STATE OF HEALTH IN INDIA: AN ANALYSIS
Anupam Hazra 3

NRHM: ENABLING HEALTH FOR ALL
Dr. Vineeth. S 7

ICDS TAKING CARE OF NUTRITIONAL NEEDS OF CHILDREN
V. Mohan Rao 9

FIELD STUDY
CHILD DEVELOPMENT THROUGH ICDS: AN ANALYSIS OF RURAL HEALTH ISSUES IN HARYANA
Dr. Jagbir S. Jakhar & Dr. Raj Kumar Siwach 13

HEALTH-AN OVERVIEW
18

FIELD STUDY
WOMEN AND CHILD HEALTH PROFILE IN UTTAR PRADESH
Ajay Kumar, Monika Singh and Kuldeep Baudh 24

IODINE – ESSENTIAL FOR HEALTH
27

FIELD STUDY
IMPACT OF MID DAY MEAL PROGRAM
Dr. P. Malyadri 29

FIELD STUDY
FROM DARKNESS TO LIGHT: NATIONAL PROGRAMME FOR CONTROL OF BLINDNESS
34

FIELD STUDY
FOLK CONCEPT OF DISEASE AND TREATMENT METHODS AMONG THE RAJBANSHI COMMUNITY
Ranjit Barman 36

ECOLOGICAL SANITATION
Amit Kumar Saha 40

ASSURED DRINKING WATER SUPPLY THROUGH COMMUNITY MOBILISATION
D. Rajasekhar 42

KIWI: THE MIRACLE FRUIT NOW IN NAINITAL HILLS
Rajsekhbar Pant 43

LESENsing THE IMPACT OF CLIMATE CHANGE THROUGH COMMUNITY ACTION
Awanish Somkuwar 45

TULSI: THE ELIXIR OF LIFE
D.Muthamizh Vendan Murugavel 47

Kurukshetra seeks to carry the message of Rural Development to all people. It serves as a forum for free, frank and serious discussion on the problems of Rural Development with special focus on Rural Uplift.

The views expressed by the authors in the articles are their own. They do not necessarily reflect the views of the government or the organizations they work for.

The readers are requested to verify the claims in the advertisements regarding career guidance books/institutions. Kurukshetra does not own responsibility.
Health is a vital indicator of human development. Health standards in India have improved considerably since independence. The concerted efforts of the government and other agencies engaged in expanding the health infrastructure have paid off, as evidenced by the improvement in some of our health indicators. Longevity has more than doubled since independence, Infant Mortality Rate has fallen, malaria has been contained, small pox and guinea worm have been completely eradicated and leprosy and polio are nearing elimination. We have made deeper inroads into rural areas with focussed schemes like the National Rural Health Mission and have even started a scheme for health insurance for the poor population.

Despite these achievements, the health services that India provides to her people continues to be far from adequate, and compares rather poorly with even Asian neighbours like Sri Lanka, Thailand and China. One fifth of the world’s share of diseases are in India, there are huge regional disparities in health standards in the country and huge gaps in health care infrastructure, in rural areas. The reasons for this can be many, with centralized planning and low government spending on health being some of the major among them. It is estimated that India spends only 0.6 per cent of its Gross Domestic Product on Health against the 6.5 per cent spent by United States, 8.3 per cent by Germany and 6.4 per cent by Saudi Arabia. India has one of the lowest public spendings and among the highest out of pocket spendings on health in the world.

A lot, therefore, needs to be done in this area. India is committed to achieve the Millennium Health Development Goals set for 2015 which include reducing infant and child mortality rates by two thirds, and reduction of maternal mortality rates by three quarters. The effort to meet and exceed the Millennium Development Goals in India is a stated objective in many of the key policy documents of the country including the five year plans. We need to increase our spending on the health sector, and ensure that this spending leads effectively to the desired results. If we want to reap demographic dividends, we have to reach health services to the remotest corner of the country and ensure good health for our people. Even as India boasts of a record economic growth, its rise on the HDI ladder, and recognition as a truly developed nation depends on the well being - not just economic but also health and intellectual - of her people.

The current issue of Kurukshetra brings to you articles from experts who discuss various issues related to the health sector of the country and suggest ways to improve the same.
In India, Right to Health is part of Right to Life enshrined under Article 21 and has been interpreted in this way in several rulings of the Supreme Court of India. What this means is that it is the states’ primary responsibility to ensure primary health care in a socially just and equitable environment. Primary health care system is the backbone of the Indian health system.

Primary health care infrastructure has recorded an impressive development during the last 50 years of independence. As of March 2007, the network consists of 1,45,272 Sub centres (SCs), 23,370 Primary Health Centre (PHCs) and 4045 Community Health Centre (CHCs) (Source: Rural Health Statistics 2007, Govt. of India) - catering to a population of 5000, 30,000 and 1,00,000 respectively (and 3000, 20,000 and 80,000 population in tribal and desert areas).

Urban areas have nearly 3,500 urban centres and 12,000 hospitals in the public sector but some medical care needs are met by private sector hospitals, nursing homes and private practitioners. District hospitals and medical college hospitals provide referral care.

Non-usage of public health facilities varies greatly across states, ranging from 8% in Sikkim to 93% in Bihar.
Perhaps more than 7000 voluntary organizations work in the area of health care.

**Accessibility and availability of Health services**

In India, accessibility and availability of health services reflect the reach and coverage of primary health care facilities. According to National Family Health Survey (NFHS) 3, private health facilities are favored for health care by a majority of the urban households (70%) as well as rural households (63%). However, the use of public health facilities by the lowest wealth quintile (39%) is comparatively more than the highest wealth quintile (34%). At the same time, a very negligible proportion of the sampled population (1.4%) access health care from the subcenter.

Non-usage of public health facilities varies greatly across states, ranging from 8% in Sikkim to 93% in Bihar. Poor quality of care is cited as the most common reason (58%) for not using government facilities followed by lack of nearby facility (47%), long waiting period (25%), inconvenient timings (13%), and provider absenteeism (9%).

The role of grassroot health workers such as ANM, Lady Health Visitors (LHV), AWW, Accredited Social Health Activist and Multi Purpose Workers (MPW) in providing health services at the community level is at the heart of the primary health care system employed by India. However, as per NFHS-3 only 17% of the women reported any contact with health workers in the three months preceding the NFHS-3 survey. Rural women reported higher contact (21%) with health workers compared to urban women (10%), and women from the lowest wealth quintile had the maximum exposure to health workers (22%). Pervasive absenteeism by health providers contributes to the ineffectiveness in delivery of primary health care services.

A Facility Survey covering 370 districts in 26 states of India conducted by the Department of Family Welfare in 2003, revealed that essential inputs and infrastructure were far from satisfactory in the government facilities - 54% PHCs do not have a labour room and a laboratory, 80% and 77% PHCs do not have communication and transport facilities, only 58% PHCs conducted deliveries, 6% conducted Medical Termination of Pregnancy (MTP), and 22% provided neonatal care. Training needs of medical and paramedical staff is acute, and only 20% of the PHCs are adequately staffed with trained personnel.

According to the recent National Rural Health Mission report, nearly 8% of the country’s 22,669 primary health centres don’t have a doctor while nearly 39% were running without a lab technician and 17.7% without a pharmacist. The condition of the 3,910 community health centres, supposed to provide specialized medical care, is equally appalling. Out of the sanctioned strength, posts of 59.4% surgeons, 45% obstetricians and gynaecologists, 61.1% physicians and 53.8% pediatricians are vacant. India churns out 29,500 medical graduates annually, but most of them are reluctant to serve in villages and would rather join the private sector for better salaries and an urban posting. In effect, 67% of doctors enrolled for rural posting remain absent from duty. Also, there is only one allopathic doctor for 1,634 people. According to MCI, the total number of registered allopathic doctors in the country is 6, 83,582.

**Recent Achievements**

- Over 5 Lakh trained ASHAs/Community Workers working actively in the field to connect households with health facilities. 2.25 lakhs have drug kit as well.
- 2.28 lakh Village Health and Sanitation Committees constituted and untied funds made available to them for local public health action.
- 1.41 lakh Health Sub Centres made more effective through utilization of untied funds, availability of drugs and addition of 25,987 ANMs on contract.
Over 7 million Village health and Nutrition Days held over the last two years to provide immunization, maternal, child and other public health related services at the Aanganwadi Centre.

189 districts have functional Mobile Medical Units.

Significant achievements in the North Eastern States.

Over 50 lakh deliveries covered under JSY in 2007-08 i.e. 20% of all births.

Improvement in immunization recorded in UNICEF’s Coverage Evaluation Survey 2006 – 62.4% Full Immunization.

Innovative partnerships with the non-governmental sector for delivery of quality health services like institutional delivery, diagnostics, etc.

Increase in Out Patient, in patient, institutional delivery, family planning services and immunization reported from most States/UTs.

Nearly 10% Increase in male and female sterilization in 2007-08 after going down every year during the last three years.

Nutrition initiatives under NRHM in MP, AP, West Bengal, Gujarat, Bihar, etc.

School Health programmes initiated in over 20 States.

Co location of AYUSH in over 3000 PHCs/CHCs/District Hospitals.

Improvement of physical infrastructure, provision for equipment and regular supply of drugs initiated in nearly all the States on an unprecedented scale. (Source: NRHM Report)

Besides that, in the latest 2009 – 10 Union Budget, allocation under National Rural Health Mission (NRHM) increased by Rs.2, 057 crore over Interim B.E. 2009-10 of Rs.12, 070 crore. It is also proposed that all below poverty line (BPL) families to be covered under Rashtriya Swasthya Bima Yojana (RSBY). Allocation under RSBY increased by 40 per cent over previous allocation to Rs.350 crore in B.E. 2009-10.

**Major Challenges and constraints**

- Health expenditure at nearly 5% of GDP is not enough considering the health problems. Health is largely financed by the private sector.

- Shortage of funds has been primarily responsible for the nonavailability of facilities per norms; provision of inputs such as drugs, equipment and facilities remain inadequate.

- Gender disparities are high in almost every segment of the health sector. In addition, there are spatial disparities such as between urban and rural areas, and across states.

- Due to inadequate budget and pressure to achieve targets, several states upgraded two-roomed sub-centres to full PHCs. With limited space for laboratory, examination, pharmacy, etc., many are not fully functional. Location also is a problem. Nearly 25% of the people in Madhya Pradesh and Orissa could not access medical care for locational reasons.

- There is sub optimal utilization of health centres due to inadequate human resources, lack of drugs and laboratory

- There is ineffective implementation of rules of conduct and less than optimal work culture.

- Improving nutrition seems like the biggest task that may need inter-sectoral coordination and political commitment.
• Because of a considerable shortfall in the trend of reduced child mortality for achieving the MDG target, there is an urgent need for new approach and priorities in the overall strategy to achieve this MDG target. Intrapartum care, diarrhoeal diseases and acute respiratory infections need attention.

• Tobacco abuse among the young is on the increase. Physical activity is declining as affluence growing and fast food becomes more prevalent in the urban areas. Changing lifestyle may also be causing an increase in cases of coronary heart disease. Ageing of the population in any case is giving rise to a steep increase in the incidence of many chronic diseases, some of which are triggered by an adverse life style.

• A large number of legal provisions exist in the health sector such as on smoking, drug abuse, waste disposal and protection of the environment but the level of enforcement is poor. There is a need to strengthen the implementation mechanism.

• A large number of well-conceptualized schemes and programmes are launched but the actual achievements remain limited due to gaps in implementation.

• The number of doctors, nurses and other paramedical workers per 1000 population is low. There is a shortfall, particularly in rural areas and for deprived segments of the population.

Conclusion

Health scenario in India is full of contrasts. Majority of Indians are burdened with diseases which are easily curable, yet the threats of incurable diseases get more attention. A huge section of the society is succumbing to deaths which could be avoided to a great extent with safe drinking water, proper sanitation, may be some very elementary medicines. Yet the policymakers are more interested in bringing sophisticated technologies; funds are pouring in to areas like promotion of health tourism, subsidizing import of sophisticated equipments and development of private health care. Rural health services which form the backbone of public health system, is lacking in basic infrastructure, staff and essential medicines. The existing manpower is an important prerequisite for the efficient functioning of the Rural Health Infrastructure. According to the figures of population based on 2001 population census, the shortfall in the rural health infrastructure is 20855 Subcentres, 4883 PHCs and 2525 CHCs. Instead of strengthening them, subsidies are being given to the private players establish super specialty hospitals to attract tourist from abroad. Health system in India still remains the most privatized in the world.

(The author is Assistant Professor, Deptt. of Social Work, Assam (Central) University, Silchar -788 011, Assam, e-mail: anupam688@yahoo.co.in)
NRHM: ENABLING HEALTH FOR ALL

Dr. Vineeth. S

India’s vision is to attain the level of health that will enable every individual to lead a social and economically productive life. The national rural health mission launched in 12th April 2005 is a right initiative in this direction.

The NRHM aims to provide an accessible, affordable, acceptable and accountable healthcare through a functional public health care system. The difficult areas with unfavorable health indicators were given special focus. The impetus of the program is to create a fully functional, community owned, decentralized health delivery system with inter-sectorial convergence at all levels. The mission is to ensure action on a wide range of health determinants like water, sanitation, nutrition, social and gender equality.

Objectives of NRHM

- Reduction in maternal and child mortality.
- Universal access to affordable and quality health care services.
- Prevention & control of communicable & non-communicable diseases.
- Access to integrated comprehensive primary health care.
- Population stabilization.
- Promotion of healthy life styles.
The NRHM includes in its fold a multitude of programmes like RCH (Reproductive Child Health), IDSP (Integrated Disease Surveillance Project), NVBDCP (National Vector Borne Disease Control Programme), RNTCP (Revised National Tuberculosis Control Programme), NIDDCP (National Iodine Deficiency Disorder Control Programme), NCCP (National Cancer Control Programme), NPCB (National Programme on Control of Blindness), Oral & Dental Health Program, AYUSH (Ayurvedic Yoga Unani Sidha Homoeopathy), NLEP (National Leprosy Eradication Programme).

To implement effectively the various components of NRHM, approaches like flexible financing, communitization, improved management through capacity building, monitor progress against standards and innovation in human resource management are being used.

The Union Health and Family Welfare ministry has documented 227 innovative schemes being implemented by states and Union territories under NRHM. The Ministry on 12th July 2009 has recommended reviewing of 20 innovative schemes for scaling up and replication.

**Issues and Challenges**

Even this broadband health program has not been able to raise the expenditure on health to 2-3% of GDP. Health is on the state list while NRHM is a centrally sponsored scheme. The effort on the part of certain states in spending effectively the money allotted for NRHM has been minimal. The unspent money in Andhra Pradesh was 19% in 2007-2008 while it was 29% in UP for 2007-2008. Lack of amenities like electricity, water, accessible roads have affected the project or particularly in states like Rajasthan, Uttar Pradesh and North Eastern States.

A serious pitfall of the NRHM scheme is that evaluation was not built into the project design initially. This together with lack of state level data and inability to conduct randomized evaluation make it difficult to measure the achievements under NRHM.

Like in all government projects, allegations of corruption have been raised about various stages of project implementation like construction of hospital infrastructure, purchase of medicines, conduct of medical camps etc....

Lack of doctors, nurses, paramedical staff, trained ASHA's have crippled the NRHM in many areas. The deficiency in modern managerial skills and technical support leads to poor governance which in turn adversely affects the mission.

**Road Ahead**

The NRHM has put the rural public health issues in a right footing. The agenda to create a decentralized effective health care system can be achieved by better management and implementation of NRHM scheme.

The implementation of schemes under the NRHM must be made more transparent and accountable. This will help check pilferage, even though it is difficult to root corruption fully out of the system.

Another area that needs long term investment is resolving the issue of human resources. Training and education of medical staff, paramedical staff and to attract them to work in rural settings is a big challenge. Higher pay packs, better facilities, training people from same locality etc can help increase the staff: patient ratio to an acceptable level. The staff, especially at the district level, and medical officers should be trained in modern management methods which will be helpful in developing capacities for health care at all levels.

The creation and use of public-private partnership (PPP) across a range of services (eg:- In areas where there are no public hospitals) will help us advance a great deal in increasing the accessibility of modern health services.

The mission must muster better community support, clear quality standards, effective management and continued financing to achieve its goals.

*The author is a practicing Doctor and has worked in NRHM. e-mail: drvineeths@gmail.com*
The Integrated Child Development Service (ICDS) Scheme providing for supplementary nutrition, immunization and pre-school education to the children is a popular flagship programme of the government. It is one of the world’s largest programs providing for an integrated package of services for the holistic development of the child. As per 2001 Census, there are around 160 million children, constituting 15.42 per cent of the scheme in the country. The scheme gets a further boost with the Ministry of Women and Child Development deciding to expand and universalize it by increasing the number of Anganwadis to 14 lakhs from the existing 10 lakhs as per the commitment to the National Common Minimum Programme and increasing weightage cost of supplementary nutrition from Rs. 2 to Rs. 4 per child and in the case of severely malnourished children to Rs. 6 per child. Nutritional support and referral medical services are available to pregnant and lactating mothers and adolescent girls also at Anganwadis. In order to reduce malnutrition among
children and the pregnant and lactating mother, the government provides supplementary nutrition through Angawnwadis under the scheme.

Under the scheme, innovative methods are used to provide pre-school education to the children at Anganwadis. The children feel more comfortable as generally they are accompanied by their mothers and Anganwadi workers from the neighbourhood. India is the home to the largest child population in the world. ICDS is the foremost symbol of India’s commitment to its children and it is the response to the challenge of providing pre-school education on one hand and breaking the vicious cycle of malnutrition, morbidity, reduced learning capacity and mortality, on the other. It is an inter-sectoral programme, which seeks to directly reach out to children, below six years, especially from vulnerable and remote areas.

**Objectives of ICDS**

Laying the foundation for proper psychological development of the child, improving nutritional and health status of children up to the age of six, reducing incidence of mortality, morbidity, malnutrition and school dropouts, enhancing the capability of the mother and family to look after the health, nutritional and development needs of the child and achieving effective coordination of policy and implementation among various departments to promote child development.
**Services Package**

The scheme provides an integrated approach for converging basic services through community-based workers and helpers. The services are provided at Anganwadis.

The Anganwadi, literally a courtyard play center, is a child-care center located within the village itself. The services provided under the ICDS scheme are: supplementary nutrition, non-formal pre-school education, immunization, health checkup, referral services and nutrition and health education. The supplementary nutrition includes supplementary feeding and growth monitoring, and prophylaxis against Vitamin A deficiency and control of nutritional anemia. All families in the community are surveyed to identify children below the age of six and pregnant and nursing mothers. They avail supplementary feeding support for 300 days a year. By providing supplementary feeding, the Anganwadi attempts to bridge the protein energy gap between the recommended dietary allowance and average dietary intake of children and women. Children below the age of three are weighed once a month and children in the age group of 3 to 6 are weighed every quarter. Weight-for-age growth cards are maintained for all children below six years. This helps to detect growth faltering and helps in assessing nutritional status. Besides, severely malnourished children are given special supplementary feeding and referred to health sub-centres, primary health centers as and when required.

**Pre-school Education**

Under ICDS scheme, children are provided pre-school education, besides supplementary nutrition, health-checkup and immunization. Around 3.39 crore children are at Anganwadis. Innovative methods are used to provide pre-school education to the children in the age group of 3 to 6 at Anganwadis. Moreover, children feel comfortable as their mothers accompany them. This component for the children is directed towards providing and ensuring a natural joyful and stimulating environment with the emphasis on necessary inputs for optimal growth and development. The early learning component of the ICDS is a significant input for providing a sound foundation for cumulative lifelong learning and development. It also contributes to the universalization of primary education by providing to the child the necessary preparation for primary schooling and offering substitute care to younger siblings, thus freeing the older ones, especially girls to attend school.

**Health Care**

The health check-up of the children less than 6 years, antenatal care of expectant mothers and postnatal care of nursing mothers are taken care by the medical staff in-charge of Health Sub-Centre and Primary Health Centres under the Reproductive Child Health (RCH) programme of the Health and Family Welfare Ministry. Other health services include immunization, management of malnutrition, treatment of diarrhoea, deworming and distribution of medicines etc.

Immunization of pregnant women and infants protects children from six vaccine-preventable diseases like poliomyelitis, diphtheria, pertussis, tetanus, tuberculosis and measles. These are the major preventable causes of child mortality, disability, morbidity and related malnutrition. Immunization of pregnant women against tetanus also reduces maternal and neonatal mortality.
Funds Allocation

ICDS is a centrally-sponsored scheme implemented through the state governments and UT administrations with 100 per cent financial assistance for inputs other than supplementary nutrition, which the states are to provide out of their own resources. However, from 2005-06, the government has decided to share with the 50 per cent cost of supplementary nutrition. Almost three times increase has been made since then. During 2007-08 allocation of Rs. 1800 crore was made for supplementary nutrition which has been increased to Rs. 2261 crore in the current year.

Social Security

The government has introduced Anganwadi Karyakartri Bima Yojana to Anganwadi workers and Anganwadi helpers with effect from April 2004 under the Life Insurance Corporation’s Social Security Scheme. In order to motivate Anganwadi workers and give recognition to good voluntary work, a scheme of award has been introduced both at the national and state levels. The award comprises of Rs.25,000 cash and a Citation at Central level and Rs.5,000 cash and a Citation at state level. The remuneration of Anganwadi workers has been increased to Rs.1500/- from the existing Rs.700/- and that of the Anganwadi workers to Rs.750 from the existing Rs.500/- with effect from April 2008.

The government has also decided to provide uniform to the Anganwadi staff. This will benefit over 18 lakh staff.

Beneficiaries

As many as 787 lakh beneficiaries — 650 lakh children (0-6 years) and about 137 lakh pregnant and lactating mothers are covered under the scheme through over 10.53 lakh Anganwadi centers across the country. The government had issued instructions to all states to give priority in locating Anganwadi centers in areas predominantly inhabited by Scheduled Castes, Scheduled Tribes and Minorities. It is significant to note that the number of beneficiaries for supplementary nutrition have registered an increase of 97 per cent during the period from March 2004 to January 2008. Similarly, the number of children (3 – 6 years) attending Anganwadi centers for pre-school education has increased from 204 lakh to 326 lakh, an increase of 60 per cent during the same period.

Considering the importance of ICDS, the governmenthasgivenveryhighprioritytothescheme. The significant achievements in its implementation will certainly help as an effective tool in the eradication of malnutrition and ensure all round development of the children, who are the national assets of the future.

[The author is a freelance journalist]
The socio-economic development of the country hinges on the health status of its children. Thus, the opportunities for early childhood development determine the present and future of the country.

But the report on the Extent of Chronic Hunger and Malnutrition in India, presented before the UN Human Rights Council in Geneva found that India has the largest number of undernourished people in the world, highest levels of child malnutrition, over 47% underweight children and over 46% stunted in their growth, even higher than most countries in poverty stricken sub-Saharan Africa. This situation will compound in the future due to falling agricultural wages, increasing landlessness and rising food prices undermining the Right to Food in rural India with food grain availability falling to 152 kg per capita, 23 kg less than the 1990s estimation.

In the background of these observations, it becomes imperative to investigate the relevance and effectiveness of the health, nutrition and child development programmes designed to cope with
persistent under-nutrition and hidden hunger. So, this field study carried out in the Sirsa district of Haryana makes an effort to evaluate the implementation and impact of the world’s largest and most unique child development programme i.e. Integrated Child Development Services (ICDS). The programme, conceived in 1975, comprises a package of seven services comprising supplementary nutrition, immunization, health check-up, referral services, treatment of illness, nutrition and health education and non-formal pre-school education. In nutshell, it lays down the biological, physical, psychological and social development of the child by eliminating the incidence of mortality, morbidity, mal-nutrition and school drop-out.

**Implementation of ICDS in Haryana: An Overview**

Haryana is a fast growing state having agricultural, educational, industrial and technical potentialities to accelerate the pace of socio-economic change and growth. Its population is 2,11,44,564 of which 33,35,537 (15.77%) are children in the age group of 0-6 year. The Government, in addition to ICDS, has been implementing more than twenty schemes, programmes and incentives for the development of the women and child. ICDS was first implemented in 1975 in Kathura block of Sonepat district. It has gradually expanded and now is in operation in all districts around 17,475 Anganwadi Centres (AWCs) of 116 blocks including 5 blocks in urban areas.

More than three decades have passed since the inception of the scheme. So, it is time to assess its impact, coverage, implementation and problems at district level. Sirsa is educationally backward which has a literacy rate of 55% against 67.91% of the state. The total number of the children of both sexes in the age group of 0-6 years in the district are 1,67,677 (15.05%). out of 11,16,649 persons as total population. As many as 1,27,149 children, i.e. 75.82% of total children of the district live in 333 villages. The District ICDS Cell is running 962 AWCs in 7 blocks.

**Findings of the study**

The aim and objective of the scheme are translated into action by a team of functionaries consisting of Programme Officer, Child Development Project Officer (CDPO), Supervisor, Anganwadi Worker (AWW), Helper, Medical Officer, Lady Health Visitor and Assistant, Nursing Mothers, etc. In addition to Women and Child Development Department which plays a key role in implementation, other Departments like Health, Social Welfare, Panchayati Raj and Development and NGOs, Mahila Mandals, Youth Clubs and Sarva Shiksha Abhiyan are involved in the execution of the ICDS.

It is pertinent to note that AWW is placed at the cutting-edge level of the programme implementation hierarchical arrangement. She plays a vital role in the implementation process. She as a crucial link between the community, children and Child Development Administration. Her presence is a must for the effective implementation of the package of services.

Next to her, is a supervisor for every 25 AWCs. She acts as a friend, philosopher and guide to the AWW and assists in the performance of her duties. She also ensures community participation by undertaking home visits and coordinating with the health department. She supervises functional literacy centres and verifies the proper entries of the beneficiaries made in the record.

Then comes the CDPO who acts as the coordinator of the ICDS team at the block level and supervises the day to day administration of the scheme. The entire team of ICDS works under the control, direction and superintendence of the Project Officer. Who is mainly responsible for the overall performance and evaluation of the ICDS implementation at the district level. At the state level the Director, Women and Child Development, Haryana ensures the compliance with rules, regulations and direction of ICDS policy and decisions.
The components of the services under the ICDS not only cover expectant and nursing mothers only but also extends care of the child through different stages - embryo, foetus, infant, child and adolescent. Thus, the implementation of services requires integrated efforts and any break-up at any stage will upset the applecart of ICDS motto: health, survival and development of the child. The operations of implementation process revolve round the following stages:

- Anticipating resources and needs of the local community;
- Visualizing planning process;
- Designing the modes of implementation;
- Conducting survey to identify prospective beneficiaries;
- Enrolment and registration of the children;
- Commencement of services package;
- Monitoring the progress of implementation;
- Evaluating the results achieved during the implementation;
- Feedback receiving and follow-up actions taken to improve the performance.

The implementation process intends to achieve integrated services package for overall child development. These divergent services are executed by supportive community structure and huge administrative machinery for the all round development of children below six years of age, pregnant women and nursing mothers. To assess the impact of selected ICDS indicators of health component the relevant data have been analysed here as under:

**Early Childhood Care and Education (ECCE)**

The ECCE component of ICDS is considered as the backbone of the programme which focuses on overall development of the child. At this stage the child is brought to the AWC. The age group of the under three years is given early motivation through intervention by mothers/care givers. The children in the AWC are provided stimulating environment necessary for optimal growth and development of the children.

It was found that all 962 AWCs have been playing a meaningful role in imparting non-formal education to the children by covering as many as 62,563 children in the age group of 0-6 years. An analysis of the data with regard to average enrolment of the children in the AWCs shows that the block Baragndha has maximum enrolment i.e. 8625 (84.55%), followed by Ellenabad, 8838 (81.08%), Rania, 9153 (77.56%), Dabwali, 10,917 (75.81%) Nathusari Chopta, 9,711 (68.38%) and Odha, 5,742 (62.41%). The block Sirsa is at the bottom by registering 9,577 children i.e. 61.78 percentage. Thus, this block needs more concentration on the child development efforts.

**Health check-ups, Immunization and Referral Services**

The children attending a class at Anganwadi Centre

This component includes health care of children under six years of age, antenatal care of expectant mothers and post-natal care of nursing mothers. The various health services provided for children by AWWs and PHC staff include regular health check-ups, recording of weight, immunization, management of malnutrition, treatment of diarrhea, deworming and distribution of simple medicines, etc. At the Centre, the enrolled children are examined at
regular intervals by the Lady Health Visitor (LHV) and Auxiliary Nurse Midwife (ANM).

Immunization of pregnant women and infants is administered to protect children from six vaccine preventable diseases like poliomyelitis, diphtheria, pertussis, tetanus, tuberculosis and measles. These are major preventable causes of child mortality, disability, morbidity related malnutrition.

Besides SHG, another institutional linkage known as Village Level Committee (VLC) represented by woman Sarpanch, all women Panches, Presidents of Mahila Mandals and SHGs, AWW and three literate women of the village, is made responsible for supervision of the ICDS implementation. Due to the very composition of this institutional mechanism of divergent interests and experience the supply of supplementary nutrition, to some extent, gets delayed.

Another serious problem is the lack of commitment to diagnose IIIrd and IVth Grade children and to offer treatment accordingly.

The tendency of the government to assign extra duties to AWW’s to implement other developmental schemes make the ICDS staff overburdened, thus diverting their energy and time from the prime job.

The immunization and SNP have shown overwhelming response but referral services suffer due to unavailability of medicines at PHC and follow up measures. There is no doubt that the programme has been successful in generating awareness among the masses but the local people still view ICDS as “a Centre oration“notasanadministrativearrangment to ameliorate children’s health and education. The orthodox belief system in rural areas to dictate the food habits of the children and pregnant, and coveted familial values to share food and nutrition of the girl child by her siblings, parents and corrupt practices are some of the major problems in the successful information way to success of ICDS in the state.

The authors are Faculty Members, Ch. Devi Lal University, Sirsa (Haryana), e-mail: r.siwach@rediffmail.com and rajkumarsiwach@gmail.com)
HEALTH—AN OVERVIEW

The NRHM was launched by the Government in 2005 throughout the country, with special focus on 18 states which includes 8 erstwhile Empowered Action Group States, 8 North-East States, Himachal Pradesh and Jammu & Kashmir to provide accessible, affordable, accountable, effective and reliable primary health care facilities, especially, to the poor and vulnerable sections of the population of rural India. Since, the launch of NRHM, several activities have been undertaken under NRHM like strengthening institutional mechanism at State, District and Sub-District level, financial support at Village, Sub Centre, Primary Health Centres (PHC), Community Health Centers (CHC), Sub-District, District and State level for better utilization of health services; prevention and control of communicable and non-communicable diseases; revitalizing local health traditions and mainstreaming Ayurveda, Yoga, Unani, Siddha, Homeopathy (AYUSH) etc. and considerable progress has been made. The Institutional Framework of the NRHM has been established and operationalised in the various States and Districts.

The progress made under NRHM as reported by States is as follows:
• Over 6.77 Lakhs trained Accredited Social Health Activists (ASHAs) working actively in the field to connect households with health facilities.

• 4.28 lakh Village Health and Sanitation Committees constituted and untied funds made available to them for local public health action.

• 1.45 lakh Health Sub Centres made more effective through utilization of untied funds, availability of drugs and addition of 44,429 Auxiliary Nurse Midwives (ANMs) on contract.

• 7,613 PHCs made 24X7, with provision of drugs, untied grants, maintenance grants, Rogi Kalyan Samiti (RKS) grants.

• 9,874 MBBS Doctors, 6,660 AYUSH Doctors, 13,278 paramedic staff, 3 staff Nurses in 5,520 PHCs. 2,344 Specialists taken on contract.

• Upgradation of physical infrastructure completed in 822 CHCs.

• More than 28,000 RKS established in DHs, CHCs, PHCs.

• 617 Integrated District Health Action Plans completed.

• 354 Districts have functional Mobile Medical Units.

EVIDENCE OF EARLY GAINS

IDENTIFYING THE UNREACHED – MOST DIFFICULT, DIFFICULT AND INACCESSIBLE AREAS

The problems in such areas, particularly in hilly states, NE States, desert areas and tribal areas in other states are more acute due to shortage of human resources including doctors and paramedics and need special solutions. It was decided to provide additional financial support (for Human Resources, infrastructure maintenance and logistics supply chain management etc) to such areas through NRHM. The task of classifying the health facilities into most difficult, difficult and inaccessible areas was undertaken through the states governments. Besides, the existing norms like terrain, left wing extremism, tribal concentrations followed by some states, other factors like absence of proper road communication, electricity, telecommunication services, public transport and climatic factors are also taken into consideration while identifying difficult, most difficult and inaccessible areas.

Focus on New Born Care

To reduce the neonatal mortality which constitutes 45% of under-5 mortality, the following initiatives have been taken under the NRHM framework:

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Evidence of Gain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternal Mortality Ratio (MMR) – Number of women who died during child birth, per lakh women.</td>
<td>MMR down from 301 in 2001-03 to 254 in 2004-06 as per Sample Registration System (SRS) of the Registrar General of Census.</td>
</tr>
<tr>
<td>Infant Mortality Rate (IMR) – Number of live children who die before completing one year of age, per 1000 children.</td>
<td>IMR down from 58 in 2005 to 55 in 2007, as per the Sample Registration System of the Registrar General of Census.</td>
</tr>
<tr>
<td>Institutional Delivery</td>
<td>Up from 40.9% as per District Level Household Survey – II (DLHS – II) in 2002-04 to 47% in DLHS-III (2007-08).</td>
</tr>
<tr>
<td>Children 12-23 months fully immunized</td>
<td>Up from 45.9% in DLHS-II (2002-04) to 54.1% in DLHS-III (2007-08).</td>
</tr>
<tr>
<td>Birth Rate per 1000 population</td>
<td>Down from 23.8 in 2005 to 23.1 in 2007 as per the SRS of the RGI Census.</td>
</tr>
<tr>
<td>Total Fertility Rate (TFR)</td>
<td>Down from 2.9 in 2005 to 2.7 in 2007, as per SRS of RGI Census.</td>
</tr>
</tbody>
</table>
(i) **Navjat Shishu Suraksha Karyakram** – a new programme in Basic new-born care and resuscitation (23% of neonatal death occurs due to asphyxia at birth). A two-day training module for care providers at health facilities has been developed and training programme to train master trainers at State and district levels has been rolled out with the support of Indian Academy of Paediatrics and Neonatal Forum of India. Training for all care providers shall be completed by June 2010.

(ii) Creation of new-born care units at district level hospitals, stabilization units at CHC level and new born corners at PHC level to provide specialized care.

(iii) Skill development of ASHAs and skilled birth attendants to ensure home-based new born and child care.

The above three prong strategy is expected to make a significant reduction in infant mortality.

In order to avoid delay in data that hampers health policy making Annual Health Survey have been envisaged to obtain district level data on various health indicators. The indicators have been finalised and the field survey shall commence from January 2010. This will be undertaken through the Registrar General of India and initially taken up in 284 districts of 9 high-focus States.

**H1N1 Situation**

The first case of Pandemic Influenza A H1N1 (swine flu) was reported in India on 13th May, 2009. As of now 30 states/ UTs have reported Pandemic influenza A H1N1 (swine flu). Government of India took a series of action to prevent / limit the spread of pandemic influenza A H1N1 and to mitigate its impact. Entry screening of passengers is continuing at 22 international airports and five international checkpoints. Community surveillance to detect clusters of influenza like illness is being done through Integrated Disease Surveillance Project.

Laboratory network has been strengthened. There are forty two laboratories (24 in Government Sector and 18 in Private Sector) testing the clinical samples. Government of India procured 40 million capsules of which 18 million have been given to the States/UTs which is also used for preventive chemoprophylaxis. Three Indian manufacturers of Vaccine are being supported to manufacture H1N1 vaccine. Four million doses are being imported to vaccinate the higher risk group.

Training of district level teams is supported by Ministry of Health and Family Welfare. IMA has been provided funds to train private practitioners. All States have been requested to gear up the State machinery, open large number of screening centres and strengthen isolation facilities including critical care facilities at district level.

A task force in the I&B Ministry is implementing the media plan. Travel advisory, do’s and don’ts and other pertinent information has been widely published to create awareness among public. All such information is also available on the website: http://mohfw-h1n1.nic.in. As of now Government has spent / committed about Rs 331 crores in the current financial year.

**Medical education**

To improve the quality of medical education, focus has been given to upgrading the skills of medical teachers, increase in post graduate courses/seats, revision of curriculum, introduction of new medical courses and revision of the norms of infrastructure etc. While these amendments have taken effect, the actual implementation is expected to commence from the next academic session. Some of the important amendments made in the MCI Regulations are as under:-

i) The ratio of post graduate medical teacher to
the student has been relaxed from 1:1 to 1:2.

ii) Research publications in indexed/National Journals have been made compulsory for promotion to the post of Professor/Associate Professor.

iii) Permitted colleges which are not yet fully recognized are allowed to offer postgraduate courses in the subjects of preclinical and paraclinical Departments of Anatomy, Physiology, Biochemistry, Pharmacology, Microbiology, forensic Medicine & Community Medicine without waiting for full recognition.

iv) The teaching experience required for the post of Professor/Associate Professor has been reduced by one year in the respective feeder cadres.

v) Emergency Medicine has been incorporated in the medical curriculum so that the medical students are trained to tackle medical emergencies.

vi) Basic management skills in the area of human resources, materials and resource management related to health care delivery, General and hospital management, principal inventory skills and counselling have been included in the curriculum.

vii) A village attachment of at least one week to understand issues of community health along with exposure to village health centres, ASHA, Sub Centres have also been included in the curriculum.

viii) The requirement of infrastructure like institution block, library, auditorium, examination hall, lecture theatres, etc. has been rationalized for optimal use, and

ix) Laboratories in different departments have been pooled to have common laboratories which can be used by all the departments for better utilization of the equipment and space and to reduce capital expenditure.

2. In addition, to facilitate expansion of medical education to the unserved and underserved areas of the country, amendments have been made in the Medical Council of India (MCI) Regulations, some of which are as follows:-

(a) For opening of new medical colleges, land requirements have been rationalized across the country and they have been further liberalized in the case of notified tribal areas, underserved/unserved areas and hill areas. In respect of these areas, land need not be unitary piece but can be in two pieces of land,

(b) In respect of North-East and Hill States, the requirement of bed strength in the teaching hospital has been liberalized, and

(c) Staff and infrastructural requirements have also been rationalized etc.

Spurious Drugs

Government has amended The Drugs and Cosmetics Act, 1940 check the manufacture, sale or marketing of spurious and sub-standard drugs in the country. Amendments have come into force since 10th Aug, 2009. Under this Act stringent penalties for manufacture of spurious and adulterated drugs have been provided. Certain offences have been made cognizable and non-bailable.

A Whistle Blower Policy has been started by Government of India to encourage vigilant public participation in the detection of movement of spurious drugs in the country. Under this policy the informers would be suitably rewarded for providing concrete information in respect of movement of spurious drugs to the regulatory authorities.

AYUSH

The Government is promoting Indian Systems of Medicines in the Country. Following activities
are being carried out to promote Ayurveda, Yoga & naturopathy, Unani, Siddha and Homoeopathy

i. Standardization of drugs.

ii. Production and Quality control of raw material (Medicinal Plants).

iii. Production of Quality Assurance of drugs

iv. Raising the standards of Research and Education

v. Generation of awareness

The following steps are being taken to increase India’s share in global market of herbal medicines

• Reimbursement of 50% of the expenditure limited to Rs. 1.00 lakh to AYUSH entrepreneurs, industry representatives etc. for participating in international exhibitions, trade fairs, road shows etc.

• Reimbursement of 50% of the expenditure incurred on preparation of Drug Dossiers and Registration of ASU&H products by US-FDA/EMEA/UK-MHRA subject to a maximum limit of Rs.5.00 lakhs per product to AYUSH units for encouraging them to register their products for export.

• Funding of upto Rs. 50 lakhs for market development linked activities and to organize or support international conferences, seminars, workshops, conduct of market surveys & studies, etc.

• A Centre for Research on Indian System of Medicine (CRiSM) has been set up in the National Centre for Natural Products Research (NCNPR), University of Mississippi, USA. The NCNPR has an institutional interface with US-FDA which will facilitate Ayurveda, Siddha and Unani drug manufacturing companies to get their herbal medicines/food supplements registered on the basis of Common technical dossiers to be prepared jointly by CRiSM and ASU Industry partners.

• Framework of Cooperation has been signed with International Trade Center, UNCTAD/WTO, Geneva for development of International Trade of Indian Traditional Medicinal Products and Services.

• Collaborative project on preparation of drug dossiers for market authorization in the EU to meet the regulatory requirements under the Traditional Herbal Medicinal Products Directive (THMPD) is being taken up.

New Initiatives in AYUSH

The new initiatives taken by the Department of AYUSH during the last 100 days are as follows:

• Upgradation of nine AYUSH institutions as All India AYUSH institutions.

• Modified scheme for strengthening of AYUSH Hospitals & Dispensaries under National Rural Health Mission (NRHM).

• Approval for co-location of AYUSH facilities in major allopathic hospitals in Delhi.

• Task Force on AYUSH education set up.

• Curriculum finalized for international level studies on Ayurveda.

• Scheme for voluntary certification of AYUSH drugs finalized in collaboration with the Quality Council of India (QCI).

• Scheme for accreditation of AYUSH hospitals and laboratories finalized jointly with QCI.

• Pharmacopoeial Standards finalized upto now for 640 AYUSH single drugs & formulations.

• Launch of -
  - National Campaign on Mother & Child Health
  - National Campaign on Anaemia.
  - National Campaign on Yoga.
- National Campaign on Unani.

• Acceleration of the existing campaigns on Kshar Sutra for Ano-rectal disorders, Geriatric care and Quality Assurance.

• Campaign on Yoga and Diabetes in 31 cities in partnership with the Vivekananda Yoga University.

• Sanction for coverage of 32,636 hectares of land for cultivation of medicinal plants under the National Mission on Medicinal Plants and 4350 hectares of land under the Center Sector Scheme in forest areas.

• Launch of country wide campaign on Amla.

• Traditional Knowledge Digital Library – transcription of 2,10,000 formulations upto now in patent compatible format.

• Signing of Access Agreement with the European Patent Offices to prevent biopiracy.

• Rs.100 crore for clusters scheme taken up for AYUSH drug manufacturing and approval given for schemes in Punjab, Maharashtra, Karnataka, Tamil Nadu, Hyderabad and Orissa and Assam.

• Human Resource Development of 5760 AYUSH medical practitioners.

• A PPP Cell set up in the Department of AYUSH to promote participation of credible non-government organizations.

• PPP Project on eye care in Ayurveda set up in Bihar.

• Tele Homoeopathy/Ayurveda projects taken up in Tripura and Bihar.

• Recognition of Sowa Rigpa (Amachi) system practiced in the Sub-Himalayan region.

• North East Resource Centre set up at Guwahati for providing support to North Eastern States for implementing AYUSH sector schemes.

• An Inter-ministerial Committee on high quality research set up.

A Whistle Blower Policy has been started by Government of India to encourage vigilant public participation in the detection of movement of spurious drugs in the country. Under this policy the informers would be suitably rewarded for providing concrete information in respect of movement of spurious drugs to the regulatory authorities.

• Performance standards set for all AYUSH National Institutes/Research Councils.

• Collaborative Research Project on prevention and treatment of Cancer, Diabetes, Kala Azar, chickungunia & other illnesses by the Research Councils with top level institutions in the country.

• Validation of safety studies of eight herbo-mineral formulations completed under the Golden Triangle Project for validation of AYUSH systems.

• Support/participation in International Conferences on AYUSH systems in USA, Germany, Australia, South Africa, Malaysia, Netherlands and Greece.

• Approval for Arogya fairs in all North East States, Bihar, Orissa, Jammu & Kashmir, Chhatisgarh, Himachal Pradesh, West Bengal and Punjab.

(Courtesy: PIB)
Women and Child Health Profile in Uttar Pradesh

The mortality indicators of the State depict an alarming situation. Deaths during the neo-natal period (within 28 days of life) contribute to almost 64% of the infant mortality in the State. As per NFHS-II, U.P. had the highest under-5 Mortality Rate in the country (122.5 deaths per 1000 live births as compared to the all India average of 94.9). The survey of NFHS (National Family Health Survey)-III (2005-06) shows that only 23 percent of children (12-23 months) were found to be fully immunized against the six vaccine preventable diseases. Findings of NFHS-III reveal that only 26 percent of the pregnant women in the State received 3 or more ANCs (Anti-Natal Care). The share of institutional deliveries in the State stands at only 22 percent. The nutritional status of women is also poor which will further worsen the situation of children.

Nutritional Profile of women and child in Uttar Pradesh

Nutritional indicators of the State are also one of the poorest in the country. NFHS-III data indicates that out of 10 children under 3 years, almost 5 are underweight and 4 are stunted. High incidence of
general under nutrition and micronutrient deficiency is reflected in the high childhood mortality and infant mortality.

- Every sixth malnourished child in India lives in U.P.
- U.P. ranks second with respect to prevalence of malnutrition amongst children under 3 years of age in India.
- About 56% children born to illiterate mothers are underweight.
- Every second adolescent girl is anemic.
- About 64% girls get married by the age of 18 years.
- Almost 30% women suffer from chronic energy deficiency (CED) and 5% women are severely malnourished.
- About 49% women are below 45 kgs.
- 57% children born to malnourished mothers are underweight.
- Less than 3% mothers receive the minimum full dosage of Iron Folic Acid tablets (100 tablets).
- Only one in 20 new born is put to the breast within the first hour of birth.
- Only 1 in 16 children receive one dose of vitamin A supplement.
- By the age of 6–9 months, only 1 in 5 children receive both breast milk & solid foods.
- By the age of 12 – 23 months, only 1 in 5 children are fully vaccinated.
- Only about 47% households have access to iodized salt.
- Only 23% mothers undergo health check up after delivery.

Malnutrition and low level of nutrition is also responsible for the ill-status of women and child health in the state.

Programs for Women and Child health in U.P.:
There are many programs to provide better health in Uttar Pradesh. These include:

- **Reproductive and Child Health (RCH):** The Reproductive and Child Health (RCH) Programme started in the State of Uttar Pradesh in April 1998. The RCH programme has been defined as “people have the ability to reproduce and regulate their fertility, women are able to go through pregnancy and child birth safely, the outcome of pregnancy is successful in terms of maternal and child survival and well being and couples are able to have sexual relations free of fear of pregnancy and of contracting diseases.” It is a composite program incorporating the inputs of the Government of India as well as funding support from external donor agencies including World Bank, UNICEF, UNFPA, European Commission, etc.

The objectives of the program are to ensure small family norm, to have a stabilized population at a level consistent with the requirement of

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Item</th>
<th>Unit</th>
<th>Uttar Pradesh</th>
<th>All India</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Birth rate</td>
<td>per 1000 population</td>
<td>30.4</td>
<td>23.8</td>
</tr>
<tr>
<td>2.</td>
<td>Death rate</td>
<td>per 1000 population</td>
<td>8.7</td>
<td>7.6</td>
</tr>
<tr>
<td>3.</td>
<td>Infant Mortality Rate</td>
<td>per 1000 population</td>
<td>73</td>
<td>58</td>
</tr>
<tr>
<td>4.</td>
<td>Maternal mortality rate</td>
<td>per lakh population</td>
<td>517(2001-03)</td>
<td>301</td>
</tr>
<tr>
<td>5.</td>
<td>Total fertility rate</td>
<td>No. of children</td>
<td>4.4</td>
<td>2.9</td>
</tr>
<tr>
<td>6.</td>
<td>Couple protection rate</td>
<td>Percentage</td>
<td>43.6</td>
<td>56.3</td>
</tr>
<tr>
<td>7.</td>
<td>Institutional Births</td>
<td>Percentage</td>
<td>22.0</td>
<td>40.7</td>
</tr>
<tr>
<td>8.</td>
<td>Delivery through trained persons</td>
<td>Percentage</td>
<td>29.2</td>
<td>48.2</td>
</tr>
</tbody>
</table>

**SOURCE: NATIONAL HEALTH PROFILE 2006**
national development and to assure good health, longevity of the children and complete care of maternal health. Therefore, the components of the RCH program are maternal health services, child health services including immunization, family planning, adolescent health and care of RTI / STDs & AIDS. The second phase of this program is now started, with necessary modifications based on the lessons learnt in the first phase, in the State from April 2005.

- **Maternal Health Program (MHP):** The Maternal Health Program which is a component of the Reproductive and Child Health Program aims at reducing internal mortality to less than 100 by 2010 through a number of interventions. It intends to provide the basic maternity services to all pregnant women by ensuring early registration of pregnant women, at least three ante-natal checkups for taking preventive and promotive steps and to detect complications early for prompt action and at least three post-natal checkups to monitor the post-natal recovery.

- **Janani Suraksha Yojana (JSY):** Janani Suraksha Yojana (JSY) under the overall umbrella of National Rural Health Mission (NRHM). The JSY is a 100% centrally sponsored scheme. Its vision is to reduce overall maternal mortality ratio and infant mortality rate and to increase institutional deliveries in BPL families. All pregnant women, belonging to the (BPL) households and of the age of 19 years or above up to two live births are included in its target group.

- **Accredited Social Health Activists (ASHA):** One of the important goals of the National Rural Health Mission is to provide access to improved health care at the household level through female Accredited Social Health Activists (ASHA), who act as an interface between the community and the public health system. The ASHA acts as a bridge between the ANM (auxiliary nurse midwife) and the village, and she is accountable to the Panchayat. She helps promote referrals for universal immunization, escort services for RCH, construction of household toilets, and other health care delivery program.

- **National Rural Health Mission (NRHM):** The National Rural Health Mission (2005-12) seeks to provide effective healthcare to rural population throughout the country with special focus on 18 states (including Uttar Pradesh), which have weak public health indicators and/or weak infrastructure. The mission aims at effective integration of health concerns with determinants of health like sanitation and hygiene, nutrition and safe drinking water through a District Plan for Health.

Barriers to Utilization of Government Facilities: The poor face several barriers in accessing public facilities which include lack of information on the availability and location of services, physical constraints (distances, difficult terrain), lack of transportation, lack of financial resources, and insensitive or unreliable treatment in public hospitals. The biggest barriers are prohibitive costs and poor responsiveness to patients’ needs in the public health system. Among the reasons for untreated spells of illness, financial constraints accounted for a significant 20 percent in urban areas and 28 percent in rural areas, implying that cost is a bigger barrier to healthcare access in rural area. In rural areas, public health facilities are under-utilized owing to a lack of quality and competent staff. People are generally disinclined to utilize public facilities due to their low quality of care, lack of equipment, and frequently rude behavior of doctors and paramedical staff.

(The authors, Ajay Kumar & Monika Singh, are from the Department of Economics and Kuldeep Baudh, is from the Department of Environmental Science, working as Research Scholars. Babasaheb Bhimrao Ambedkar University, Vidya Vihar Rae Bariely Road, Lucknow-226025. e-mail: a16ajay@rediffmail.com, monu221083@rediffmail.com, kuldeepeenvir@yahoo.co.in)
iodine Deficiency Disorders (IDD) continue to pose a serious threat to the health, well being, economic productivity and advancement of several hundred million people worldwide. People living in iodine deficient environment suffer from reduced mental and physical abilities, cretinism, deaf-mutism, squint, still-birth, abortion, goitre of all ages, neuro-motor defects, etc. Even when born normal, young children whose diets are low in iodine have their lives trapped in mental dullness and apathy. IDD preys upon poor, pregnant women and preschool children, posing serious public health problems in more than hundred developing countries. Iodine deficiency was once considered a minor problem, causing goiter, it is now known that it affects developing brain much deadlier and thereby, constituting a threat to the social and economic development of many countries.

The magnitude of the IDD problem is quite high. This has led to an International focus on elimination of Iodine Deficiency Disorders and October 21 is observed as the Global Iodine Deficiency Disorders Prevention Day to create awareness towards this problem.
Iodine is an essential component of thyroid hormones which are needed for optimal mental and physical development and regulation of body metabolism. Therefore, in iodine deficiency populations, it is critical to have effective universal salt iodisation.

Iodine, a chemical element like carbon, oxygen or iron, is available in fairly constant amounts in seawater while it is found in an uneven distribution over land and fresh water. It is an essential part of the chemical structure of thyroid hormones. It makes two hormones - thyroxine (T4) and triiodothyronine (T3). The thyroid hormones act in target organs by influencing many different chemical reactions, usually involving manufacture of key proteins. The body must have proper levels of thyroid hormone to work well.

Recommended daily intake of iodine varies with age. To meet iodine requirements, the recommended daily intakes are - 50 micrograms for infants (first 12 months of age), 90 mg for children (2-6 years of age) 120 mg for school children (7-12 years of age), 150 mg for adults (beyond 12 years of age) and 200 mg for pregnant and lactating women. Most of it comes from what we eat and drink. Seafood is usually a good source because the ocean contains considerable iodine. Freshwater fish reflect the iodine content of the water where they swim. Iodine contents in other foods vary depending on their source. Plants grown in iodine-deficient soil do not have much iodine, nor do meat or other products from animals fed on iodine-deficient plants. Iodized salt is a special case. With only a few isolated exceptions, edible salt (sodium chloride) does not naturally contain iodine. Iodine is added deliberately as one of the most efficient ways of improving iodine nutrition. Iodine exposure can come from many other sources too, for example certain food colorings (erythrosine), skin disinfectants, such as povidone iodine, is absorbed and reaches the bloodstream, health foods – certain types of kelp, dyes and medicines. People also get iodine from its use in farm animals, for cleansing udders or as part of iodine-containing medicines. Iodate has been used as a bread stabilizer in commercial baking, although this practice is less common now.

Though iodine deficiency has terrific negative effects, its excess can play havoc too. The excess of it causes thyroid under activity. Iodised and uniodised salt are sold simultaneously in the country. But the awareness of the health priority aspect of iodised salt among the public has resulted in the creation of a significant consumer demand for iodised salt.

The World over, including China and the neighbouring countries like Bangladesh, Bhutan, Sri Lanka, Nepal, Maldives, Myanmar, Thailand, etc., are implementing compulsory salt iodisation for human consumption. Globally iodated salt is recognized as the cheapest and most sustainable way to prevent and control Iodine Deficiency Disorders. Except few types of goiter, most of the iodine deficiency disorders are irreversible and permanent in nature, but they can be easily prevented by regular consumption of iodated salt daily.

Realizing the magnitude of the problem, the Government launched a 100 per cent centrally assisted National Goitre Control Programme (NGCP) in 1962. In August 1992, the National Goitre Control Programme (NGCP) was renamed as National Iodine Deficiency Disorders Control Programme (NIDDCP) with a view to cover a wide spectrum of iodine Deficiency Disorders.

The Government’s goal of NIDDCP is to reduce the prevalence of iodine deficiency disorders below 10 per cent in the entire country by 2012 A.D

(Courtesy: PIB)
The main objective of the paper is an attempt to investigate the impact of Mid Day Meal Program (MDMP) on Education, Health and Nutrition in two districts of Andhra Pradesh state and also made some suggestions for preparation of nutritious and economical Mid Day Meal Program for sustainable development in education, health and nutrition to accomplish Inclusive Growth.

Food insecurity poses a threat to health, education, and the overall development of children and is of critical concern to governments in developing countries. Education plays a vital and important role in the life of an individual. It aims to prepare and develop the individual physically, mentally and spiritually to lead a quality life.

Access to Primary Education is being provided through massive programs like Sarva Siksha Abhiyan to all those children who are involved in physical labour, street children, migrating children etc. Inspite of this, a few children are still deprived of Primary Education due to inability of the parents to send their children to school due to their poor economical status. Sending their children to school means incurring extra financial burden on them. That being the attitude of the parents the only way of bringing them to school is to take care of their food and nutritional needs. Without satisfying this basic need, needs of higher order are difficult to reach.
The most important de-motivating factor in this aspect is the poor nutritional status of children. Hence supplementing the required nutrition should be the priority to draw their attention to education. Keeping this basic truth in view, the Government of Andhra Pradesh introduced the Mid Day Meal Program (MDMP) in 1982 experimentally, in all the Abhyudaya Pradhamika Patashalalu.

In India, much interest was generated in the performance of the Mid day Meal Scheme after 2001, when the issue entered mainstream political and media discourse. As a result, several field studies were carried out and reported over the next few years.

In this study one hundred and ten primary schools were purposively selected in two selected districts i.e., Nellore and Prakasam in Andhra Pradesh state. The schools were selected on the basis of parameters such as size, access by road, remoteness and urban/rural settings to ensure that the sample was representative. After the schools were selected, visits to all selected schools were conducted to observe meal preparation and distribution.

**Findings**

The surveys yielded numerous interesting insights and observations. The key observations have been broadly grouped into three categories, namely, MDMS Implementation, Education, and Health & Nutrition, and are discussed below.

**MDMS Implementation**

**Mid-Day Meal Delivery**

Most parents and students appeared to be satisfied with the implementation of the MDMS and appreciated the government’s efforts in running the scheme. Some illustrative responses are: (i) 90 percent of the interviewed parents accepted that their children received the mid-day meal every day; (ii) 90 percent of the parents, 85 percent of the students, and 96 percent of the teachers reported that the children were indeed getting different menus on different days as mandated. It is observed that the children consumed the mid-day meal at school and did not take it home. Another question to students on the quality of the mid-day meal revealed that 92 percent rated the meal to be average or above average. Twenty five percent of the parents and 10 percent of the students said that the mid-day meal was insufficient for a growing child; the remaining opined that the meal was sufficient for one person.

**Quality of Food Grains**

Ninety percent of the teachers reported receiving acceptable to good quality of food grains. Only 20 percent of the schools were able to receive food grains after getting them weighed before delivery. The absence of a weighing mechanism in most schools makes it difficult to measure the quantity of food grains delivered, implying that the problem of underweight bags may be a serious problem. Eighty percent of the selected schools received food grains on time, while there was a delay of more than 15 days in 8 percent and a delay of 25 days in 12 percent of the schools. It was also observed that 5 schools (out of the 110 schools surveyed) did not have food grain stocks, as a result of which the mid-day meal was not being cooked.

**Untimely Receipt of Conversion Costs**

Each school is required to send a monthly report along with a monthly expenditure statement and vouchers for the cook’s wages to the Panchayat Samiti, which is supposed to reimburse the amount within 15 days of submission. The study revealed that there was an irregularity in the reimbursement of conversion costs, which in turn affected implementation of the MDMS. Only 20 percent of the schools received the funds every month in time. The remaining schools received funds with delays ranging from 2 to 6 months i.e. 10 percent once in 6 months, 50 percent once in 3 months, 20 percent once in 2 months. In contrast, 67-80 percent of the funds transferred to the Zilla Parishad for meeting conversion costs remained unutilized at the district level in the last two years. This dichotomy needs to be resolved.

**Quality of Education**

In order to assess the quality of education, the students were asked to read simple sentences and
write simple words and sentences. It was observed that 50 percent of the students were able to write and 48 percent were able to read correctly, while 15 percent were not able to write and 18 percent were not able to read at all. The remaining students were able to read and write but not satisfactorily. The study did not have access to data regarding the quality of education before the mid-day meal was initiated.

**Enrollment and Retention**

One of the key objectives of the MDMP is to increase student enrollment and retention in primary schools. Seventy percent of the parents were of the opinion that both student attendance and the quality of education had improved as a result of the MDMP. Enrollment and retention figures of surveyed schools over the last three years reveal that enrollment and retention had increased in 75 percent of the schools but had not shown any significant improvement in 25 percent of the schools. However, enrollment of girls has increased in only 35 percent of the surveyed schools. It is also opined that the increase in enrollment was below their expectations.

Interestingly, while many parents agreed that enrollment was improved because of the MDMP, 92 percent of parents opined that they would regularly send their children to the schools even if there were no MDMP.

**Health and Hygiene**

The students were asked about doctor/nurse visits for health checkups in the last six months. 88 percent of respondents stated that the doctor or nurse had visited their school, and 90 percent said that they were given supplementary vitamin/iron pills regularly (interestingly, 0.5 percent of the respondents confessed to throwing away the pills). Seventy-seven percent of parents and thirty-eight percent of teachers confirmed improvements in health and nutrition of children as a result of the MDMP. It was found that 15 percent of students do not wash hands before having the mid-day meal at all, and 85 percent wash their hands with only water. It was also found that 95 percent of students do not cut their nails.

**Institutional Responsibilities**

The Gram Panchayats, through its committees, are responsible for implementation of the midday meal. The survey revealed that 70 percent of the Gram Panchayats were not involved in the management of the mid-day meal. In fact, the teachers emerged as the de facto managers of the mid-day meal. The role of other institutions such as Village Education Committees and Parent Teacher Associations (PTA) was also minimal. The survey revealed that 90 percent of the parents were not involved in the activities of the MDMP in any way. In fact, 45 percent of the parents claimed that there was no PTA in the village, while 15 percent claimed to have no knowledge about the PTA.

**Basic Cooking and Storage Infrastructure**

Poor infrastructural facilities created disturbances in the smooth functioning of the cooked meal scheme. Specific reasons cited for this shift by school authorities/teachers are: (i) no separate space for cooking, (ii) no separate place for serving meals; (iii) no storage facilities for grains; (iv) no proper source of drinking water; (v) uncertainty about quality of rice; (vi) irregular inspection by government officials; and (vii) most importantly, disruption of teaching process. Most schools lack adequate cooking and storage facilities; 70 percent of the schools do not have a kitchen shed, and only 30 percent have a separate store room. Many teachers reported that they stored food in classrooms, further reducing the already limited space available for classroom activities. Of the cooks interviewed, 50 percent said that the mid-day meal was cooked in the open, which is unhygienic, while others cooked meals in verandahs, classrooms, or their own houses. Only 83 percent of the cooks confirmed that they have sufficient utensils for mid-day meal preparation.

**Fuel Supply**

As per the MDMS guidelines, fuel (kerosene/firewood/charcoal/LPG) should be stored safely to avoid mishaps. The use of smokeless chulhas should be encouraged, while the use of firewood should be
discouraged to reduce environmental pollution. The survey revealed that 65 percent of the cooks used firewood, 15 percent used gas, and 20 percent used kerosene for cooking meals. The wood produces huge quantities of smoke and ash, which are hazardous for health. Surprisingly, 15 percent of the cooks claimed that there were not provided fuel and made their own arrangements.

**Time Spent on Management of MDMP**

The MDMP guidelines state that the teaching process should not be affected by the MDMP. Out of a total of 6 hours for which schools are open, 30 minutes are allotted for a lunch break. This is highly insufficient for distributing the mid-day meal to all students. In reality, mid-day meal distribution takes up to two hours. Moreover, teachers assist in the preparation and distribution of meals. Some of the teachers exclaimed that “preparing and distributing the mid-day meal to about 60-100 children is like managing a wedding lunch every day.” The study reveals that 78 percent of the total teachers spend more than one hour, or more than 25 percent of their allotted teaching time, in MDMP activities. Besides, teachers are also made to spend time on other activities like conducting surveys and maintaining records and accounts, which further limit the time available for teaching. Both these factors impact overall teaching quality.

The study revealed that cooked mid-day meals have now become integral to the daily school routine in Nellore and Prakasham Districts. The MDMP has had an impact on student enrollment, retention and attendance. Most of the parents and students interviewed approved of the taste and quality of the mid-day meal. They also felt that the education quality, health, and nutrition of children had improved because of the MDMP, though it was difficult to measure this scientifically in the current study. Many people in the community are coming forward to volunteer time and energy to be part of this process. It was also heartening to see that the Mid Day Meal Scheme is one of the few programs of the Government which seems to be reaching even the remotest of villages. On the whole, parents and students were satisfied with implementation of the MDMP. From the study it also appears that the state government is interested in increasing funding and food quality standards for the MDMP.

**Suggestions**

From the study it also appears that the state government is interested in increasing funding and food quality standards for the MDMP. Despite these positive signs, there were certain shortcomings that need to be addressed. Some of the key concerns that have policy Implications are addressed below:

**Effective monitoring**

A proper supportive supervision system at the Mandal level should be established. Currently, there is no monitoring of the Mid Day Meal scheme by the Mandal Educational Officers (MEOs). They are only involved in the paper work and payment of bills but not in ensuring the quality of the food. A proper study should be conducted in order to know and refresh the roles, responsibilities of the personnel involved in the implementation of Mid Day Meal Program at State, District, Mandal and School level for taking appropriate measures for better running of the scheme. Close supervision and regular inspections are essential to achieve higher quality standards. Better monitoring would also help to eradicate petty corruption, such the pilferage of food by various intermediaries. The Mid Day Meal should also be used as an opportunity to spread nutrition and health education among children.

**Health Checkups**

A well-defined strategy to quantify the benefits of the MDMP is not in place. Teachers will have to be oriented in this aspect, besides focusing on Anemia, vitamin deficiencies and Iodine deficiencies. Health Checkups are being done in schools as per Andhra Pradesh School Health program. However, it will be made mandatory and teachers will be oriented accordingly.

**Reduce burden of Teachers**

Teachers appear to spend considerable time and energy on implementation of the MDMP. This affects the quality of teaching. The conversion costs are inadequate. There is a need for the State...
government to not only increase the cost per meal but also allocate grants for hiring local youth and self-help groups at the village level to decrease the burden of the MDMP on teachers. This will further enhance the quality of the MDMP.

Timely Financial Assistance

Delays in some schools in receiving budget and food grain allocations indicate that the budgeting, accounting, and monitoring system is poor and needs to be improved. Less than a quarter of the surveyed schools receive financial reimbursements on time. During the survey many teachers informally stated that they either take credit from the local vendors or spend from their own pockets to ensure that meals are delivered on time. The quantity of food grain delivered to each school needs to be weighed to ensure that there are no leakages.

Community Support

School managements should also be encouraged to draw on the support of the community. Gram Panchayats and Village Education Committees may be approached for arranging community members to regularly, on a rotation basis, help the school management in ensuring efficient cooking, serving and cleaning operations. The involvement of teachers and community members in ensuring that children eat together in a spirit of camaraderie and develop sensitivity to their peers with different abilities, by offering them precedence, and instilling values of equality and cooperation would be very valuable support to the implementation of the program.

NGO support

Even though many NGOs and private trusts have come forward to implement the MDMP in a few districts, their participation is limited in terms of area and coverage. They together cover an insignificant number of schools. The possibility of engaging more NGOs and civil society organizations as alternative MDMP providers may also be explored.

Infrastructure

Kitchen-cum-store is a vital part of the midday meal scheme. Absence of kitchen-cum-store or inadequate facilities would expose children to food poisoning and other health hazards as well as fire accidents. Kitchen-cum-stores should be separate from classrooms, preferably located at a safe, but accessible distance. They should be well ventilated and designed so that there is a separate storage facility with locks to check pilferage. On no account should kitchen-cum-stores have thatched roofs or other inflammables, like straw, bamboo and synthetic material. Assistance for mid-day meal infrastructure (cooking sheds, drinking water, storage space, etc.) should be made available either in the form of direct central assistance under the MoHRD or through other schemes such as SGRY, PMGY, SSA, etc. Proactive efforts should be made to ensure that every school has the requisite infrastructure.

Gender equality

The increase in rate of enrollment of girls in primary schools is much lower than the increase in rate of enrollment of boys. This is so despite the fact that enrollment of girls is much lower than that of boys. Efforts to address this gender inequality need to be made. A large part of the child (especially girl child) population in the state is still deprived of primary education. These children are deprived of the benefits of the MDMP. Concentrated efforts to achieve 100 percent enrollment through the active involvement of the government, non-government, and private sectors need to be made to bring all out-of-school children into the fold of the MDMP.

Gardening for Vegetables

Several schools have an open space inside or near the school. While some of this space has to be kept as a playground, extra space should be used to grow fruits and some vegetables, which can be eaten raw (carrot, radish, tomato, cucumber, etc.). Each class can be given a small plot of land to cultivate. This will provide them with nature’s own laboratory to study many aspects of plants and crops. This raw food will prove a rich source of vitamins and minerals for them. The produce of these school gardens should be meant entirely for children. This can be added to their normal midday meal.

[The author is Head, Dept. of commerce Vivekananda Government college, Vidyannagar, Hyderabad-500044, e-mail: drpm16@yahoo.co.in]
FROM DARKNESS TO LIGHT: NATIONAL PROGRAMME FOR CONTROL OF BLINDNESS

O loss of sight, of thee I most complain!....

John Milton

With the approval of Rs 1250 crores and implementation of Eleventh Plan (2007-12) the programme has taken a lead in addressing other issues of blindness in a comprehensive manner. These include Diabetic Retinopathy, Glaucoma, Childhood blindness, Low Vision and ocular injuries in a mission mode through successful Public Private Partnership.

Milton was expressing a primal sentiment as ability to see is critical for realization of human potential. This sentiment is shared by at least 12 million people in India who fall in the category of blind (visual acuity less than 6/60). In many cases this fate is totally avoidable or can be corrected by simple interventions. For example, in the year 2008-09, the country performed nearly 5.8 million cataract surgeries with 94% inter-ocular lens (IOL) implantation. In layman terms this means blindness was either prevented or corrected in 5.4 million people in one year. This was one of the activities of National Programme for Control of Blindness (NPCB) which has made a commendable progress in terms of Cataract Surgical Rate and the momentum thus generated would continue in future also.

The Programme

National Programme for Control of Blindness (NPCB) is now more than thirty years old, launched
in 1976 as 100% centrally sponsored scheme has the professed goal of reducing blindness prevalence to 0.3% by the year 2020. Blindness prevalence stood at 1% in 2006-07, down from 1.1% in the year 2001-02. Refractive errors are other important cause of vision impairment and are being addressed effectively through institutional and outreach activities. School Eye Screening is an important strategy wherein eyes of children studying in schools are screened for vision impairment and glasses distributed free of cost to students from poor socio-economic strata. Corneal blindness is being addressed through eye banking activities and a new thrust has been given for eye donation and corneal transplantation.

With the approval of Rs 1250 crores and implementation of Eleventh Plan (2007-12) the programme has taken a lead in addressing other issues of blindness in a comprehensive manner. These include Diabetic Retinopathy, Glaucoma, Childhood blindness, Low Vision and ocular injuries in a mission mode through successful Public Private Partnership. The endeavor of the programme is to eliminate all causes of avoidable blindness and to reach a sustainable level where-in all people have access to level appropriate eye care service. Teleophthalmology a new information technology tool has been introduced under the programme for reaching the undeserved population in rural & tribal areas. The results are very encouraging and being scaled up in a phase manner.

**NRHM Push**

The programme has been fully integrated under National Rural Health Mission (NRHM) to enhance the reach and coverage including utilization of services of community link worker like Accredited Social Health Activist (ASHA) and Anganwadi workers. State Blindness Control Societies and District Blindness Control Societies have been merged State Health Societies and District State Societies formed under the NRHM umbrella. Under NRHM facility for IOL implantation are to expanded to at least Taluka level.

Other new initiatives include funding for construction of eye wards and dedicate eye OT especially in North East State and Hilly/underdeveloped States and appointment of eye surgeons, eye donation counselors and Para-Medical Ophthalmic Assistant (PMOA) especially for the new or district where there are none. The recurring expenditure of such workforce will be borne by Government of India till the term of eleventh plan period and thereafter it would be taken up by respective State/UTs. Funding for provision of latest equipment and instruments for establishing & strengthening eye care services in government institutions i.e. vision centre at Primary Health Centre (PHC), Community Health Centre (CHC) through district hospital and medical colleges are being developed into centre of excellence for providing pediatric ophthalmology retina units/low vision units.

Non-governmental sector providing free services to needy population are being supported through recurring and non-recurring grant as per the approved schemes. Capacity building of health personnel is another important strategy for improving their skills and updating them on issues relevant to the programme for delivery of eye care services. The Government coordinates the in-service training of eye surgeons working in public sector and provides funding to States/UTs for other health care staff including medical officers, paramedical and community link workers. Advocacy and social mobilization including Information, Education and Communication (IEC) activities have made a impetus in improving community awareness.

**Encouraging Response**

Funds utilization is an indicator for planned activities being under taken and during last five years utilization has been to the tune of nearly 100% of the allocation. National Programme for Control of Blindness (NPCB), through State/UTs and all other stakeholders and partners are consistently moving forward in advancement of comprehensive eye care services and hopefully would be able to bring the level of blindness in the country from current status of 1.0% to 0.3% by the year 2020.

*(Based on Material from Ministry of Health & Family Welfare)*
FOLK CONCEPT OF DISEASE AND TREATMENT METHODS AMONG THE RAJBANSHI COMMUNITY

Ranjit Barman

This article analyses the prevailing folk concept of disease and treatment methods existing among the Rajbanshi community till today. Rajbanshi community believes that various social phenomena are responsible for their disease causation. Their diagnosis method still rely on majico religious practices and sometimes some herbal medicines are offered by healers and they rarely visit medical college for treatment. So it is very important to trace the cause of rare change in the concept of etiology and treatment method even in the modern health culture.

The Rajbanshi is numerically the largest and economically a backward schedule caste community in North Bengal. This community has its indigenous medicinal culture. The people of this community, particularly those living in rural areas think that disease is the cause of super natural power, evil spirit and black magic (Nagani). They also try to get relief from certain diseases by supernatural method or by magical ways instead of availing modern medical treatment. Rarely they
are found to go to the modern allopathic doctor for treatment. They believe that many diseases are caused by the wrath of some gods or goddesses. So they prefer healers, Sadhak or village Ojha or Kabiraj who try to diagnose the patient by chanting mantras or sometimes giving some folk medicine like “Jalpora” (water) and “Telpora” (oil) or sometimes the healers or Ojha prescribe them to worship the god or goddesses for propiation to get relief from disease.

The disease perception or concept of disease among the Rajbanshi community has been deeply rooted in the religious faith, witchcraft, belief in magic and super natural power. During the field work it was found that the Rajbanshi of Kawakhari Village have different concept of disease, causation of disease and their diagnosis method.

According to this community disease is said to be a state in which the body is unable to carry out normal activities of routinized life. Besides it is a state of physiological and psychological dysfunction. The Rajbanshi community also believe that a person who is affected by some disease or ailments he or she had done “Ku Karma” (Mohanty 2006: 212) in his or her last birth. Besides disease is caused due to sinful acts of his or her previous life.

Objectives:

The present study mainly concentrated on the following objectives:

1. To Study the native concept of disease as noticed among the Rajbanshi community.
2. To know the healing methods followed by the community and its nature
3. To identify some traditional practices which are still widely prevalent among this community.
4. To know the causes of continuity of traditional medical practices even in the age of modern medical facilities, educational, economic and technological development.

Methodology:

The Present study is based on data from both primary and secondary sources collected through field survey and participant observation. The primary data were collected with the help of specially prepared interview schedule. The schedule included questions related to the general information about the communities socio-cultural and economic condition and 151 households were selected for the study. The 151 household heads or their spouses were interviewed at their homes and asked in their local dialects about how they conceived disease was caused, how it should be treated and how it can be prevented.

This empirical study was undertaken in Kawakhari village of Darjeeling District in West Bengal because this village is situated close to by the side of North Bengal Medical College and Rajbanshi community have the highest concentration in this area in the district.

Types of disease and treatment method found in the Rajbanshi community in Kawakhari village:

Various types of diseases are found among the Rajbanshi community in the Khawakhari Village. According to the people diseases which are found in this village are classified into four major categories on the basis of their causative agents.

1. Nagani disease
2. Disease by Masan or Bhut
3. Disease by god or goddess
4. Disease by natural causes.

Nagani Disease:

This type of disease is also called disease caused by black magic. Sometimes it is called “Tantric”. This type of disease is caused by man who possesses some supernatural power (witchcraft) and causes disease to the opposition or enemies. It also known as “khoyani”. This type of disease is caused by providing poisonous drinking water or food (poisoned by chanting mantras) to the person who is to be harmed.

In case of ailments caused by Nagani or khoyani, the “Kabiraj” is called to diagnose the patient. The Kabiraj tries to diagnose the patient by reciting appropriate mantras and by giving “Jalpora” and some herbal medicine. In this type conjuration is the only diagnosis method which is popularly known as “Jhar-phoock” (whiffing and blowing with appropriate mantras) among the Rajbanshi community. But it is a long process to diagnose the patient.

Disease by Masan or Bhut:

Evil spirit is known as Masan or Bhoot among the Rajbanshi community. This evil spirit resides in lonely places and on lonely trees and attacks infants, expectant mothers, mothers and new spouses.

Among the Rajbanshi community it is widely believed that the soul of a person who does not die due to natural cause may become Masan or Bhoot (ghost) after death and hover around his or her residence. This Masan or Bhoot roams in a particular area which is under his or her control and attacks the person who passes through the area.

In case of disease by Masan or Bhoot the matter is taken to the Kabiraj or Ojha who tries to identify the Masan by making a graph on the ground with the help of stick. He also tries to know what actually it wants. Then the Ojha tries to propitiate the Masan or Bhoot by promises of puja and sacrifice. After that when the patient become well a puja with a pair of pigeon, egg, dai-chira etc is devoted to it.

Disease by god on goddess

Every Rajbanshi village has its own god or goddesses which is known as thakur and its residing place is termed as ‘Thakur path’ (Hunter1974: 378) Sometimes this thakur attacks his or her follower in order to get puja.

In course of field work it was found that among the Rajbanshi community many diseases are regarded as due to the wrath of some god or goddess. For example manifestation of small pox or chicken pox is the wrath of goddess of Sitla. When somebody is affected with this type of pox it is believed that Ma Sitla has demanded puja. So, according to her demand a puja is performed for the propitiation of Sitala Devi to get relief from the disease.

Disease by natural causes.

This type of disease is caused by natural forces e.g. if someone comes in the bad weather like excessive cold or excessive heat he or she may be attacked by some disease.

Disease caused by natural forces like diarrhoea, dysentery, typhoid which are may be the result of eating unbearable foods or different wrong combination of food. For example egg and milk together is regarded wrong combination of food that may affect the stomach and cause diarrhoea or dysentery. In such cases the patient is brought to the quack doctor near by to the market if the case is minor or to the medial college when the case is serious.
The people of this community particularly those living in rural areas think that disease is the cause of super natural power, evil spirit and black magic (Nagani). They also try to get relief from certain diseases by supernatural method or by magical ways instead of availing modern medical treatment. Rarely they are found to go to the modern allopathic doctor for treatment.
ECOLOGICAL SANITATION

Ecological Sanitation (Ecosan) is one of the options of sanitation practice. The Ecological Sanitation is beneficial to the environment as it saves water as well as recycles valuable nutrients back to nature. This article, contributed by Mr. Amit Kumar Saha, Asst. Advisor (PHE) of DDWS tells us how Ecosan is being initiated in some parts of the country.

The pour flush latrine requires at least 1-2 litre of water for each use. The Ecosan toilet does not need water for flushing but ash, sawdust or soil needs to be applied over the faeces. In Ecosan toilets faeces and urine are collected separately by a specially designed toilet seat. Faeces is collected in a chamber below the toilet seat and converted into compost after a period of about six months by natural process and urine can be used in agricultural fields after dilution. An alternate chamber is also constructed for composting and utilised when the previous chamber becomes full and is opened for removal of compost.

An adult excretes about 500 litres of urine and 50 to 60 kilograms of faeces per year. Of the 150-200 grams of faeces produced per capita per
day, 80% is water and the remaining is organic material which can be converted into compost. The compost contains nutrients like nitrogen (N), phosphorous (P), potassium (K). The value of nutrient in human excreta is shown in the following table -

<table>
<thead>
<tr>
<th>Value of nutrients in human excreta kg/person/year</th>
<th>Nitrogen (N)</th>
<th>Phosphorous (P)</th>
<th>Potassium (K)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>2.4</td>
<td>0.3</td>
<td>1.1</td>
</tr>
<tr>
<td>Faeces</td>
<td>0.3</td>
<td>0.1</td>
<td>0.4</td>
</tr>
<tr>
<td>Total</td>
<td>2.7</td>
<td>0.4</td>
<td>1.5</td>
</tr>
</tbody>
</table>

The Ecosan toilet is very useful in case of high water table/ dry area and in water logged situations. These toilets save water and also generate manure for agricultural production. Various designs have been prepared and applied in various geographical regions of the country as pilot studies. A few studies have been taken up by various institutes like National Research Centre for Banana (NRCB), IIT Delhi for application of urine and human compost for agricultural production. The compost and application of urine can be an alternative to the chemical fertilizers.

The Society for Community Organisation and Peoples Education (sCOPE) has constructed 1000 units of Ecosan toilets in Tiruchirapally of Tamil Nadu. They provide 10 paise for each time the toilet is used and collected urine is being utilised for research in banana production by NRCB. This ‘use toilet and get paid’ concept is very popular in the area.

Human excreta has been productively used as a fertilizer and soil amendment in many countries. However, this practice is still limited and not very common in India. Measures to recycle urine and its efficacy in agriculture for food production will lessen our dependency on chemical fertilizers.

(Courtesy : Grameen Bharat)
ASSURED DRINKING WATER SUPPLY THROUGH COMMUNITY MOBILISATION

This success story was sent by Mr. D. Rajasekhar (Asst. Adviser) of Department of Drinking Water Supply, as an exemplary instance of community involvement for the sustainability of drinking water in Gujarat.

Avaniya village in Gujarat is situated in Bhavnagar district and has a population of 2750 people with 483 households, and 1200 cattle. Being a coastal village and due to geological reasons, the drinking water sources have high amounts of fluoride (6.5 mg/l) and high total dissolved solids (upto 3000 mg/l) making it unsafe for drinking purposes. Further, during summer seasons, the local sources also dry up.

Community Involvement and Government Handholding

The community here is actively involved in solving the drinking water quality problems. They decided to construct one pond, three check dams having a capacity of 0.019 Mcum, one well recharging structure and 50 roof-top rainwater harvesting structures in households and in one school. The community contributed a part of the capital cost as given below:

<table>
<thead>
<tr>
<th>Particulars of scheme</th>
<th>Total cost (Rs. in lakh)</th>
<th>Community contribution (Rs. in lakh)</th>
<th>Percentage of contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drinking water supply</td>
<td>18.00</td>
<td>0.55 (O&amp;M)</td>
<td>3%</td>
</tr>
<tr>
<td>Check dam (3)</td>
<td>12.00</td>
<td>1.20</td>
<td>10%</td>
</tr>
<tr>
<td>Tidal control check dam</td>
<td>24.00</td>
<td>2.40</td>
<td>10%</td>
</tr>
<tr>
<td>Well recharging</td>
<td>1.55</td>
<td>0.15</td>
<td>10%</td>
</tr>
<tr>
<td>Sanitation activity</td>
<td>2.50</td>
<td>0.81</td>
<td>30%</td>
</tr>
</tbody>
</table>

This success story was sent by Mr. D. Rajasekhar (Asst. Adviser) of Department of Drinking Water Supply, as an exemplary instance of community involvement for the sustainability of drinking water in Gujarat.

Impacts and Benefits Accrued

- Dual water supply has been introduced for availability of Narmada water for drinking and local source water for domestic use.
- Water table has increased and quality of water has improved.
- People are getting safe drinking water regularly.
- Eighty percent households have water connection.
- Hundred percent water tariff is collected.
- Water quality monitoring by the community, regular chlorination at village level.
- Roof-top rain water harvesting structures in 50 households and a school.
- Storage structures in every household for water security.

Courtesy: Grammen Bharat)
KIWI : THE MIRACLE FRUIT NOW IN NAINITAL HILLS

Rajshekhar Pant

Kiwi fruit is very much acclaimed for its nutritive and medicinal value. Almost all the ingredients are available in kiwi fruit compared to other existing fruit crops available. It has more fibre than most breakfast cereals (even bran flakes) i.e. more than banana, papaya or orange. It is rich source of sugar and several minerals such as phosphorus, potassium and calcium. It is rich source of vitamin ‘C’ and ‘E’ and low in calories. Ascorbic acid content varies from species.

In the month of December or January stop at Bhowali, a tiny market of green-grocery right at the entry point of the apple-belt of Kumaon, ten km downhill from Nainital -and you will see a host of tourists, flocking the roadside fruit-shops laden these days with the heaps of exotic Kiwifruit.

Accustomed to see confetti-cushioned Kiwis wrapped in cellophane at new-age retail stores, supermarkets and shopping malls being sold in piles at the rate of Rs 80 to 100 per kg they are surprised. Kiwi fruit or Chinese gooseberry (Actinidia chinensis) is perhaps the best known nutritious fruit amongst the other soft fruits. It is of Chinese origin where this vigorous woody vine has been known for a very long time by its local name of Yangtoo. It is commonly found climbing up the tall trees along the Yangtoo Valley in Northwest Hupeh and Szechuan provinces of China between 500 to 2100 m above mean sea level. Later it was taken to New Zealand, where it got the name Kiwi.
Now these are grown in many other countries, including Italy, Australia, Chile, Iran and France. Kiwi fruit is rusty brown with hairy surface, oblong in shape look like a sapota fruit (Achirus zapota). The brown hairs disappear by rubbing with muslin cloth or gunny bags after harvesting. The flesh in cross section is light green in colour and seeds are soft and small.

The fruit is delicate and flavor like strawberry, rhubarb and gooseberry. Kiwi fruit has gained popularity in the past two decades in many countries of the World. It is also known as China’s miracle fruit and the horticultural wonder of New Zealand. Infact no other fruit has gained so much popularity in such a short period in the history of commercial production.

Kiwi fruit is very much acclaimed for its nutritive and medicinal value. Almost all the ingredients are available in kiwi fruit compared to other existing fruit crops available. It has more fibre than most breakfast cereals (even bran flakes) i.e. more than banana, papaya or orange. It is rich source of sugars and several minerals such as phosphorus, potassium and calcium. It is rich source of vitamin ‘C’ and ‘E’ and low in calories. Ascorbic acid content varies from species.

The credit of initiating the cultivation of Kiwi in Uttarakhand hills goes to National Bureau of Plant Genetic Resources Regional Station (NBPGR), Ninglat near Bhowali. The key figure behind the research, development and propagation of Kiwifruit in Uttarakhand hills Dr SK Verma of NBPGR informs that in the past ten years, when Kiwi germplasm was first brought to NBPGR “over 20,000 plants have been distributed among the marginal hill-farmers, Research Institute and NGO’s of Uttarakhand, and in the initial stage alone the production has touched the figure of 4 tonnes.” He also informs that the extension division of Vivekanand Parvatiya Krishi Anusandhan Kendra (VPKAS, an ICAR Institute at Almora) has been playing a key role in collaborative distribution, field demonstration and extension activities related to Kiwi under Horticultural Technology Mission Mini Mission I. NBPGR after much of research and evaluation has been propagating Abbot, Hayward and Allision varieties of Kiwi in hills. Dr Verma states that Kiwi is a hardy and almost disease free plant and can easily be grown at altitudes ranging from 200 to 2000 meters. “Its economic potential may be judged from the fact that in six-seven years old properly maintained vineyard each plant of Kiwi can give an annual yield of fifty to sixty kg.” Dr Verma has been the recipient of the Environment Conservation Award for the year 2009 from the Bioved Research Society in the 11th Indian Agricultural Scientists and Farmers’ Congress.

The Indian market for Kiwi fruit is estimated at over Rs seven crore, which largely consists of imports with total domestic production valued at a mere Rs 1.2 crore per annum. The per annum import potential of Kiwi as on date is estimated to be over 1000 tonnes. About 80 per cent of total supply is consumed as raw fruit, while the remaining 20 per cent is used as value-added products in pastries, jams and fruit pulps. India mostly imports this fruit from Italy and New Zealand, while some importers are also sourcing it from France, Chile and Iran.

(The author is a freelance writer on environmental issues based in Nainital, e-mail: pant.rajshekar@gmail.com)
LESSENING THE IMPACT OF CLIMATE CHANGE THROUGH COMMUNITY ACTION

Awanish Somkuwar

Others involved in the project have come to grips with the nitty-gritty. Ram Singh a Livelihood Promoter in Tikdijogi village of Ranapur block in Jhabua district expands on this “We would deliver important information to poor families on how in villages carbon emission can be mitigated. What indigenous methods or modern ones like bio-gas plants, solar energy systems can be adopted while improving livelihoods.”

Hari Singh Maravi – Sarpanch of Tume Gao Gram Panchayat in Naipur block of predominantly tribal district Mandla says “I have heard people saying that some harmful gases are going into atmosphere due to which earth is heating up. If it is so, it will threaten our land, which give us food’

Miles away from Copenhagen, far removed from international dialogue and action forums, “Climate Change” is not a familiar term for rural communities living in tribal areas of Madhya Pradesh. Yet they are discerning a change in their immediate environment, not fully obvious but yet perceptible. 75 year old Vir Singh, farmer from Dubdi village around 60 km. from Sheopur district headquarters in north M.P articulates “The only change I feel is that nothing is on time. Rain, summer or winter”. He elaborates “Ek baat pakki hai ki ab to mausam bhi dhokhebaj hao gaya hai. Mausam ke bhoshe chalne ka time gaya.” (One thing is sure. Even seasons have turned deceptive. No longer is the time to depend on them).

This new understanding has come not from policy forums, academicians or experts, nor from the media from an observation of the changing patterns of life around them, from keeping their ears to the ground.

It is entirely plausible that Climate Change would affect these and other communities in rural regions all over the country. It would hit agricultural patterns on which the livelihood of our multitudes depend. But in this pocket of M.P, local communities seem to have grasped the fact that all is not well with the world, a world they inherited from their ancestors, a world based on harmony between human beings and their environment.

This awareness has not come from the community alone. They have been guided along in this new discovery of correlating the changes they perceive to the larger issue by an initiative by 3000 Livelihoods Promoters as part of the Madhya Pradesh Rural Livelihoods Project. Perceiving a potential threat to natural resource based livelihoods due to global warming. It aims
to educate the rural masses about climate change issues.

In nine predominantly tribal districts of Dhar, Jhabua, Badwani, Aailirajpur, Mandla, Dindori, Anuppur, Shahdol and Sheopur, this Green army would help poor families explore and action livelihoods options.

There is a growing awareness on the role of the Gram Sabha in addressing the issue. And the Livelihoods Promoters are aware of the potential to reach out directly to the communities with this core message of understanding and coping with Climate Change. Hari Singh Maravi is a worried Sarpanch. As he understands it, with the earth heating up, there could be possible loss of livelihood which he is keen to bring to the attention of the Gram Sabha.

The Gram Sabha could be the forum to educate the village community or prescribe a code for collective action says Dev Singh Varkade, Sarpanch of Khudia Gram Panchayat. “If the poor villagers have to suffer then they have the most effective solutions too and there can be no better forum for such solutions to come up adds varkade.”

How will it work on the ground? Lamu Singh Maravi, who is Panch in Jaltara Gram Panchayat in Mandla district has some guiding principles. “Let us simply do what we have been doing for years- saving water, caring plantation, making our fields chemical-free, conserve available flora and protecting fauna. That is what I understand and everybody should.” “To me, respect for the planet deep from the heart is a must, adds Maravi.”

This is not by design or a dictat but simply staying rooted to what they and their ancestors have always known, a simple dictum of life on earth. “Learn to behave well with the Mother Earth and everything will be right, “ says Bhuvan An Singh of Behadvi village 15 km. from Jhabua district headquarters in the western part of Madhya Pradesh. In essence they would do what comes naturally to them based on the innate wisdom handed down the generations which tells them ways to keep the Earth green and cool.

Bhuvan Singh led the village community to undertake massive plantations on 13 hectare. For the last three years, they have grown fodder worth Rs. 50 thousand. “We are also managing 15 hectare tank for fishing activity, informs Khum Singh of the same village saying that “we have nothing but natural resources. We have to survive on it somehow. He is weary about the terminology that is suddenly doing the rounds “ We do not know in what measure our efforts contribute to mitigation of carbon.”

Spreading climate literacy is one of the top priorities of the Livelihood Promoters. “It has become urgent to orient the Gram Sabha about the climate change and its dire impact on livelihoods,” says the Project Coordinator L.M. Belwal.

It is a challenging task. The move to raise awareness on the issue not as an esoteric concept but rooted to the ground, through action related to their daily lives. Correlating the perceived changes in their environment, impacting their life patterns with concrete solutions to mitigate its effects. To open out new options and innovative practices and help the tribal communities to side-step and in fact ride the problem rather than be overpowered by it. In a way, it is a small but perhaps immensely significant step to enable those at the receiving end of Climate Change to transform themselves from potential victims to keepers of their own destiny and harbingers of harmony in their environment.

(Courtesy Charkha Features)
Tulsi has been used for thousands of years in Ayurveda for its diverse healing properties. Tulsi is the purest and most sublime plant which has been known and worshipped in India for more than five millennia for its remarkable healing properties. Apart from its religious significance it is of great medicinal significance, and is a prime herb in Ayurvedic treatment. Tulsi is considered to be an adaptogen, balancing different processes in the body, and helpful for adapting to stress. Marked by its strong aroma and astringent taste, it is regarded in Ayurveda as a kind of “elixir of life” and believed to promote longevity. Its scientific name is ‘Ocimum sanctum’, called Holy Tulsi. It is also believed to nourish the mind and elevate the spirit.

Commonly called sacred or holy basil, it is a principal herb of Ayurveda, the ancient traditional holistic health system of India. Tulsi is known as “The Incomparable One”, “The Mother Medicine of Nature”, and “The Queen of Herbs”. Tulsi is native to India, where it often graces shrines and homes as an aromatic perennial shrub. Tulsi is grown as an annual herb in temperate climates. The tulsi plant is pleasing to the eye, with an upright, open and branching form. The fragrance of the leaves is also quite attractive-spicy and complex, often resembling clove. Tulsi is most respected of all household plants in India. Tulsi herb is a commonly found plant all over the Indian sub continent. December to February is the flowering season for Tulsi. Its flowers are red or purple in color and sometime white in color. It is believed to be air purifier. The plant gives a spicy scent when bruised. It has warm, clove-like flavor and fragrance.

Medicinal Values of Tulsi

- **Healing Power:** The tulsi plant has many medicinal properties. The leaves are a nerve tonic and also sharpen memory. They promote the removal of the catarrhal matter and phlegm from the bronchial tube. The leaves strengthen the stomach and induce copious perspiration. The seed of the plant are mucilaginous.

- **Fever & Common Cold:** The leaves of Tulsi are specific for many fevers. During the rainy season, when malaria and dengue fever are widely prevalent. Tender leaves, boiled with tea, act as preventive against these diseases. In case of acute fever, a decoction of the leaves boiled with powdered cardamom in half a litre of water and mixed with sugar and milk brings down the temperature. The juice of tulsi leaves can be used to bring down fever.

- **Cough:** Tulsi is an important constituent of many Ayurvedic cough syrups and expectorants. It helps to mobilize mucus in bronchitis and asthma. Chewing tulsi leaves relieves cold and flu.

- **Sore Throat:** Water boiled with Tulsi leaves can be taken as drink in case of sore throat. This water can also be used as a gargle.
- **Respiratory Disorder**: The herb is useful in the treatment of respiratory system disorder. A decoction of the leaves, with honey and ginger is an effective remedy for bronchitis, asthma, influenza, cough and cold. A decoction of the leaves, cloves and common salt also gives immediate relief in case of influenza.

- **Kidney Stone**: Tulsi has strengthening effect on the kidney. In case of renal stone the juice of tulsi leaves and honey, if taken regularly for 6 months it will expel them through the urinary tract.

- **Heart Disorder**: Tulsi has a beneficial effect in cardiac disease and the weakness resulting from them. It reduces the level of blood cholesterol.

- **Children’s Ailments**: Common pediatric problems like cough cold, fever, diarrhea and vomiting respond favorably to the juice of basil leaves. If pustules of chicken pox delay their appearance, tulsi leaves taken with saffron will hasten them.

- **Stress**: Tulsi (Basil) leaves are regarded as an ‘adaptogen’ or anti-stress agent. Recent studies have shown that the leaves afford significant protection against stress. Even healthy persons can chew 12 leaves of basil, twice a day, to prevent stress. It purifies blood and helps prevent several common elements.

- **Mouth Infections**: The leaves are quit effective for the ulcer and infections in the mouth. A few leaves chewed will cure these conditions.

- **Insect Bites**: The herb is a prophylactic or preventive and curative for insect stings or bites. A teaspoonful of the juice of the leaves is taken and is repeated after a few hours. Fresh juice must also be applied to the affected parts. A paste of fresh roots is also effective in case of bites of insects and leeches.

- **Skin Disorders**: Applied locally, tulsi juice is beneficial in the treatment of ringworm and other skin diseases. It has also been tried successfully by some naturopaths in the treatment of leucoderma.

- **Teeth Disorder**: The herb is useful in teeth disorders. Its leaves, dried in the sun and powdered, can be used for brushing teeth. It can also be mixed with mustered oil to make a paste and used as toothpaste. This is very good for maintaining dental health, counteracting bad breath and for massaging the gums. It is also useful in pyorrhea and other teeth disorders.

- **Headache**: Tulsi makes a good medicine for headache. A decoction of the leaves can be given for this disorder. Pounded leaves mixed with sandalwood paste can also be applied on the forehead for getting relief from heat, headache, and for providing coolness in general.

- **Eye Disorders**: Tulsi juice is an effective remedy for sore eyes and night-blindness, which is generally caused by deficiency of vitamin A.

Modern scientific research offers impressive evidence that Tulsi reduces stress, enhances stamina, relieves inflammation, lowers cholesterol, eliminates toxins, protects against radiation, prevents gastric ulcers, lowers fevers, improves digestion and provides a rich supply of antioxidants and other nutrients. Tulsi is especially effective in supporting the heart, blood vessels, liver and lungs and also regulates blood pressure and blood sugar. Tulsi also react as anti cancerous herb.

**Conclusion**

Tulsi is the pillar of traditional Ayurvedic holistic healing system. All parts of tulsi are used by itself or in combination with other herbs to alleviate a number of ailments and conditions. Although it grows wild just about all over India, tulsi can be found in many homes and temple gardens. The medicinal properties of this plant make it sacred. Its anti-fungal and antiviral properties make it the perfect medicine for those annoying days when you are stuck at home with the flu, now its swine flu. That is why tulsi is considered to be a symbol of ‘fidelity’. It is right to say that it is both a ‘first-reach’ herb in most cases of cough, colds, flu and fever, as well as a ‘last-resort’ when nothing else seems to work.

[The author is Lecturer, PG and Research Deptt. of Commerce, Gobi Arts and Science College, Gobichettipalayam, Erode District, Tamil Nadu, email : mrvm_gasc@rediffmail.com]