# Working Paper 355

Alternative Medicine Approaches as Healthcare Intervention: A Case Study of AYUSH Programme in Peri Urban Locales

Manasi S, K V Raju, B R Hemalatha, S Poornima, K P Rashmi

# ISBN 978-81-7791-211-1

© 2016, Copyright Reserved The Institute for Social and Economic Change, Bangalore

Institute for Social and Economic Change (ISEC) is engaged in interdisciplinary research in analytical and applied areas of the social sciences, encompassing diverse aspects of development. ISEC works with central, state and local governments as well as international agencies by undertaking systematic studies of resource potential, identifying factors influencing growth and examining measures for reducing poverty. The thrust areas of research include state and local economic policies, issues relating to sociological and demographic transition, environmental issues and fiscal, administrative and political decentralization and governance. It pursues fruitful contacts with other institutions and scholars devoted to social science research through collaborative research programmes, seminars, etc.

The Working Paper Series provides an opportunity for ISEC faculty, visiting fellows and PhD scholars to discuss their ideas and research work before publication and to get feedback from their peer group. Papers selected for publication in the series present empirical analyses and generally deal with wider issues of public policy at a sectoral, regional or national level. These working papers undergo review but typically do not present final research results, and constitute works in progress.

# Alternative Medicine Approaches as Healthcare Intervention: A Case Study of AYUSH Programme in Peri Urban Locales

# Manasi S, K V Raju, B R Hemalatha, S Poornima, K P Rashmi\*

## Abstract

Given the big challenges in providing healthcare in India because of rising costs and poor infrastructure, traditional medicine is seen as a positive alternative for improving the health status of the masses. In this context, the current chapter focuses on understanding the role of SOUKYA Foundation DMRC (Dr. Mathai's Rural Health Care Centre) under the AYUSH programme aimed at reviving traditional healthcare systems in peri urban areas.

#### Introduction

Healthcare is the right of every individual, but the lack of quality infrastructure and qualified medical functionaries, and non-access to basic medicines and medical facilities limit its reach to about 60% of the population in India (Vyasulu and Vijayalakshmi, 2003). The health status of Indian people and the factors affecting the status and healthcare services in India are fast becoming issues of great concern in the changing national and international social and economic scenarios (Peters, et al, 2002). However, the historic urban-rural bias continues to persist even to this day. The public healthcare system that currently exists in rural India, where 68.84 per cent of the population lives, is largely dysfunctional (Census report, 2011). Despite a large number of policies and programmes being initiated by the Government, their success and effectiveness need further strengthening due to lacunae in the implementation process. Government spending on primary healthcare is being wasted due to improper planning, financing and organization of the healthcare delivery system (Duggal, 2000). Poor infrastructure base and the failure to optimally utilise the available resources have hampered the delivery of public sector healthcare services, particularly in rural areas. The private sector, on the other hand, provides quality healthcare services to patients (Saxena, 2007). Private sector hospitals have 300 to 500 beds with well-trained nursing and paramedical support staff. These hospitals generate enough revenues to sustain themselves and expand further. A majority of these hospitals are located in urban areas (Duggal, 1994).

India spends 4.2 per cent of its gross domestic product on healthcare, the bulk of which represents private out-of-pocket expenditures. This indicates, in part, a higher use of healthcare services in both urban and rural settings. Among urban households, 70 per cent of all visits made are to private sector providers, and the remaining 30 per cent are evenly divided among public primary healthcare centres and hospitals. (Das *et al*, 2012).

<sup>\*</sup> Manasi S, Associate Professor, Centre for Research in Urban Affairs, Institute for Social and Economic Change, Bangalore. E-mail: <u>manasi@isec.ac.in</u>; K V Raju, Assistant Director and Principal Scientist, International Crops Research Institute for Semi Arid Tropics, Patancheru, Telangana. E-mail: <u>kvraju2008@gmail.com</u>; B R Hemalatha, S Poornima and K P Rashmi were Senior Research Assistants, Centre for Ecological Economics and Natural Resources, Institute for Social and Economic Change, Bangalore. E-mails: <u>hemalatha@isec.ac.in</u>; <u>poornima.envi@gmail.com</u>; and <u>rashmi.shankarappa@gmail.com</u>

The following section discusses some of the possibilities and scope of traditional medicine for improved healthcare services given its long-term sustainability and its holistic approach to the prevention of diseases through life-style changes. The paper is divided into 4 sections: Section 1 deals with various activities and their status; Section 2 explains the approach adopted in implementation; Section 3 addresses the strengths and challenges of DMRC, SOUKYA Foundation Approach; Section 4 lists key findings based on a field survey (102 households and 10 focus group discussions) and perceptions of people who have availed treatment at AYUSH Grama Dr Mathai's Rural Holistic Medical Centre (DMRC), SOUKYA Foundation and Section 6 focuses on moving towards sustainable approaches.

# Traditional Systems of Medicine

Traditional medicine is a synthesis of therapeutic experiences of generations of practising physicians of indigenous systems of medicine (Deb, 2012). In many parts of the world, the indigenous systems of medicine have almost disappeared. This includes mostly developed and developing countries where the indigenous populations have been marginalised. In other countries, the systems remain fragmented with the use of indigenous materials being limited to small tribal and geographical areas. Although traditional systems of medicine have been around for thousands of years, no integration exists between them and the allopathic system. Due to various reasons, allopathy is in the limelight compared to our traditional healing systems. With the growing need for safer drugs, greater attention is being paid to the quality, efficacy and standards of the traditional Indian medicine formulations (Ravishankar and Shukla, 2007).

India has a rich heritage of traditional medicine with the traditional healthcare systems flourishing for many centuries. Medicinal plants-based traditional systems are playing an important role in providing healthcare to a large section of population, especially in the developing countries (Ravishanakar and Shukla 2007). It is a well-known fact that traditional systems of medicine have always played an important role in meeting the global healthcare needs. They continue to do so at present and will play a major role in future also. The systems of medicine considered to be of Indian origin or those which have come to India from outside and have been assimilated into Indian culture are known as Indian Systems of Medicine (Prasad, 2002). The Indian health system has perhaps the world's largest community-based indigenous systems of medicine and India has the unique distinction of having six recognised systems of medicine in this category. They are Ayurveda, Siddha, Unani, Yoga, Naturopathy and Homoeopathy (Rajeev, 2012).

In this regard, it would be pertinent to mention that the World Health Organization (WHO) has taken an interest in traditional systems of medicine. Anand and Neetu (2011) have discussed WHO's contribution to Ayurveda in their review article at Alma Ata in 1978. WHO has also recognised the role of traditional, alternative and complementary systems of medicine in the health sectors of both the developing and developed countries with the slogan of "Health for All". It has a mandate from the United Nations Organization to promote the health programmes of every member country and is continuously functioning in this area of service to humanity. Moreover, WHO has addressed this issue globally through its traditional medicine programme by taking up several initiatives ranging from

cultivation of herbs and the manufacture and dispensing of herbal medicine to the preparation of guidelines for common masses on traditional systems of medicine.

The inability of the public health sector has forced the poor and the deprived sections of the population to seek health services from the private sector. State governments in India are experimenting with public-private partnerships with a view to reaching out to the poor and underserved sections of the population (Raman and Warner 2010). Home remedies, native medicines, self-medication, treatment from private doctors and government health service centres are different options open for a person who falls sick in rural areas. As civilization advances and disease patterns change, medical science also changes. It is seen that medical services at government health facilities are acceptable to rural communities and are utilised if accessible (Katharina, 2008).

The Department of Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy (AYUSH), Central Council of Research in Ayurveda and Siddha, and numerous other collaborative centres of WHO in India have been assigned several Appraisal Project Work (APW) and Direct Financial Cooperation (DFC) projects aimed at strengthening Ayurveda, Homeopathy, Naturopathy and Yoga as evidence-based systems of medicine for global acceptance.

# AYUSH (Ayurveda, Yoga, Unani, Siddha, Homeopathy)

The Department of AYUSH promotes the concept of AYUSH Gram<sup>2</sup> (village) with the aim of expanding healthcare interventions through Indian streams of medicine. Intervention is supported under the central scheme of 'AYUSH and Public Health'. The AYUSH Gram project in Karnataka is a Government-sponsored programme under the public-private partnership (PPP) model for a period of three years. The main motto of this project is "*Complete health to the door steps of Indian villages*". AYUSH is uniquely suitable to bring cost effective and affordable healthcare systems to the general public by promoting an Ayurvedic lifestyle in rural areas. AYUSH Gram, in simple terms, means "*Prevention, Cure and Promotion*".

The overall health check-up of the population is done by AYUSH doctors who are provided with basic knowledge for promotion of health and prevention of diseases. The communities are educated in healthy practices and the advantages of traditional food items used locally and their medicinal properties. AYUSH doctors also undertake health check-up camps. AYUSH training is also imparted to ASHA and Anganwadi workers; awareness building activities are also conducted through gram panchayats involving schools, anaganwadis, self-help groups and other community organisations.

# **Objectives and Achievements of AYUSH Gram**

The specific objectives include the enhancement of health indicators, prevention of diseases, promotion of healthy lifestyles, training in preparation of home remedies for common ailments, promotion of yoga, meditation and nature cure, conducting specialised therapies and procedures, prevention of communicable, non-communicable and local endemic diseases, research and training for capacity building.

<sup>&</sup>lt;sup>2</sup> AYUSH Gram is a concept where one village per block is selected for AYUSH interventions of healthcare by setting up facilities including hospitals

Under the AYUSH Gram project, a total of 10 Grama panchayats in nine districts were selected. These districts were handled by 10 different non-governmental organisations (See annexure Table 1). All these organisations were known for addressing health issues using traditional methods in their own unique ways and approach. This study specifically focused on DMRC, SOUKYA Foundation's intervention in improving community healthcare.

# DMRC, SOUKYA Foundation's intervention through AYUSH Gram

The SOUKYA Foundation Charitable Trust was established in Bangalore by Dr. Issac Mathai in 1996 to extend quality treatment free of cost to local people. Against this backdrop, the Government of Karnataka, with the support of Department of AYUSH, Department of Health and Family Welfare and SOUKYA Foundation, based in Bangalore, established a *Rural Healthcare Centre* in Jadigenahalli, Hoskote Taluk, Bangalore Rural district. This centre is the first of its kind in *Rural India* with different systems of medicine like Ayurveda, Unani, Siddha and Homeopathy integrated under one roof. The AYUSH Grama DMRC, SOUKYA Foundation started the work in 2012. SOUKYA Foundation was one among the ten organisations selected under the State Government's AYUSH Programme.

Against this background, our study <sup>3</sup>aimed to (i) understand and analyse the impact of DMRC, SOUKYA Foundation's intervention in improving public health (ii) identify key challenges in improving public health in the context of AYUSH programme, and (iii) provide a way forward for a sustainable holistic model integrating protection of health and ecology to attain long-term benefits. Field work was conducted at different intervals between December 2013 and April 2014. At the empirical level, the study used data sets from AYUSH Grama DMRC, SOUKYA Foundation. Later, a pilot visit was made to the villages under Jadigenahalli Gram Panchayat and focus group discussions were conducted for getting an overview of the situation. Based on secondary data and discussions with doctors at DMRC, a pilot study was conducted and research tools were revised. Both structured and semi-structured survey instruments were designed for group-level meetings as well as for individual interactions.

Primary data was collected from households using a structured questionnaire covering socioeconomic aspects, AYUSH activities, preferences and perceptions of healthcare centres, access to healthcare, water resources, sanitation and hygiene, cropping patterns, food and life-style habits, user satisfaction, religious beliefs, growing and using medicinal plants, ecology and cultural traditions/practices for receiving systematic public feedback and assessing their implications and perceptions. Focused group discussions were held using checklists (for various groups like ASHA workers, self-help groups, youth organisations, village leaders, schools and Anganwadis). An appropriate sampling design was followed at different levels for selecting respondents for the survey. Stratified random and purposive sampling methods were adopted for capturing perceptions. Responses were collected from a total of 102 households (10% of the sample). From a total 7 villages, 5 (Govindapura, Haraluru, Jadigenhalli, K B Hosahalli, and Vadigenahalli) were selected for the survey<sup>4</sup>.

<sup>&</sup>lt;sup>3</sup> This chapter is part of a larger study carried out in Jadigenahalli Grama Panchayat, by CEENR with a focus on Ecology, culture and Health during Dec 2013-May 2014.

<sup>&</sup>lt;sup>4</sup> Kurubagollahalli had few households (5) and Kolathur is located 3 kms from Hosakote and availed treatment from doctors at Hosakote/Bengaluru and were not keen to travel to Jadigenahalli for treatment. Hence were not included.

The representation was further segregated based on the number of follow-up visits by patients to AYSUH Grama DMRC, SOUKYA Foundation. Doctors presumed that if the patients revisited the health centre on a regular basis, it was an indication that they were following the doctors' advice and taking medication regularly. Since alternative medicines are not popular, patients tend to visit the centre but do not come for consecutive visits. Hence, 70% of the sample was drawn from people who were regular and came for follow-up visits. From the data maintained by the health centre, we analysed and studied patients' follow-up visits both in regard to frequency and time duration. The analysis covered patients who visited a health centre more than once, those who came for one follow-up visit, 2-5 times, 5-10 times, and more than 10 times. The samples were drawn from landless labourers and small, marginal and large farmers to make it more representative.

# DMRC, SOUKYA Foundation's Programmes: Healthcare Approach

The foundation provided healthcare activities under Ayurveda, Yoga, Naturopathy and Homeopathy. The patients were treated based on their response to the treatment. They received treatment from one of the following methods (a) Homeopathy; (b) Homeopathy and Ayurveda; (c) Homeopathy, Ayurveda and Yoga; and (d) Homeopathy, Ayurveda, Naturopathy, Yoga.

# Healthcare Activities<sup>5</sup>

#### Panchakarma Therapy

Panchakarma relates to cleansing of the body according to Ayurveda. It is a therapeutic way of eliminating toxic elements from the body. Infrastructural facilities such as separate rooms and associated facilities have been built by DMRC, SOUKYA Foundation for providing Panchakarma and Naturopathy treatments. These treatments are chargeable. However, the cost of treatment provided is generally 20% less than the normal price charged. This programme is yet to be initiated.

#### Ksharasutra

This is a treatment for patients suffering from piles and fistula. This programme is yet to begin.

#### Balopachara (Paediatric Care)

Balopachara is a treatment for children aged below 12 years. Balopachara medication is provided to children under the homeopathic system. The aim is to help increase immunity and build resistance to diseases among children. Totally, 586 children have been treated so far under this. A research study is to document the responses of the children to the treatment. After a medical check-up, ailing children are given Homeopathy /Ayurveda medicines and are kept under observation to check their response to medicine and for signs of changes or improvement. Nutritional supplements are also being given, though this has been started only recently. Swarna Bindu<sup>6</sup> treatment is yet to be initiated.

<sup>&</sup>lt;sup>5</sup> The following section has been developed based on consultations and discussions on Soukya material and their resident doctors

<sup>&</sup>lt;sup>6</sup> Swarna bindu prashana is a unique and safe method of immunization for children and helps maintain a healthy state of mind and body.

#### Mother and Child Care / ANC & PNC Care

This programme mainly focuses on maternal health and neonatal care of infants. Medical kits are provided for all the stages of trimester. Couples get Ayurvedic medicines and get information about their use. Expectant mothers too receive Ayurvedic medicines. They are monitored for physiological changes and are encouraged to exercise by providing awareness about its significance and are also told of the benefits of natural birthing. They are also asked to change their life-style by listening to music, and adhering to healthy food habits. In addition, women are taught p*ranayama* (breathing exercise) and *sukshayama* (finger loosening, eye and head exercises).

#### Prevention of Viral Diseases

The AYUSH approach to viral diseases is holistic in that it works on prevention of diseases through homoeopathic preventive medicine for ailments like flu, dengue, chikungunya, etc. Training is imparted for creating awareness about cleanliness, personal hygiene through daily bath, the need for washing hands before food and the need for using toilets. Totally, 124 training sessions have been conducted so far. Besides this, training is also provided in the preparation of natural mosquito repellents from locally available plants such as neem and marigold. About 190 homes covering 760 people have been given preventive Homeopathy medicine.

#### Vector-Borne Diseases

This programme aims at creating awareness about vectors. A total of 3 training programmes have been conducted in Jadigenahalli, Vadigenahalli and K. B.Hosahalli. On an average, 30-40 people attended the programme. It covered awareness about (i) Type of vector-borne diseases; (ii) Incubation period; (iii) Manifestation of diseases; (iv) Complications of the diseases; (v) Measures to control the diseases; (vi) Cultivation of medicinal plants like marigold, eucalyptus, tulasi etc. around houses as the fragrance from these plants helps repel mosquitoes; and (vii) Training in preparing home-made repellents using ingredients like bajee, vidanga, camphor, sambharani powder, cow dung (dried, fine powder), gomuthra, arka etc, all of which have to be mixed and then made into 5-cm-long sticks. Each stick can burn and last for 35 minutes.

#### **De-Addiction Promotion Programmes**

The word *addiction* is used in several different ways. One definition describes physical addiction. This is a biological state in which the body adapts to the presence of a drug, which no longer has the intended effect. This is otherwise known as tolerance<sup>7</sup>. Another definition of addition is the condition of chronic relapse among people abusing substances like tobacco, alcohol, rave drugs, and medical drugs. DMRC Soukya Foundation has been able to exert considerable influence among people through the promotion of de-addiction programmes by creating awareness and providing homeopathic medicines. A good number of patients have been treated in DMRC, SOUKYA Foundation through Yoga and Homeopathy

<sup>&</sup>lt;sup>7</sup> www.psychologytoday.com/basics/addiction

medicines. The addicts are identified when doctors and ASHA<sup>8</sup> workers make personal visits to their residences. Alcoholic patients who take the initiative to visit DMRC, SOUKYA Foundation are treated in the hospital while those unwilling are treated by doctors through personal visits and persuasion at their residence.

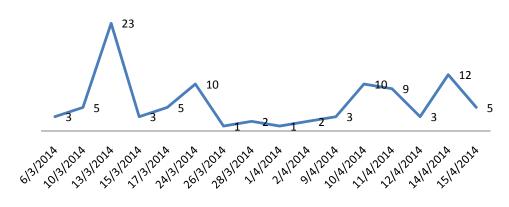
#### Geriatric Care

Geriatric care is providing treatment to elderly population beyond 60 years of age. Special medical camps are conducted to treat the elderly. This programme has been recently introduced with the patients treated so far numbering 393.

#### Yoga Therapy Programmes

Yoga therapy programmes are conducted regularly across all the villages at various locations to spread the message of Yoga in curing ailments. Currently, Yoga classes are conducted every day. So, far, 466 Yoga therapy programmes have been held across villages. There are regular participants practising Yoga. Though the response has been slow, it is gaining in popularity gradually and effectively. Currently, Yoga classes are conducted every day in a newly-constructed building of DMRC, SOUKYA Foundation. The chart below indicates the number of participants attending Yoga classes regularly. Earlier, 53 participants used to attend the classes regularly conducted on weekdays.

#### Figure 1: People Attending Yoga Classes



Source: AYUSH Grama DMRC, SOUKYA Foundation, 2014

<sup>&</sup>lt;sup>8</sup> Accredited Social Health Activists (ASHAs) are community health workers instituted by the Ministry of Health and Family Welfare, Government of India, as part of the National Rural Health Mission (NRHM).

# Livelihoods

#### a. Survey of Rare and Endemic Trees

DMRC, SOUKYA Foundation team has identified 15 endangered species cultivated near its health centre, a demo farm. Currently, identification of land is complete and consultations with the Medicinal Plants Board are on for research on and development of these species to be grown organically. Preference will be given to growing medicinal plants as they can be more effective in treating ailments.

#### b. <u>Cultivation of Medicinal Plants</u>

Though the cultivation of medicinal plants is being promoted, not much interest is being shown by the farmers. DMRC, SOUKYA Foundation took the initiative and conducted meetings with Dr. Jitendra Sharma, CEO of Medicinal Plant Board of GOI for promoting the programme in October 2013. The foundation has attributed the low response to scarcity of water and difficulties involved in adapting to new cultivation options.

# Home Remedies Programme

Home remedy treatments are aimed at curing diseases or ailments with commonly available spices, vegetables, herbs or other plants. The foundation's role has been to educate people on preventing minor illnesses at affordable cost and reduce medical costs. Through ASHA workers, it has been imparting this knowledge besides conducting individual training programmes for the local people.

# Herbal and Kitchen Gardens

Under the scheme for promotion of herbal and kitchen gardens, 215 people participated and 10 training programmes were conducted. This programme has been well received and has also been put into practice by the participants.

# **Educational Activities**

#### School Health (School Yoga, programme for high school and college)

Presently, Yoga classes are part of the curriculum in schools. Hence, in all the schools of Jadigenahalli Gram Panchayat, Yoga has been made compulsory and was being practised even before DMRC, SOUKYA Foundation's initiation. However, Yoga classes conducted by the foundation have reinforced and strengthened after the programme. Doctors with the foundation briefly explain to the children the different types of asanas (postures) and their benefits for specific diseases. This has made the children more knowledgeable and curious to learn and practise Yoga. Pranayama and Surya Namaskar are taught to improve children's fitness, health and stamina, especially concentration levels and IQ. Yoga classes are taught to students from the 1<sup>st</sup> to 7<sup>th</sup> standard. Usually these classes are conducted twice a week, i.e. Monday and Wednesday, and 119 students from all the schools participate regularly. The Yoga programme initiated by the foundation has been popular and has the active cooperation and support of teachers. Apart from having a positive impact on children (physical fitness and flexibility), it has succeeded in influencing even parents to learn yoga.

#### Photo 1: Children Practising Yoga



Source: Authors, 2014

#### Health and Hygiene

In all the schools, the foundation promotes the habits of health and hygiene among children by encouraging them to keep their surroundings clean and maintain personal hygiene by regularly washing hands with soap and keeping oral hygiene.

#### Check-ups at Anganwadis<sup>9</sup>

DMRC, SOUKYA Foundation has focused on preventing mortality among children by conducting monthly check-ups in Anganwadis. Children are checked for malnutrition, physical growth (height, weight), hemoglobin levels and respiratory ailments. Later, children diagnosed with ailments are provided Ayurvedic/Homeopathic medicines and also kept under observation and monitored on a regular basis. The foundation has also taken up a research study to document children's responses to medication and treatment provided for low hemoglobin count. Totally, 163 children have been provided treatment so far for various ailments and also 40 training programmes have been held for Anganwadi teachers.

# **Potable Water Scheme**

The focus of the programme has been on creating awareness about protecting and using clean water for drinking and cooking purposes. People are educated about sources of water, hard and soft water, usage of pure water, incidents (85%) of deaths due to water-borne diseases, adopting ancient or modern methods for purifying water at home, and government funding for drinking water schemes for villagers.

# **Progress and Status of Activities**

AYUSH Grama had proposed 22 activities, out of which 9 have been already initiated and are found functioning satisfactorily while 7 are in the initial stages and 5 are yet to be initiated. However, Goshala

<sup>&</sup>lt;sup>9</sup> The Indian government started Anganwadis in 1975 as part of the Integrated Child Development Services programme to combat child hunger and malnutrition for children aged between 2 to 5 years. Several programmes are taken up under this scheme viz. education, nutrition supply, supplementation, pre-school activities

activity has proved less successful. Table 1 presents the status of DMRC, SOUKYA Foundation's activities.

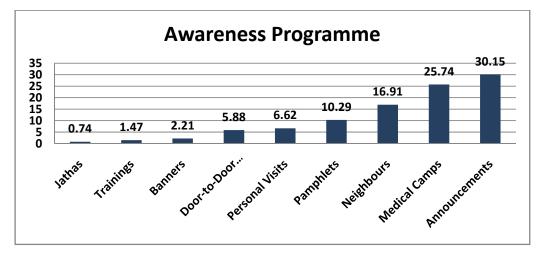
SI. No	Activities Initiated	Initiated and Successful	Not yet Initiated	Less successful
1	Healthcare Activity			
	a. Mental Health Programme			
	b. Panchakarma			
	c. Ksharasutra			
	d. Balopachara programme			
	e. Mother and child care			
	f. Prevention of viral diseases			
	g. De-Addiction promotion programme			
	h. Geriatric care			
	i. Anaemia programme			
	j. Diabetic care			
	k. Home Remedies programme			
	I. Home Medicinal kit distribution			
2	Nutrition Programme			
3	Educational activities			
	a. School Health(School yoga)			
	<ul> <li>Survey of RET (Dept. of school herbal garden)</li> </ul>			
4	Livelihood components			
	a. Encouragement of local health traditions			
-	b. Job oriented training for villagers			
-	c. Providing Marketing Facilities			
4	Ecological and Environmental conservation and restoration			
	a. Construction of Smokeless Chulas			
	b. Goshala Nirmana			
	c. Rain Water Harvesting			
	d. Solid Waste Management			
	e. Cultivation of medicinal plants			
	f. Herbal and Kitchen garden			
5	Agriculture/organic farming			
6	Technology upgradation/ capacity building/Training			

# Table 3.8: Activities and Status

Source: Soukya Foundation Documents

# **Processes: Awareness Creation Programmes**

The foundation has adopted different approaches towards creating awareness about its activities and their purpose. To build confidence among people about the AYUSH approach, it has made announcements, and distributed pamphlets and banners. Besides this, it conducts free medical camps every month where it screens slides for patients about diabetes and other ailments, besides prescribing medication. Announcements and medical camps have made a huge impact in terms of creating awareness. Besides, awareness creation has helped spread a positive effect as people who have availed treatment at the foundation inform neighbours and share their experiences. This has indirectly promoted the programme and made a big impact on popularising the AYUSH approach.



Source: Authors, 2014

Under health camps, patients are tested and screened for diabetes, low hemoglobin and hypertension. A total of six camps were conducted by Ayush Grama DMRC, SOUKYA Foundation from March to June 2013, during which 543 patients were screened and covered. This programme has successfully reached out to all groups of people.

Villagos	No. of Patients		
Villages	Covered	Screened	
KB Hosahalli	532	69	
Jadigenahalli & Vadigenahalli	2019	121	
Govindapura & Kurubaragollahalli	810	88	
Kolathur	1299	49	
Haraluru	840	132	
Jadigenahalli PHC	2019	49	
KB Hosahalli	-	35	
Total	7519	543	

Source: AYUSH Grama Jadigenahalli Gram Panchayat, Secondary source of baseline survey 2012

So far, they have conducted 12 village health education programmes with 409 participants. The vector-borne diseases programme has covered 124 households while the home medicine distribution drive has covered 48 households.

# **Role of ASHA Workers**

DMRC, SOUKYA Foundation has trained and engaged four ASHA workers with one per village. The ASHA workers act as catalysts in promoting various programmes of the foundation and encourage people to avail the available benefits. Currently, it is an evolving phase and needs further streamlining with the involvement of ASHA workers. So far, they have been trained in medicinal plants usage, health & hygiene, vector-borne diseases, and disease identification.

# **Key Findings**

The current section captures people's perceptions regarding healthcare treatments, educational programmes and other activities provided by the foundation.

# Patients visiting DMRC, SOUKYA Foundation for Treatment

The number of patients visiting the foundation varies from month to month and across villages. A large number of people visit it for treatment. Based on field observations, many who visit health camps also avail themselves of the benefits associated with the programme. The initial months show a surge in patient numbers. However, follow-up visits depend on the nature of ailment – chronic or common. For instance, there are youngsters who get their blood sample checked but are healthy and do not need follow-up visits to doctors. However, they are recorded as patients who have visited the foundation. Similarly, there could be several people who get treated for smaller ailments like cough and cold, which do not need follow-up visits, but get cured. Hence, variations can be observed in the monthly number of patients seeking treatment.

During focus group discussions, people have responded positively about the approach of doctors on their willingness to listen to patients' complaints and recording these in detail. Patients are generally attracted to Soukya mainly because of the free check-ups done for diabetes and the free medicines provided. Several patients have been able to see improvements in their health status through changes in life-style combined with medication. All these aspects are seen as major reasons for attracting people to visit the foundation for treatment.

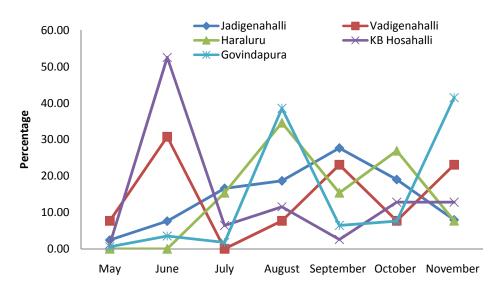
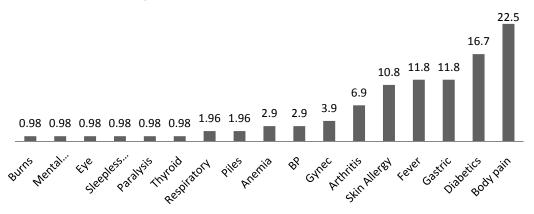


Figure 3: New Patients Visiting DMRC, SOUKYA Foundation (May-Nov 2013)

Source: DMRC Soukya Foundation Data, 2013

# Treatment for Different Ailments

A majority of the patients visiting DMRC, SOUKYA Foundation complain of body pain (22.5%), followed by ailments like diabetes (16.7%), fever (11.8%) and gastric problems (11.8%). The doctors observe that people are more prone to body pain because of intense physical work. Gastric and weakness problems are due to irregular food intake. Changes in life-style and food habits among people have led to chronic diseases like diabetes (16.7%), hypertension (2.9%) and respiratory problems (1.96%).



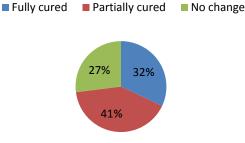


Source: DMRC Soukya Foundation Data, 2014.

#### Perceptions regarding Treatment and Cure

Patients have by and large experienced positive results from homeopathy treatment as compared to allopathy; 41% have got partially cured and 32% fully while 27% have not noticed any changes. 27% of the respondents also report that they are not taking medicines regularly nor are they making followup visits as they believe that the tablets given to them are too tiny, sweet and hence, may not be effective in curing ailments.

#### Figure 5: Improvement Experienced



Source: Survey, 2014.

#### Patients' Preference

Jadigenahalli Grama Panchayat has 3 private medical clinics and 1 PHC. Patients generally visit one of these clinics for treatment. The PHC largely caters to gynaecology-related concerns and hence the private clinics are preferred for other treatments. Patients from low income groups largely restrict themselves to private clinics, PHCs, and government hospitals located in Hoskote or Malur (12 km away), while patients belonging to high income groups travel to private hospitals in Hoskote as the next best option in terms of proximity and accessibility. With DMRC, SOUKYA Foundation located close to the PHC, several patients tend to visit it as a good alternative option.

Respondents (23%) opine that the PHC has been working well offering excellent treatment by doctors. However, the focus at the PHC has been on gynaecology and certain other ailments. Respondents avail themselves of treatment at private clinics at Jadigenahalli expecting better treatment though at a cost. However, private hospitals charge exorbitantly, and burden the poor. Therefore, DMRC, SOUKYA Foundation's intervention is considered a welcome development, providing healthcare to the community at large.

#### Priority for Diabetes and Hypertension

Diabetes and hypertension are the two most common ailments treated. Earlier 8.8% of hypertension and 13.73% of diabetic mellitus patients preferred Hoskote and private clinics in Jadigenahalli. However, after the launch of Soukya, 5.88% hypertension and 11.76% of diabetes patients have chosen DMRC, SOUKYA Foundation for treatment. These changes indicate that people are trying the foundation's treatment as they feel convinced of its efficacy. This may be attributed to the ample time spent by the doctors with the patients and the awareness creation programmes on lifestyle changes. Besides, there may also be other factors influencing their choice, like reduced monthly medical expenditure because of the free medication provided by the foundation.

#### Treatment for Arthritis, Respiratory Disorders and Hyper Acidity

A large number of patients suffering from arthritis and hyper acidity prefer treatment at the centre. It is interesting to note that patients who were on allopathy drugs have changed to homeopathy medication, which they found comparatively more effective. Most of those who changed over to homeopathy suffered from hyper acidity (14.71%) and arthritis (11.76%), but in respect of respiratory ailments, there were no changes. Patients have also recommended friends and relatives to visit DMRC, SOUKYA Foundation for treatment, prompting a flow of patients from neighbouring villages.

#### Preference of Treatment for Fever, Body pain and Allergies

For common ailments like fever and body pain, patients prefer to seek treatment at private clinics and hospitals at Hoskote as there is a general perception that homeopathic and Ayurvedic medication takes longer to have any effect, affecting their daily routine and forcing them to be absent from work. Allopathy is seen as more effective for quick results. However, for body pain and allergies, people prefer DMRC, SOUKYA Foundation for treatment (24.51% for body pain and 8.82% for allergies) as they assert that they have not been able to notice any changes in their health in spite of longer medication and huge amounts of money spent on allopathic medicines.

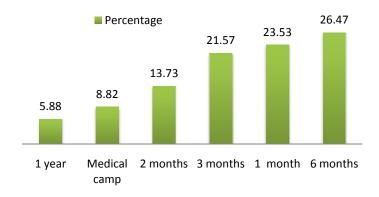
#### Perceptions regarding Medication and Cure

For experiencing positive results from treatment, 62% of the people consider patients' attitude, taking medication as suggested and continuous follow-up visits as important. This requires time and effort on the part of patients, a characteristic not noticed among a majority of the patients. This is the opinion of those who have visited the foundation on a regular basis for treatment with positive results. They have also realised that homeopathy medicines take time for positive results besides requiring regular follow-up visits.

#### Patients' Interest in visiting DMRC, SOUKYA Foundation

Around 26% of the people visiting Soukya Foundation have been doing so for the past 6 months while another 23% visited it once a month. Only 5% visited the foundation once a year, indicating that most patients believe in the efficacy of the treatment and hence are regular in their follow-up visits. Within a short period, the foundation has been able to draw attention through an integrated approach in healthcare.

#### Figure 10: Duration of Visit



Source: Authors, 2014.

# Spread of AYUSH through word of mouth

It is interesting to note that a large number of people were spreading the word to their own family members and relatives/friends that they avail treatment at DMRC, SOUKYA Foundation. Overall, 66.66% of the people have influenced others, 41.17% have influenced their family members, and 15.68% have influenced their relatives.

#### Table 6: Introducing Family/Relatives

Members	Percentage
Family member	41.17%
Relatives	15.68%
Both	9.80%

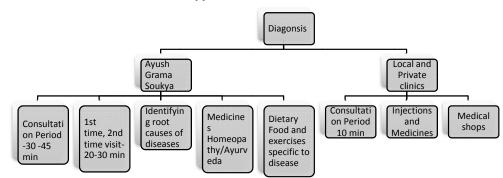
Source: Authors, 2014.

# Strengths

#### Unique diagnosis

The doctors in DMRC, SOUKYA Foundation are unique in their diagnosis and treatment. They initially identify the root cause of a disease through laboratory tests and if necessary, scans (only in respect of special or critical cases) and then offer advice on life-style changes and medication.

#### Chart 1: Differences in Approach - SOUKYA Foundation and Private Clinics



# About Medicines

A majority of them say that medicines given by Ayush Grama do not cause any side-effects unlike Allopathy drugs. Although these medicines take time before producing positive results, the cure lasts longer and long-lasting diseases are cured in their entirety. Homeopathy medicines provided are easy to consume and reduce stress on parents as children enjoy taking them on their own rather responsibly.

#### Benefits of Yoga

Yoga is a welcome initiative bringing about considerable changes among the people in the villages. Children experience health benefits and hence are practising it regularly. Improvements in children's health have also attracted the elderly and the aged towards yoga. Besides, yoga has influenced the life-style and food habits of children. With women showing interest in learning yoga, separate sessions are being held for them on specific days in a week.

#### Cultivation of Medicinal Plants in Schools

Interestingly, in all the schools, teachers are educating children about the medicinal value of common plants available locally. In KB Hosahalli school premises, teachers have involved children in growing medicinal plants. With the intervention of DMRC, SOUKYA Foundation, these activities have got further strengthened. In Jadigenahalli, 200 plants were procured from the forest department to be grown in schools. However, monkeys and goats pose a threat to their growth, especially during the holidays. Nevertheless, the schools' attempt does show that both teachers and students have taken an interest in protecting plants.

# Challenges

On the management front, there have been several challenges. It has been tough to get doctors and MSW personnel to work at the foundation given the minimum facilities available in peri urban areas. With respect to treatment, emergency cases cannot be handled at the centre, especially for accident cases and critical conditions. Similarly, with respect to funding, although the programme is financed by the government, delays in fund release have made it difficult for the foundation to function smoothly, and to buy medicines on time. The major constraints faced are logistics and delays in the clearance of

submitted bills. Besides, to sustain the centre, there should be uninterrupted flow of funds but this is a challenge as the programme is planned for only three years. Hence, a workable model to sustain cost effectiveness needs to be in place.

With respect to challenges in responses from people, it has taken time to create awareness as the AYUSH systems of medicine are not known to the people much. It took a long time to gain the confidence and attention of people to participate in the programmes. Even though wide publicity was given to programmes, only 20-30% of the population participated. Participation by working people was inadequate due to unsuitable timings. Currently, housewives participate (30%) in the various programmes, particularly about home remedies. However, it is important to get more participation from all groups. Promoting changes in habits regarding hygiene also takes time. Many a time, people are unable to explain their problems clearly due to their poor education and this makes it challenging for the doctors to treat them. Diabetes was identified among several patients for the first time while conducting health camps but doctors faced difficulties in ensuring that the patients followed lifestyle and dietary changes. Such changes need continuous support and perseverance through counseling. Similarly, approaching people to enroll themselves for de-addiction programmes has proved tricky as many are reluctant and resist treatment.

# Towards a Sustainable Approach

The current model of healthcare followed by DMRC, SOUKYA Foundation needs to be sustainable in the long run and replicable socially, economically and environmentally.

#### Financially Sustainable Options

Possible financial options include making the service free or chargeable depending on the economic group of the patients – BPL (free medicines), MIG (small fee) and HIG (standard amount). Donations from other institutions could be of some help. The Government could think of continuing the support to the foundation for a longer period till the programme becomes sustainable. There also exists the possibility of introducing free homeopathic medicines to a specified number of patients (say, 100 patients) and thereafter, at a subsidised price.

#### Strengthening Institutions and Integration

The AYUSH grama DMRC, SOUKYA Foundation is a public-private venture with the main motto of improving the health status of the rural people. The Government of Karnataka, under this central scheme, provides Rs.34.95 lakh and 3 acres of land. There is scope for involving other formal and informal institutions at local and regional levels to work on various dimensions and strengthen it.

#### Networking for Outreach

Currently, the programme is funded by the Government, and no other organisation offers help. There is good scope for NGOs, corporate houses (through Corporate Social Responsibility (CSR) schemes), religious institutions, educational institutions, philanthropists, and research institutes to learn from or contribute to this programme. It could also focus on awareness creation on sanitation and hygiene, and education of students at various levels; other possibilities too can be explored. For example, Titan is interested in improving the lives of girl children; some financial organisations are interested in micro finance; and some NGOs are keen on providing potable water.

# <u>Self-help Groups<sup>10</sup></u>

They can help in the successful integration of various activities. The prominently active SHGs in Jadigenahalli GP can be involved gradually at various levels. Currently, Jadigenahalli GP has around 46 SHGs, which is a significant number. There are also other SHGs active in other fields. For instance, Kaveriamma Svasahaya Sangha (Govindpura - 6 years ago) was involved in social and environmental activities like keeping the surroundings clean by collecting waste materials, planting new seedlings, watering plants etc.

All members of SHG are aware of DMRC, SOUKYA Foundation and its activities in their villages, especially for providing treatment for various ailments. They see it as a positive and useful initiative as access to medical care and treatment has become easy and convenient. Besides its effectiveness in offering cure for various diseases, it is free of cost, which is seen as a boon. The villagers discuss the activities of the foundation with their friends, neighbours and relatives, and a few of them have attended medical camps, medicinal plant distribution drives and other activities. The general perception and opinion about the foundation is positive among all SHGs, which feel all their programmes are useful and could bring about significant changes in the villages. Some of them would like to work as volunteers, if required, for the foundation; however, they need a plan and specific tasks so that they can invest their time and effort; they also require training.

#### Youth Organisations<sup>11</sup>

Youth organisations play a significant role at the village level. Under Jadigenahalli GP, the number of youth organisations has got reduced due to urbanisation, particularly among the well-educated youth who migrate to cities. Currently, there are 2 youth organisations willing to work with the foundation to spread awareness about its activities, particularly yoga and medicinal plant distribution.

# Meeting Specific Preferences

- <u>Need for Lady Doctors</u> Currently, a large number of women visit the foundation and they would
  prefer to have a lady doctor. Since more women generally suffer from health-related issues, they
  would feel more comfortable discussing their gynaecological and other personal concerns with
  women doctors.
- <u>Need for Ayurveda Doctors and Other Specialists</u> Generally, people are more aware of Ayurveda than Homeopathy and hence, belief in Ayurveda is high. This is largely due to the fact that this

<sup>&</sup>lt;sup>10</sup> A self-help group is a village based financial intermediary usually composed of 10 to 20 local women or men. Members make small regular savings contributions over a few months until there is enough capital in the group to begin lending. A self-help group may be registered or unregistered as micro financial institutions for community action.

<sup>&</sup>lt;sup>11</sup> Youth organisations in villages are private non-profit organisations dedicated to helping emotionally and behaviorally troubled villagers and their families.

traditional practice has been followed for ages. A majority of them feel that there is a need for regular Ayurveda doctors similar to Homeopathy doctors. Besides Ayurvedic doctors, people expect the foundation to have on its staff specialist doctors like gynaecologists and eye specialists, at least three days in a week.

- Need for More Medical Equipment for Diagnosis Installing more medical equipment such as scanning, X-ray and blood check-up instruments and making the tests available at a discount rate would make it convenient for the patients. People are willing to pay for such services at a discount as these services are available only in Hoskote or Bangalore.
- Increasing the Staff Strength The popularity of DMRC, SOUKYA Foundation has led to an increase in the number of patients visiting it. People with major health ailments unable to find a proper cure elsewhere visit the foundation as also those with minor health problems. Besides, patients with chronic problems like diabetes and allergies visiting the foundation are also on the increase. As mentioned earlier, word has spread among patients' relatives and friends in other villages/towns and even cities like Bangalore, resulting in an increase in the number of patients visiting the centre. Hence, it would be important to increase the staff strength to cater to the increasing demand so as to ensure that people do not wait for too long.
- <u>Advance Stock Procurement</u> With the increase in number of patients, the demand for medicines
  also has been on the increase. It would be good to procure adequate stocks in advance based on
  the trend in sales and demand for a drug. People complain that non-availability of stocks is leading
  to an increase in the number of their visits and transportation cost, which small and marginal
  farmers can ill afford.
- Strengthening Personnel's Communication Skills ASHA workers engaged by DMRC, SOUKYA foundation have only basic education as they have finished only high school or pre-university. Their major role is to motivate and raise awareness among people about AYUSH and to help them get treatment at the foundation by strengthening the relationship between it and the people. ASHA workers express the need for further training in persuasion and communication skills, and handling varied situations. Besides these soft skills, some basic knowledge about diseases/ growing herbal plants/ home remedies would also be useful.
- Influencing People on Life-style Change and Holistic Treatments People in general are more used to Allopathy medicines, and because of easy access to medicines such as pain killers from medical and also local shops, self-medication is common. While pain killers provide immediate relief, their harmful effects are not known to the people. Besides, life-style changes involve giving up various addictions and also practising yoga, practices which are not easy and may make the day-to-day challenges of travel and work more difficult; time constraints are seen as an easy excuse for many. Besides, the urban life-style influences them to approach private hospitals. In view of the close proximity of Bangalore city where a diversity of occupations is available, and where people generally enjoy better economic status, the trend is to visit private hospitals during times of sickness.

# **Ecological Protection and Conservation**

#### Water Protection and Conservation Measures

Jadigenahalli GP falls under the semi-arid zone, and suffers from severe water scarcity. It is important to work on short-term and long-term solutions for this without affecting the sustainability of other programmes. Rainwater harvesting to revive the existing tanks and smaller ones needs to be promoted. The use of treated sewage water from Bangalore city for agricultural purposes is another feasible option. These are important for protecting the environment and allaying the health concerns of the people. It is only by getting regular water supply that initiatives such as cultivating medicinal plants on a large scale can be taken up. Because of the severe water scarcity, 86% of the farming families surveyed expressed their helplessness in carrying on with agriculture. Moreover, it is important to streamline the marketing of farm produce. The approach needs to be holistic in order to preserve the ecological status of the region. Poor rainfall and increasing ground water extraction have led to serious consequences on agricultural crops and the finances and livelihoods of farmers. Therefore, training and awareness programmes regarding ground water recharge and rainwater harvesting should get top priority.

#### Need to Promote Organic Farming

Farmers tend to use fertilizers and pesticides without giving thought to their undesirable consequences. Our observations show that farmers use pesticides without using any protection. Our discussions with farmers reveal that they are fairly aware of the negative consequences of pesticide use but tend to be negligent in protecting themselves. GP members and the elderly in the village express their concerns regarding the changing scenario of agriculture, uncontrolled usage of fertilizers, depleting ground water levels and their implications for health and environment. Hence, they are keen to get trained in organic farming, and want to be well informed on fertilizer and pesticide effects on health.

#### Need for Improved Sanitation

Awareness programmes on health and hygiene need to be promoted. Though toilet construction has received considerable attention, there is a small percentage of people who still practise open defecation, which can be curtailed completely. Apart from this, solid waste management is another big concern. Garbage is strewn all over the village besides the designated spots (largely open sites and vacant places), resulting in poor aesthetics and hygiene in the village. People often burn the garbage, which causes more harm by causing air pollution. There is a need for streamlining garbage management, and initiatives by the GP have to be further strengthened.

# Conclusion

Healthcare is the right of every individual but lack of quality infrastructure, dearth of qualified medical functionaries, and non-access to basic medicines and medical facilities limit its reach to 60% of the population in India. With medical and infrastructure costs on the rise, traditional medicine is seen as a positive option for improving the health of the masses, especially in rural areas. In this context, Soukya

Foundation, serving as an extension of the AYUSH programme of the government, has had a positive impact on the economically poor communities.

SI.No	Name of NGO	Project Area	District
1	Gramothan Foundation, Bangalore,/Surya Foundation Mysore	D B Kuppe	Mysore
2	Vivekananda Girjanara, Kalyana Kendra	Yargumnahalli	Chamarajnagara
3	JSS Mahavidya Peetha	K Shetty Halli	Mandya, Mysore
4	Soukya Foundation	Jadigenahalli	Hoskote, Bangalore rural
5	Sri Sri Ayurveda Viganamahavidyalaya, Bangalore	Kalahalli	Ramanagara
6	Vivekananda Yoga Anusandana Samsthe, Bangalore	Khanagoan	Belagaum
7	Nisarga Trust, Sirsi	Baiumbe	Uttara Kannada
8	Shanthivana Trust, Dhramastala	38 <sup>th</sup> Kalthur	Udupi
9	Parivarthana Parivara, Belgaum	Peeanwadi	Belgaum
10	Bellur Krishamachari Sessamma Smaraka Nidhi Trust, Bangalore	Bellur	Kolar

Annexe 1: NGOs Involved in Ayush Grama

Source: http://www.sscasrh.org/index.php/achievements/item/231-ayush-grama-another-feather-inthe-cap-6th-feb-2013

# References

Bhandari Laveesh and Dutta Siddhartha (2007). India Infrastructure in Rural India, Report.

- Bronwen Golder (2005). Cross Cutting Tool Stakeholder Analysis, Resources for Implementing the WWF Standards.
- Census of India (2011). Rural and Urban Population Distribution.
- Chatterjee, M (1997). Health for Too Many: India's Experiments with Truth. In Rohde, J et al (ed), Reaching Health for All. Oxford University Press.
- Das Jishnu, Holla Alka, Das Veena, Mohanan Manoj, Tabak Diana and Chan Brian (2012). In Urban and Rural India, A Standardized Patient Study Showed Low Levels of Provider Training and Huge Quality Gaps, Health aff ???? (Aillwood), 31 (2).
- Deb Roy Saumendu (2012). Prospects, Problems & Approaches to Alternative System of Medicine: A Review. International Journal of Ayurvedic and Herbal Medicine, 2 (1): 192-97.
- Dr Gidwani, C Gita (2001). The Effect of Franchising Rural Private Practitioners in India on Quality of Care-A Sustainable APPROACH?. Thesis proposal, PhD candidate, Department of International Health, John Hopkins University.
- Dr Gilmour Jane (2007). Stakeholder Mapping for Effective Risk Assessment and Communication. ACERA Project Review, Australian Centre of Excellence for Risk Analysis.
- Duggal Ravi (1994). Healthcare Utilisation in India. Health for the Millions, 2 (1).
  - (2000). The Private Health Sector in India—Nature, Trends, and Critique. New Delhi: Voluntary Health Association of India.
- Gram Panchayat. Accessed on 13-2-2014 http://en.wikipedia.org/wiki/Gram\_panchayat

- Gram Vani (2013). Rural Healthcare: Towards a Healthy Rural India, Voice of the Village. National Rural Health Mission. <u>http://www.gramvaani.org/?p=1629</u>
- Henry Ekwuruke (2005). Healthcare Delivery System and the Rural Areas, Panorama, Taking IT Global, Online Publication.

http://drnancymalik.wordpress.com/article/status-of-homeopathy/.

http://transformed.businesscatalyst.com/media/articles/stakeholder\_analysis.html.

http://www.tigweb.org/youth-media/panorama/article.html?ContentID=5919

- Kashinath Samagandi, Jagriti Sharma and Kamlesh Kumar (2012). Fundamentals of Prthyahara of Astanga Yoga- A Holistic Approach. *International Journal of Ayurvedic and Herbal Medicine*, 2 (2).
- Katharina Durr (2008). State of Health of India's Poor Urban and Rural Population: <u>http://iphpartnership.org/index.php?title=State of Health of India%E2%80%99s poor urban</u> <u>and rural Population</u> (Accessed on 15-10-2013).
- Kennon Nicole, Howden Peter and Hartley Meredith (2008). Who Really Matters? A Stakeholder Analysis Tool. *Extension Farming System Journal*, 5 (2).
- Nancy Malik (2011). Status of Homeopathy Worldwide. World Health Organisation, Development, Status, Time-line Popularity.
- Peters, David H, Abdo S. Yazbeck, Rashmi R. Sharma, G.N.V. Ramana, Lant H. Prichett, and Adam Wagstaff. *Better Health Systems for India's Poor—Findings, Analysis and Options.* The World Bank. 2002.
- Prasad, L V (2002). Indian System of Medicine and Homoeopathy Traditional Medicine in Asia. Ranjit Roy Chaudhury and Uton Muchatar Rafei (eds), WHO- Regional Office for South East Asia -New Delhi. pp-283-286.
- Preethi Kumari, Girish Joshi, C and Lalit Tewari M (2012). Indigenous Uses of Threatened Ethno Medicinal Plants Used to Cure Different Diseases by Ethnic People of Almora District of Western Himalaya. *International Journal of Ayurvedic and Herbal Medicine*, 2 (4): 661-78.
- Ravishankar and Shukla (2007). Indian Systems of Medicine: A Brief Profile. *Afr.J. Trad., CAM*, 4 (3): 319-37.
- RHS Bulletin (2012). Ministry of Health & Family Welfare. Government of India.
- Saxena Mudit (2007). Utilization of Private Sector in Healthcare in India. *South Asian Journal of Preventive Cardiology*.
- Vyasulu Poornima and Vijayalakshmi V (2003). *Reproductive Health Services and Role of Panchayat in Karnataka*.
- World Bank (1995). India: Policy and Finance Strategies for Strengthening Primary Healthcare Services. Washington, DC: World Bank.
- Yadav, V, Jayalakshmi, S and Rajeev K Singla (2012). Traditional Systems of Medicine Now and Forever. *Webmed Central Pharmaceutical Sciences*, 3 (4). Downloaded from <u>http://www.webmedcentral.com</u>.

# **Recent Working Papers**

- 293 Representation and Executive Functions of Women Presidents and Representatives in the Grama Panchayats of Karnataka Anand Inbanathan
- 294 How Effective are Social Audits under MGNREGS? Lessons from Karnataka D Rajasekhar, Salim Lakha and R Manjula
- 295 Vulnerability Assessment Of The Agricultural Sector In Yadgir District, Karnataka: A Socio-Economic Survey Approach Sarishti Attri and Sunil Nautiyal
- 296 How Much Do We Know about the Chinese SEZ Policy? Malini L Tantri
- 297 Emerging Trends in E-Waste Management - Status and Issues A Case Study of Bangalore City Manasi S
- 298 The Child and the City: Autonomous Migrants in Bangalore Supriya RoyChowdhury
- 299 Crop Diversification and Growth of Maize in Karnataka: An Assessment Komol Singha and Arpita Chakravorty
- 300 The Economic Impact of Noncommunicable Disease in China and India: Estimates, Projections, and Comparisons David E Bloom, Elizabeth T Cafiero, Mark E McGovern, Klaus Prettner, Anderson Stanciole, Jonathan Weiss, Samuel Bakkia and Larry Rosenberg
- 301 India's SEZ Policy Retrospective Analysis Malini L Tantri
- 302 Rainwater Harvesting Initiative in Bangalore City: Problems and Prospects K S Umamani and S Manasi
- 303 Large Agglomerations and Economic Growth in Urban India: An Application of Panel Data Model Sabyasachi Tripathi
- 304 Identifying Credit Constrained Farmers: An Alternative Approach Manojit Bhattacharjee and Meenakshi Rajeev
- 305 Conflict and Education in Manipur: A Comparative Analysis Komol Singha
- 306 Determinants of Capital Structure of Indian Corporate Sector: Evidence of Regulatory Impact Kaushik Basu and Meenakshi Rajeev
- 307 Where All the Water Has Gone? An Analysis of Unreliable Water Supply in Bangalore City Krishna Raj
- 308 Urban Property Ownership Records in Karnataka: Computerized Land Registration System for Urban Properties S Manasi, K C Smitha, R G Nadadur, N Sivanna, P G Chengappa
- 309 Historical Issues and Perspectives of Land Resource Management in India: A Review M S Umesh Babu and Sunil Nautiyal

- 310 E-Education: An Impact Study of Sankya Programme on Computer Education N Sivanna and Suchetha Srinath
- 311 Is India's Public Debt Sustainable? Krishanu Pradhan
- 312 Biomedical Waste Management: Issues and Concerns - A Ward Level Study of Bangalore City S Manasi, K S Umamani and N Latha
- 313 Trade and Exclusion: Review of Probable Impacts of Organised Retailing on Marginalised Communities in India Sobin George
- 314 Social Disparity in Child Morbidity and Curative Care: Investigating for Determining Factors from Rural India Rajesh Raushan and R Mutharayappa
- 315 Is Access to Loan Adequate for Financing Capital Expenditure? A Household Level Analysis on Some Selected States of India Manojit Bhattacharjee and Meenakshi Rajeev
- 316 Role of Fertility in Changing Age Structure in India: Evidence and Implications C M Lakshmana
- 317 Healthcare Utilisation Behaviour in India: Socio-economic Disparities and the Effect of Health Insurance Amit Kumar Sahoo
- 318 Integrated Child Development Services in India – A Sub-National Review Jonathan Gangbar, Pavithra Rajan and K Gayithri
- 319 The Infrastructure-Output Nexus: Regional Experience from India Sumedha Bajar
- 320 Uncertainty, Risk and Risk Mitigation: Field Experiences from Farm Sector in Karnataka Meenakshi Rajeev and B P Vani
- 321 Socio-Economic Disparities in Health-Seeking Behaviour, Health Expenditure and Sources of Finance in Orissa: Evidence from NSSO 2004-05 Amit Kumar Sahoo and S Madheswaran
- 322 Does Living Longer Mean Living Healthier? Exploring Disability-free Life Expectancy in India M Benson Thomas, K S James and S Sulaja
- 323 Child and Maternal Health and Nutrition in South Asia - Lessons for India Pavithra Rajan, Jonathan Gangbar and K Gayithri
- 324 Reflecting on the Role of Institutions in the Everyday Lives of Displaced Women: The Case of Ganga-Erosion in Malda, West Bengal Priyanka Dutta
- 325 Access of Bank Credit to Vulnerable Sections: A Case Study of Karnataka Veerashekharappa
- 326 Neighbourhood Development and Caste Distribution in Rural India Rajesh Raushan and R Mutharayappa
- 327 Assessment of India's Fiscal and External Sector Vulnerability: A Balance Sheet Approach Krishanu Pradhan

- 328 Public Private Partnership's Growth Empirics in India's Infrastructure Development Nagesha G and K Gayithri
- 329 Identifying the High Linked Sectors for India: An Application of Import-Adjusted Domestic Input-Output Matrix Tulika Bhattacharya and Meenakshi Rajeev
- 330 Out-Of-Pocket (OOP) Financial Risk Protection: The Role of Health Insurance Amit Kumar Sahoo and S Madheswaran
- 331 Promises and Paradoxes of SEZs Expansion in India Malini L Tantri
- 332 Fiscal Sustainability of National Food Security Act, 2013 in India Krishanu Pradhan
- 333 Intergrated Child Development Services in Karnataka Pavithra Rajan, Jonathan Gangbar and K Gayithri

334 Performance Based Budgeting: Subnational Initiatives in India and China K Gayithri

335 Ricardian Approach to Fiscal Sustainability in India

Krishanu Pradhan

- 336 Performance Analysis of National Highway Public-Private Partnerships (PPPs) in India Nagesha G and K Gayithri
- 337 The Impact of Infrastructure Provisioning on Inequality: Evidence from India Sumedha Bajar and Meenakshi Rajeev
- 338 Assessing Export Competitiveness at Commodity Level: Indian Textile Industry as a Case Study Tarun Arora
- 339 Participation of Scheduled Caste Households in MGNREGS: Evidence from Karnataka R Manjula and D Rajasekhar
- 340 Relationship Between Services Trade, Economic Growth and External Stabilisation in India: An Empirical Investigation Mini Thomas P
- 341 Locating the Historical Past of the Women Tea Workers of North Bengal Priyanka Dutta

- 342 Korean Media Consumption in Manipur: A Catalyst of Acculturation to Korean Culture Marchang Reimeingam
- 343 Socio-Economic Determinants of Educated Unemployment in India Indrajit Bairagya
- 344 Tax Contribution of Service Sector: An Empirical Study of Service Taxation in India Mini Thomas P
- 345 Effect of Rural Infrastructure on Agricultural Development: District-Level Analysis in Karnataka Soumya Manjunath and Elumalai Kannan
- 346 Moreh-Namphalong Border Trade Marchang Reimeingam
- 347 Emerging Trends and Patterns of India's Agricultural Workforce: Evidence from the Census S Subramanian
- 348 Estimation of the Key Economic Determinants of Services Trade: Evidence from India Mini Thomas P
- 349 Employment-Export Elasticities for the Indian Textile Industry Tarun Arora
- 350 Caste and Care: Is Indian Healthcare Delivery System Favourable for Dalits? Sobin George
- 351 Food Security in Karnataka: Paradoxes of Performance Stacey May Comber, Marc-Andre Gauthier, Malini L Tantri, Zahabia Jivaji and Miral Kalyani
- 352 Land and Water Use Interactions: Emerging Trends and Impact on Land-use Changes in the Tungabhadra and Tagus River Basins Per Stalnacke, Begueria Santiago, Manasi S, K V Raju, Nagothu Udaya Sekhar, Maria Manuela Portela, António Betaâmio de Almeida, Marta Machado, Lana-Renault, Noemí, Vicente-Serrano and Sergio
- 353 Ecotaxes: A Comparative Study of India and China Rajat Verma
- 354 Own House and Dalit: Selected Villages in Karnataka State

ISBN 978-81-7791-211-1

I Maruthi and Pesala Busenna

Price: ₹ 30.00



# INSTITUTE FOR SOCIAL AND ECONOMIC CHANGE

Dr V K R V Rao Road, Nagarabhavi P.O., Bangalore - 560 072, India Phone: 0091-80-23215468, 23215519, 23215592; Fax: 0091-80-23217008 E-mail: vani@isec.ac.in; Web: www.isec.ac.in