periyar PURA has the following organisations to carry out its tasks in these villages.

- Periyar Organisation for Women's Emancipation and Renaissance (POWER)
- Periyar Research Organisation for Biotechnic and Ecosystem (PROBE)
- Periyar Centre for Environment and Energy Management (PCEM)
- Periyar Renewable Energy Training Institute (PRETI)
- KVIC Regional Extension Centre (Bio-manure programme)
- Periyar Business Processing Outsourcing (PBPO)

The activities of these wings are as follows:

### **Periyar Organisation for Women Empowerment and Renaissance (POWER)**

POWER is an NGO for the transfer of technology to the beneficiaries of the Periyar PURA villages. POWER identifies the aspirants in the locality, offers Entrepreneurship Development Programmes and assists to apply for funding schemes. Power has 8000 women in its SHGs and offers training in various areas such as bakery technology, nursery management, vermicomposting, mushroom culture, fibreboard production, ornamental plant cultivation, jute product making, etc.

### **Periyar Research Organisation for Biotechnic and Ecosystem (PROBE)**

This is an outreach wing started in the year 1996 with a prime focus on the rural development through afforestation and biotechnology-based wasteland development activities. It has developed agro-modules in this locality to provide hands-on training in various agro-techniques in order to generate employment opportunity for the local people.

### **Periyar Centre for Environment and Energy Management (PCEM)**

This centre was established in collaboration with University College of Cape Breton (UCCB), Nova Scotia and the College of the North Atlantic (CAN), Newfoundland, Canada. It conducts training programmes in wastewater analysis, treatment, remediation technologies and renewable energy technologies. The centre is currently involved in a project on the "Generation of power from municipal solid waste in Thanjavur" in joint technical collaboration with RWTH University, Aachen, Germany.

### **Periyar Renewable Energy Training Institute (PRETI)**

It is a joint venture with the Ministry of Non-Conventional Energy Sources (MNES), Government of India. It offers training on renewable energy usage and energy conservation to suit the needs of various groups for a duration of one day to one month for self-help group women, unemployed youth, panchayat presidents, council members, government officials, students, faculty members and others interested in the use of renewable energy.

### **KVIC - Biomanure Regional Extension Centre**

This centre was established in 2002 under Rural Employment Generation Programme of the Khadi and Village Industries Commission (KVIC), Ministry of Rural Development. This centre conducts regular awareness camps and skill development programmes in biogas generation and bio-manure production for the farmers and aspiring entrepreneurs of Periyar PURA villages.



## **Periyar Business Processing Outsourcing (PBPO)**

This centre was established in 2009. There are 30 students in the first batch who are trained and have acquired knowledge in computer operations using MS Word, MS Excel, MS PowerPoint and Internet concepts. The students practice on the specialised software typewriting instructor which enhances their typing skill to accommodate them in PBPO industry. In addition, they are able to work in team spirit through this training programme. On completion of the training programme, they have self-confidence to work in any BPO industry in non-voice.

PBPO have started receiving NREGP, NMR data entry work from Budalur block. Then the block development officers of Thiruvonam and Thiruppanandal have also providing the data entry works. The data entry is done in PBPO centre and the data are sent online to the concerned blocks.

## **Host Institution and its Infrastructures**

The host institution of Periyar PURA, i.e. Periyar Maniammai University, besides its known academic excellence, is very much involved in rural developmental activities. Consisting of committed people from Agri tech to nanotech, the infrastructure, manpower, ideology and environment really address the rural development in right sense.

## **Commitment of Organisation**

Periyar PURA is carrying out its activities with an understanding of transfer of technology to the people in order to feed all instead of feeding a few.

Organisations availing the services of the University are as follows:

1. Tamil Nadu Water and Drainage Board, Government of India, Thanjavur.
  - Evaluation of drainage and permeability of soil
2. BSNL, Government of India
3. Public Works Department, Government of Tamil Nadu
4. Tamil Nadu Police Housing Corporation Ltd (TNPHC), Thanjavur
  - Assessment of old tiled staff quarters
5. Tamil Nadu Slum Clearance board, Government of Tamil Nadu, Thanjavur
6. Air Force Station, Government of India, Thanjavur
7. Highways Department, Thanjavur Office, Government of Tamil Nadu

8. Oil and Natural Gas Commission, Government of India
9. Muthu Pipes (PVC pipe manufacturers), Thanjavur
10. Tamil Nadu Electricity Board, Thanjavur
11. Small Industries Development Corporation Ltd. (SIDCO), Government of India
12. Indian Railways
13. District Rural Development Agency (DRDA) of many districts in Tamil Nadu
14. Air Force Station, Thanjavur

### **Linkage with institutions/research organisation/industry/financial institution**

The institution has signed MoU with the following organisations:

#### **I. National organisations**

##### **a. Educational and training Institutions**

1. National Technical Teachers Training and Research Institute, Chennai
2. School of Quality Management, Gundur, Trichy
3. School of Energy, Bharathidasan Univerisity, Trichy
4. National Institute of Technology, Trichy
5. Foremen Training Institute, Tumkur Road, Bangalore

##### **b. Research organisations**

1. Defence Research and Development Organisation (DRDO), Government of India.
2. M. R. Morarka GDC Rural Research Foundation, Jaipur, Rajasthan

##### **c. Business enterprises/industry**

1. G.B Enterprises, Thiruchirappalli, Tamil Nadu
2. Sands Instrumentation (Pvt) Ltd., Chennai, Tamil Nadu
3. Kotak Urja Ltd., Bangalore
4. Silver Green Agro Products Export (India) Private Ltd., Thanjavur



- d. Professional Associations
  - 1. Builders Association of India, Thanjavur
  - 2. Confederation of Indian Industry, Thiruchirappali
- e. Public sector organisations
  - 1. Bharat Heavy Electrical Limited (BHEL), Thiruchirappalli, Tamil Nadu

## 2. International Organisations

- a. Universities
  - 1. Memorial University of Newfoundland, Canada
  - 2. College of North Atlantic, Newfoundland, Canada
  - 3. University College of Cape Breton, Nova Scotia, Canada
  - 4. National Louis University, Illinois, USA
  - 5. RWTH, Aachen, Germany
  - 6. Sandeago University, USA

### Impact study on Periyar PURA

Periyar PURA, over a period of 5 years in implementing developmental activities in line with the PURA model, has brought in much impact on empowering and accelerating the rural development. It has addressed many issues including migration and shift in human resources, quality of life, employment, agriculture, education and infrastructure development in the project.

### A Realistic Model of Public Private Partnership

A slightly different model of Public Private Partnership Periyar Maniammai University, with the support of government schemes, had solution-oriented approach and ensured the effective implementation of the project.

Convergence of development outcomes through generation of new jobs, vocational training and creation of new enterprises has enhanced women empowerment and improved quality of living and health and sanitation. Let us see how these impacts were created with the support of various public schemes.

## **Farm Development**

This includes development of small water harvesting structures such as low-cost farm ponds, excavation of farm pond, renovation and augmentation of water resources, de-silting of village tanks for drinking water and irrigation, demonstration for popularising new crops and varieties and innovative management practices, construction of thrashing floors and distribution of agriculture implements at subsidized cost by State Agriculture Department. Skill development programmes in agro-based activities have been started for about 2500 women. The cultivable area under different crops has been increased from 32,384 acres to 35,702 acres. There is a shift in crop choice too. New crops such as flowers and medicinal plants have been introduced and the area under less water-intensive crops is on the increase, retaining the farming activity for the whole year.

## **Vocational Trainings**

On the non-farm sector, vocational training in trades such as welding, fitting, carpentry, electrical and plumbing services, CAD/CAM, CNC and machinist has produced more than 2000 skilled persons and jobs in related areas. This has arrested migration to a large extent and reduced unemployment problem among the youth.

## **Women Empowerment**

One thousand and five hundred women SHGs enrolling 30,000 rural women are engaged in income-generating activities. They have been provided training in vermi-compost production, nursery techniques, tailoring, embroidery, bakery, coir products, fibre reinforced products, hollow block making and carpentry. In fact some of the services such as catering, stores, cafeteria, laundry, printing, tailoring and student amenities in the Periyar institutions are run as small enterprises by these trained women groups. This arrangement ensures not only quality of service to the end users but also a sustainable income to the women and thereby economic standing and empowerment.

## **Knowledge Development**

On the educational front, Periyar PURA has worked from elementary schools to college level. Vocational training, virtual classrooms, e-tuitions, awareness creation, skill development and leadership development are the main activities targeted at the village schools. Some of the activities are done at the villages, some at the institution, and the advantages of ICT such as Wi-Max connectivity and Periyar FM are utilized. Village knowledge centres in six villages are connected to the base station at Vallam. Now children and farmers at these villages enjoy the IT impact. Spoken English modules are given to the rural children; e-tuitions for subjects such as mathematics and science are common. The overall increase in literacy is 9% from 62% recorded in 2001 census. The number of schools (75), colleges (7) and universities (4) in the region has also increased, allowing the rural community an easy access to education at an affordable cost.

## **Infrastructure Development**

Due to the government policies, infrastructure development in sectors such as roads and railway lines brought in momentum to the development activities. Four-lane roads and broad-gauge railway lines have brought in new industries in the project area, increasing the members from 13 (in 2003) to 65 in 2010. This industrial boom helped the skill-trained youth to get employment in native areas and created service-oriented business activities such as hotels, lodging, general stores, maintenance and repair shops, etc. The indirect impact of these activities needs to be studied and can be taken as replicable model to create similar economic activities.

The support rendered by Centre for Rural Development brought in facilities such as internal roads, drinking water, drainage, street lights, graveyards, marketing complex, etc., with a little but timely intervention by the Periyar PURA functionaries.

## **Health and sanitation**

Regular medical camps and social service camps by the University volunteers in the villages and the hospital facility in the University campus helped about 7,03,208 patients to get treated. Some of the villages were even brought under complete sanitation by constructing low-cost toilets for individual houses.

## **Rural Business Hub**

Some of the identified economic activities for Rural Business Hub such as dairy farming, vermicompost and sericulture are in progress. A total of 280 farmers were trained in the related skills and agriculture now became agri-business for these farmers. Value-added products from the milk and cow dung fetch more prices. Rearing of silkworms and reeling of silk threads are found to be economically attractive by the small farmers. Presence of a Technology Business Incubator in the project area steers the innovation, thereby spindling the entrepreneurial environment. Micro enterprises based on rural resources are the main focus of the incubator, and the effort to bring in corporate in marketing the products of Rural Business Hub (RBH) will include small producers in value chains that will have the advantages of integrating with the supply chains, as they can supply better quality with intensive management attention to each output unit.

## **Extension of Periyar PURA in the Districts of Tamil Nadu**

Based on the experience gained from Periyar PURA villages, it is planned and extended to other districts in Tamil Nadu, namely Nagapattinam, Villuppuram, Krishnagiri, Tiruvarur and Thanjavur.

## To conclude

As per the vision of our mentor Thanthai Periyar, Periyar Maniammai University, from its inception in 1988, has grown into a centre for rural welfare activities and the mission to achieve prosperity in the year 2020 or even earlier is feasible, as envisaged by our beloved His Excellency former President Dr. A.P.J. Abdul Kalam. This successful module can also be replicated for the development of other villages in the country.

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