livelihoods
today and tomorrow
December 2009

Happy New Year!

Small states have come on stage! Fasts and struggles for and against! **Telangana was almost there and is now on hold!**

Floods have been forgotten, the processes of restoring livelihoods have slowed down, as ever! UN Climate Change Summit at Copenhagen could not get any legally binding agreements in cutting emissions. Fund transfers agreed for greening are minimal. We may have to wait for one more year to 'bargain' again! In the heat of all this, most of the international days - AIDS, Disabled, Volunteers, Human Rights, Migration, Solidarity, etc. – have been passed without much notice!

Oxygen, Water and Food are the essential trinity of for any life form. Our body is 50-75% water. We need to drink 3-4 litres water every day to survive/live, we need estimated 50 litres of water for personal and domestic hygiene, and we need water for food production. However, less than 1% of the world's fresh water (or about 0.007% of all water on earth) is readily accessible for direct human use. Civilisations came around water sources and water bodies, including rivers, streams, springs, oases, lakes, tanks and seas. Agriculture and Food productivity is function of water and the cost of the water. Rainfall makes or mars the lives of the farmers. Droughts, Floods, Good years etc., are caused by the variations in water cycle patterns. Human beings have always valued water. Water is treated as Goddess Ganga. From agriculture based on rains, we are harvesting rain water in the tanks and practicing tank-based agriculture. Streams and rivers are stopped with reservoirs and canal-based agriculture has come in. We talk about linking rivers. Sharing water is the key inter-state conflict area in many a state. On the face of it, we have realised the acute necessity of harvesting, conserving, judicious use, and recycling (after treating human, agriculture and industrial waste water) water. We are taking up watershed development/treatment/management on a large scale to cover the entire country.

From having a glass of water at no cost, we have moved on to buy water. Sometimes, we are buying a cola or tea instead. We still have many villages without adequate potable drinking water, while a good number of households waste water. Half of Indians live in a perennial dehydrated state! A majority of our farmers, with access to low cost water, practices water-inefficient farming. Many of our industries pollute this precious life elixir. Our groundwater is over exploited and many of the zones are declared as dark or grey zones. Climate Change projects looming disaster in the horizon, mainly through water crisis, with melting glaciers, rising sea levels, drying Himalayan rivers, flooding peninsular rivers without water most of the year. Water supply has become a profitable business for many. While we have physical water scarcity, we are also generating inequitable economic water scarcity. This in turn is affecting food security adversely for the poor.

Water supply units, water treatment plants, watersheds, water use collectives, water-based industries and food processing units, sanitation, hygiene, hospital, travel, hospitality-based tiny, micro, small, medium, and big enterprises and entrepreneurs offer employment and livelihoods to one in three or four in India. Some of their livelihoods are threatened and some new livelihoods tapping opportunities in the scarce and trying times are emerging. Water to poor is still a big issue. It is in this context, 'livelihoods' explored 'water'.

KL Rao, legendary water engineer brought water wherever it was needed through reservoirs and canal irrigation and electricity. Pumping up water without electricity or fuel increases poor's access to water, even in cold desert area, Ladakh. Rajendra Singh, an inspiration to water workers everywhere, led revival of streams and River Aravali in Aravali Hills in Rajasthan. Freshwater Action Network South Asia works and advocates for water and sanitation rights of the people in South Asia. Subrato Bagchi's 'The Professional' points out that tomorrow's professional is 'an inspiring reference to others and thought leader'. A must for all who strive for professionalism and service others!

When we are aware that what matters the most are air, water, food, some place to protect from sun, wind and rain, health and education, can we not guarantee these to all? This will be achieved when we are aligned with justice to all, when we align with natural flows of the universe. We need campaigns on scale. We need campaigners and demonstrators in large numbers. 'livelihoods' remains committed to contribute its mite in enhancing their meta-competencies. **'livelihoods' is contemplating to place its daily update on the web soon.** With the faith that you are with us in this, I remain.

G. Muralidhar

the 'livelihoods' team

livelihoods

Inside ...

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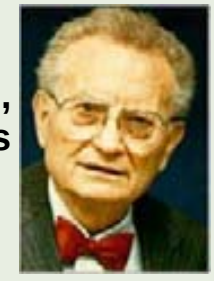
Response

Many thanks for sending me such an insightful livelihood magazine. It seems like a complete magazine having equipped with multi faces of Livelihood world.

With Regards

Kartik Chandra Prusty

Paul A Samuelson, one of the world's greatest economists, passed into the ages on December 13. He was renowned as the Father of modern analytical and scientific economics.



Embrace Diversity

End Discrimination

10 December-International Human Rights Day

News

Leading International Financial Institutions Commit to Fight Against Climate Change: The heads of the world's leading international financial institutions called for a comprehensive agreement to combat climate change at Copenhagen Conference on fight against climate change. In a joint statement, the leaders pledged to use their own organizations' mandates, expertise, and resources to help authorities combine with the private sector to confront the challenges of climate change and to make the best possible use of available financing.

Roads are the Roads to Development- World Bank Study on Indian Roads Development: World Bank conducted a study to assess the impact of Pradhan Mantri Grameen Sadak Yojna (PMGSY). The study found that government spending on rural roads had a significant impact on poverty reduction and growth. For every Rs.10 lakh spent on rural roads, about 163 people were lifted out of poverty. It connected 180, 000 villages nationwide. Under the scheme almost 3,75,000 km of new roads are being built and 3,72,000 km of existing rural roads upgraded**.**

World Bank Loans for Sustainable Urbanization: The World Bank approved 405 million USD loans to India towards sustainable urbanization. Out of that, 105 million dollars is allocated for pilot transport projects in Indian cities and another 300 million dollars is given to the Andhra Pradesh Municipal Development Project in south-eastern India to finance infrastructure projects chosen and implemented by local government institutions.

ADB and DFID Fight against Poverty in India: The Asian Development Bank (ADB) and the UK Department for International Development (DFID) have signed a new five-year partnership to fight poverty in India. It will run from 2009 to 2013. DFID provided £14 million funding to support ADB-assisted projects in India.

Sheikh Hasina Chosen for Indira Gandhi Peace Prize: Bangladesh Prime Minister Sheikh Hasina has been chosen for the prestigious Indira Gandhi Prize for Peace, Disarmament and Development this year. The selection was made by an international jury, chaired by Prime Minister Manmohan Singh. Hasina was chosen for her outstanding contribution to the promotion of democracy and pluralism, her determined drive to alleviate poverty and secure social and economic justice for her people through inclusive and sustainable development, and her consistent commitment to peace.

India 84th Out of 180 on Index of Corruption: Even as the Madhu Koda scam dominates headlines, the perception of public officials and politicians in India has dipped further. Transparency International India's (TII) corruption index released recently has ranked India 84th out of 180 countries. A silver lining to this dismal ranking is that with an integrity score of 3.4, India is the least corrupt country in south Asia excluding Bhutan. Also, India has improved its credibility score from 2.7 in 2001 to 3.4 in 2009.

US$700 Million Loan for Indian PPPs: The Asian Development Bank (ADB) has announced a $700 million loan to India to help the country implement its programme of public-private partnership (PPP) infrastructure construction. The funds follow a similar 500 million dollar loan made in 2007. The money will be released over five years to the state-owned India Infrastructure Finance Company Ltd (IIFCL), a body that was set up in 1996 to promote PPPs. IIFCL will use the money to lend to PPP projects on commercial terms over 20+ year maturity terms, filling a gap in the infrastructure financing market that the ADB says is not catered for.

Andhra Pradesh Rural Waters Supply and Sanitation Project: The World Bank has approved a $150 million credit to the Government of India to assist AP in improving rural water supply and sanitation services through progressive decentralization, community participation and enhanced accountability. It will support the building of institutional capacity for implementing, managing and sustaining the project activities, along with sector development studies to inform policy decisions, and support improvements in water supply and sanitation services in the project habitations through new infrastructure or rehabilitating and augmenting existing infrastructure.

World Bank Approves Rs 2254-cr aid for Rajasthan: The World Bank agreed to extend its support to the Government of Rajasthan with a proposed assistance program of about Rs 2,254 crore ($490 million) for four new state-level projects over the coming two years. The new state-level projects would aim to promote better livelihood, improve management of water resources, construct rural roads and promote agriculture competitiveness. These four projects include Rajasthan Rural Livelihoods project, Rural Road Project, Rajasthan agricultural competitiveness project and the ongoing water sector restructuring project.

National Micro insurance Conference held on December 10-11th, 2009: The UNDP, in collaboration with design and policy centres- the Centre for Insurance and Risk Management (CIRM) and Centre for Micro Finance (CMF) at the Institute for Financial Management and Research (IFMR) organized the National Conference on the Status of Micro insurance in India (with special emphasis on states with low HDI) on December 10th and 11th 2009 in New Delhi. The conference brought together key players in the nascent micro insurance industry. The participants discussed various innovations developed to counter the challenges in the sector and deliberated on other issues faced in bringing micro insurance to varied livelihoods and communities, from fisheries, to livestock, from the migrant labourer to the tenant farmer. Promising solutions put forward included community based health insurance schemes, such as those practiced by VIMO SEWA, weather and NDVI based insurance schemes, currently being researched by CIRM, and a 'retail' programme called Max Vijay, where insurance

premiums could be 'topped up' like mobile phones, currently trialed in Agra by Max New York Life Insurance Company.

Unique Identification Number from February 2011: India will become the first country in the world to issue a unique identity number for each of its residents from February 2011 which will allow an on-line verification. Chairman of Unique Identification Authority of India (UIDAI) Nandan Nilekani announced this recently that UIDAI will issue the unique identification cards to each and every citizen starting from February 2011. The unique number will not give any rights or entitlements but can be later used for the purposes of citizenship. It will help the poor to have better access to public services and will be a great enabler for their financial inclusion. The flagship welfare schemes of the government can be made more efficient apart from strengthening national security, reducing fraud and increasing tax collection.

52 percent of Delhi Lives in Slums without Basic Services: According to a study conducted by Forces, a voluntary organization working on child care in India, more than half of Delhi's population lives in urban slums with inadequate provision of basic services. 52% of Delhi's population resides in urban slums. The survey, conducted in six slums shows that in comparison to Delhi's infant mortality rate (IMR) of 40, the IMR in slums is higher at 54. The immunization level in the slums covers a dismal 34 percent of the population and because of the negligence of civic authorities in providing safe drinking water and sanitation; there is a high incidence of diseases such as diarrhea (75 percent) and anemia (63 percent). With poor nutritional status Delhi has 35.4 percent stunted, 15.5 percent wasted and 33.1 percent underweight children under the age of three despite being a state with the second highest per capita income in India.

India's Food Inflation Soars 19%: Indian food prices have accelerated by 19% in a year driven by the driest monsoon in nearly four decades that has hit farm output. Prices of such staples as potatoes have more than doubled from a year ago while pulses were up 42%, hitting hundreds of millions of poor the hardest. The WPI of food climbed by 19.05% for the week ended November 28 from the same period a year ago, according to commerce ministry figures. Food price rises have been fuelled by the worst annual rainfall since 1972 which hurt crop production in the country.

India's Carbon Emissions 70% below World Average: A Report jointly brought out by ASSOCHAM and Ernst & Young on Climate Change reveals that India's emission levels are 70% below world average and 93% beneath those in United States. This is despite India being the 4th largest economy and 5th largest greenhouse gas emitter, accounting for 5% of global emissions. Emissions in India increased by 65% between 1990 and until now and are projected to grow by close to 70% in next decade or so.

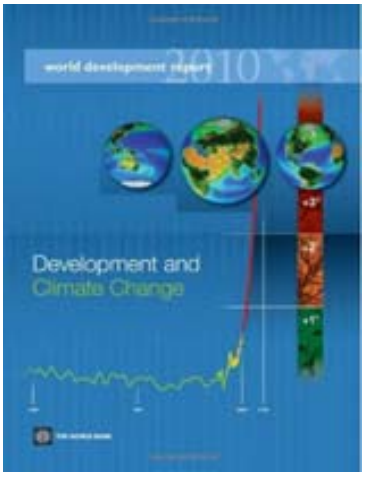
Smaller Glaciers More Vulnerable, WWF -India Report Says: Smaller glaciers in the Himalayas are proving much more vulnerable to climate change impacts than the area's larger glaciers, according to a new report by WWF-India and Birla Institute of Technology (BIT). The findings of 'Witnessing Change: Glaciers in the Indian Himalayas' have implications for water regimes, the livelihoods of millions of peoples, ecosystems and biodiversity over large areas. The report presents the analysis of an on-going research to monitor two central Himalayan glaciers since 2006 – Gangotri, a 30 km long glacier; and Kafni, a 4.2 km one. The initial results from the field study indicate that the Himalayan glaciers are retreating, but at a reduced rate and the larger glaciers like Gangotri are unlikely to disappear in near future, due to their large mass balance. Smaller glaciers like Kafni are not only retreating at a faster rate, but are losing more of their glaciated portion and tributary glaciers- a trend which has been observed across the Himalayas for many other smaller glaciers as well. The report discusses the areas of focus needed as way forward, which includes enhancing the monitoring of smaller glaciers, addressing the data challenge, development of regional climate models and engagement of communities in developing suitable adaptation responses**.**

View of a small glacier with moraine dammed lake in Baralacha Region, Himachal Himalaya, India

In 20 yrs, India's Water Needs to be Double the Supply: In the next two decades, global water consumption will increase from the present 4,500 billion cubic metres (bcm) to 6,900 bcm. This will be 40% more than the estimated reliable and sustainable supply today, concluded the study on the global water scenario conducted by international consultancy McKinsey, in collaboration with International Finance Corporation. The study was sponsored by several global food and beverage corporations who have often faced criticism by development activists for pushing unsustainable water use. The situation in India will be dire as water demand will grow annually by 2.8% to reach a whopping 1,500 bcm while supply is projected at only about 744 bcm, that is, just half the demand. This increase will be driven by domestic demand for rice, wheat, and sugar for a growing population, and a growing demand for a better diet. As a result, most of India's river basins could face severe deficit by 2030, with some of the most populous, including the Ganga, the Krishna, and the Indian portion of the Indus facing the biggest absolute gap. ■

World Development Report 2010 - Development and Climate Change

"Climate-smart" world is possible if we ***act now, act together, and act differently***, is the essence of the World Development Report 2010. The theme of this 32nd World Report is Development and Climate Change. Raising an alarm on the emergency with which everyone needs to act, the report lists consequences of climate change as shift in the rainfall patterns, extreme events such as droughts, floods, heavy rainfall and forest fires becoming more frequent, higher average air and ocean temperatures, widespread melting of snow and ice and that the intensity of storms and tropical cyclones have increased. The report observes that CO2, the most important greenhouse gas has rapidly increased over last 150 years mainly because of the burning of fossil fuels.



It is estimated that developing countries will bear most of the costs of the damages to the tune of 75–80%. First they are particularly reliant on ecosystem services and natural capital for production in climate sensitive sectors, second much of their population lives in physically exposed locations and economically precarious conditions and the third factor is that their financial and institutional capacity to adapt is limited. It report states that poor people in Africa, Asia, and elsewhere face prospects of tragic crop failures; reduced agricultural productivity; and increased hunger, malnutrition, and disease. Millions in densely populated coastal areas and in island nations will lose their homes as the sea level rises.

Coming to scenario in South Asia, it states that this region suffers from an already stressed and largely degraded natural resource base resulting from geography coupled with high levels of poverty and population density. Water resources are likely to be affected by climate change, which in turn will show effect on the monsoon, which provides 70 percent of annual precipitation in a four- month period, and on the melting of Himalayan glaciers. Rising sea levels are a dire concern in the region, which has long and densely populated coastlines, agricultural plains threatened by saltwater intrusion, and many low-lying islands. In more severe climate change scenarios, rising seas would submerge much of the Maldives and inundate 18 percent of Bangladesh's land.

In its eight chapters and an over view, the report foresees role for both the developed as well as the developing nations. The report has three focus areas: The science of climate change, Biodiversity and ecosystem services in a changing climate and Trade and climate change. It says that advanced countries, which produced most of the greenhouse gas emissions of the past, must act to shape our climate future. Though costs for getting there would be high it would still be manageable. A key way to do this is by ramping up funding for mitigation in developing countries, where most future growth in emissions will occur. They also need to act quickly to reduce their carbon footprints and boost development of alternative energy sources to help tackle the problem of climate change.

On the other hand developing countries whose average per capita emissions are a fraction of those of high-income countries need access to energy to provide electricity to 1.6 billion people who lack access to it and need massive expansions in energy, transport, urban systems, and agricultural production in their steps towards development. There is also concern that such expansion mean using high-carbon technologies will produce more greenhouse gases, hence more climate change.

It suggests that the developing countries can shift to lower carbon paths while promoting development and reducing poverty by using existing low-carbon technologies and best practices could reduce energy consumption significantly. The financial and technical assistance towards this should be provided by high-income countries. As an example it suggests that avoiding deforestation preserves watersheds and protects biodiversity, while forests can effectively serve as a carbon sink.

Stressing on the three actions suggested by the report it says ***acting now*** is essential, or else options disappear and costs increase as the world commits itself to high-carbon pathways and largely irreversible warming trajectories. Climate change is already compromising efforts to improve standards of living and to achieve the Millennium Development Goals.

Acting together is key to keeping the costs down and effectively tackling both adaptation and mitigation. It has to start with high-income countries taking aggressive action to reduce their own emissions. That would free some "pollution space" for developing countries, but more importantly, it would stimulate innovation and the demand for new technologies so they can be rapidly scaled up.

Acting differently is required to enable a sustainable future in a changing world. In the next few decades, the world's energy systems must be transformed so that global emissions drop 50 to 80 percent. Infrastructure must be built to withstand new extremes. To feed 3 billion more people without further threatening already stressed ecosystems, agricultural productivity and efficiency of water use must improve.

It is estimated that solving the climate problem requires a transformation of the world's energy systems in the coming decades. Research and Development investments in the order of US$100 - $700 billion annually will be needed, a major increase from the modest $13 billion a year of public funds and $40 billion to $60 billion a year of private funds currently invested. Climate finance must be greatly expanded, since current funding levels fall far short of foreseeable needs. Climate Investment Funds (CIFs), managed by the World Bank and implemented jointly with regional developing banks, offer one opportunity for leveraging support from advanced countries, since these funds can buy down the costs of low carbon technologies in developing countries. ■

Legend

Architect of Modern Temples– Dr K L Rao

The first Indian Prime Minister Jawaharlal Nehru described the dams as modern temples of the country. Kanuri Lakshman Rao (popularly known as K L Rao) was the architect of many such temples and is called the Father of India's water management and agriculture. Nagarjuna Sagar, Bhakra, Farakka are some of the many dams designed and developed by him. At a time when there was very less area with irrigation facilities, his vision and work has helped to increase the area under cultivation which led to an increase in food production apart from providing employment to millions of farmers and he is still remembered by many across the country as a saviour from starvation.

Dr K L Rao was born in a middle class family on 6th June 1902 in Kankipadu village near Vijayawada in Krishna district, Andhra Pradesh. His Father was working as a village attorney. He lost his father when he was 9 years old. Also he lost vision in one eye due to injury during childhood days while playing at school. Though he lost his father and vision, he never lost confidence and was recognized as a very brilliant student right from his childhood.

K L Rao studied intermediate at Presidency College, Madras. He took his B.E degree from Madras University and he was the first student to obtain Master's Degree in Engineering. He worked as a Professor in Rangoon in Burma. Later he finished his PhD in 1939 from Birmingham University in United Kingdom. He worked as assistant professor in UK for sometime and wrote a book called "Structural Engineering and Reinforced Concrete".

After returning to India in 1946, he worked as a design engineer for the Madras government. He held the post of director in Vidyut Commission, New Delhi in the year 1950. He was promoted as chief engineer in the year 1954 at that time he was also a member of Central Ware Housing Corporation and continued to be its member even after his retirement during 1957-62. . He worked as president of Irrigation and Central Board in the year 1960. He also worked as the president of All India Engineers Association in 1958-59 and 1959-1960.

K L Rao believed that building irrigation infrastructure is very important for the country's development particularly in the context of growing population. To feed the growing population India needs to invest on increasing the area under cultivation by providing irrigation facilities. With this belief K L Rao designed and developed many irrigation and hydro electric projects. World's longest earth dam (masonary), Nagarjuna Sagar dam on river Krishna in Nalgonda district of AP is a feather in his cap. It irrigates over 10 lakhs acres of land. He could have constructed the dam with concrete instead of masonry. But he designed an earthen dam as he wanted a design which was not only simple but also humane. He thought that besides the abundant availability of stone, there was abject poverty and therefore he felt the urgent need to provide employment to unskilled workers. When the dam construction was going on there were hundred thousand people moving up and down the scaffolding carrying stone which was described by many as an unforgettable spectacle of human endeavor, perhaps paralleled only by the Pyramids and the Great Wall. He also designed a project to interlink all the rivers in the country. In the first four Five Year Plans, K L Rao designed projects like Lower Bhavani, Malaam Puja, Kosi, Heera Khud, Chambal, Farahkha, Srisalam and Thungabhadra along with Nagarjuna Sagar. For the prevention of floods in Ganga and Brahmaputra basin he motivated the construction of projects like Gandhinagar, Jawahar Sagar, Rana Pratap Sagar. In additions to all these great works, the thermal power station that was built at Vijayawada in Andhra Pradesh is considered as his another greatest achievement. Rao's irrigation projects not only helped many farmers with improved irrigation but also helped to increase the food production in the country as more land was brought into cultivation. With his vast experience on water related issues, K L Rao wrote a book called 'India's Water Wealth' which is considered as a resource book for the people working in water sector in India.

K L Rao, apart from designing projects for people, also involved very actively in designing policies for people. He entered into politics with a vision to serve the people directly and was elected as a member of parliament from Vijayawada constituency for the first time in 1961. The people in the constituency elected him as their leader three times afterwards from the same constituency. On 20 July, 1963, Rao was sworn in as a minister for Irrigation and Electricity in the union government. Under his regime as Union minister for Water Resources, Rao designed many irrigation and hydro-electric projects. During his tenure he established Rural Electrification Corporation. Rao worked as Union Minister in Jawahar Lal Nehru, Lal Bahadur Sastry and Indira Gandhi's cabinet.

For his services to the Nation Dr K L Rao obtained many awards. He got "Padma Bhushan" in the year 1963 for his contribution in the areas of irrigation and power from the President of India. He was awarded doctorate in science by Andhra University in 1960 and in engineering by Roorkee University in 1968. Jawaharlal Nehru Technological University also honoured him with doctorate. The Andhra Pradesh State Government has named an irrigation project at Pulichintala after him as K L Rao Sagar Project.

A visionary engineer Dr K L Rao breathed his last on 18th May 1986. Dr K L Rao's contribution to water sector in the country is immemorial. His vision and efforts together put the country as one of the largest food producers in the world. The dams and projects designed by him not only helped the farmers in getting employment but also feeding millions of people across the country. ■

Hydram

Ladakh situated in the state of Jammu and Kashmir is surrounded by two mountain ranges, the Karakoram in the north and the Great Himalayas in the south. It lies at altitudes ranging from about 9000 feet at Kargil to 5,170 feet at Saser Kangri in the Karakoram Range. Due to mountainous areas with little rainfall, water sources are often several hundred meters away from houses and fields. The people in these regions traditionally live off farming and have to walk over long distances to fetch water and carry it back to their villages.

In a place like Ladakh the land suitable for cultivation is confined to river valley basins where irrigation is available. There is little moisture in the atmosphere as the place receives less then 150 mm of rain fall per year. Given the low average annual rainfall, no farming is possible in the region without irrigation facilities. Because of the high altitude and sub-zero temperatures prevailing for 6 to 7 months in winter, only one crop is possible in about 95% of the villages in the region. Lack of clean drinking water was also a major problem for the people living in these regions. As socio-economic development is hardly possible under these conditions, many migrate to the cities with the hope of better life.

Conventional local efforts to channel water over long distances from rivers or big reservoirs, or employ diesel motor pumps to deliver the water to mountainous villages are mostly very expensive and rarely show positive long term results. Conventional local and governmental water supply concepts have failed to respond to the specific needs and conditions of the target population in remote mountainous areas. In this situation BORDA which is a funding agency tried to bridge this deficiency by implementing water distributing program with the help of local NGO called Ladakh Ecological Development Group (LEDeG). BORDA selected this place to make such intervention particularly as this is the place where there is poverty and real need for water supply, as well as good participation from user groups.

Since 1981 BORDA has been active in the dissemination of poverty oriented decentralized water supply systems in remote rural and mountainous areas. They thought that the water lifting technology of the Hydraulic Ram Pump (Hydram) is a feasible solution for the geographic and economic conditions of the farmers in the remote mountainous areas to supply water for the purpose of drinking water and for irrigation. As long as there is a river, stream or canal with sufficient inclination, the Hydram provides a simple solution for both, domestic and agricultural water supply – 24 hours per day, 12 months a year.

Hydraulic Ram pump (Hydram) is an automatic pumping device which utilizes a small fall of water to lift water to a greater height. It does not require any conventional energy source such as electricity or fossil fuels, which are otherwise very scarce in Ladakh. The main virtue of the hydram is that its only moving parts are two valves. It is, therefore, a very simple mechanical device that requires very little maintenance and has a long operational life. It is silent and eco-friendly as it does not require any fuel or electricity to operate, and instead use gravity to lift water.

Depending on the difference in heights between the inlet and outlet pipes, these water pumps will lift 1-20 percent of the water that flows into it. In general, a ram can pump approximately one tenth of the received water volume to a height ten times greater than the intake. A hydraulic ram pump is useful where the water source flows constantly and the usable fall from the water source to the pump location is at least 91 cm (3 ft). Essential criteria for selection of beneficiaries by BORDA are poverty and real need for water supply, as well as the participation of user groups. It is necessary that users can operate and maintain the supply scheme independently, particularly in remote areas. BORDA and LEDeg have implemented 63 hydraulic ram pump projects in Ladakh from 1993 till now. Through introduction of Hydram, LEDeG and BORDA enabled marginalized farmers to increase the area for cultivation, provide easy access to water and also enabled two crops in a year to be planted in certain areas of Ladakh. With the increase of incomes through improved irrigation many people stopped migrating to cities in search of work. Women and children in the area are feeling happy as they are relieved from the burden of fetching water from long distances to their homes all the way up hill. This well-proven implementation concept was documented in the 'HydRam Handbook'. Together with regional studies and surveys the handbook forms the basis for further dissemination.

Hydram can give effective, efficient and sustainable basic needs service solution for decentralized water supply particularly to the people who are living in hilly, mountainous regions. This is an environmentally friendly technology as this does not require electricity or any fossil fuels to operate. Using this kind of technology can help people living in the hilly areas with improved irrigation and drinking water facilities. ■

Right to be Independent and Developed!

World Leaders fail us at COP15! Some more time is lost in putting a framework for sustainable planet!

Telangana spurs movements for small states and movements for keeping the large states intact!

As we live the month, International Day for the Elimination of Violence against Women (25 November), World AIDS Day (1 December), International Day of Disabled (3 December), International Volunteer Day for Economic and Social Development (5 December), International Anti-Corruption Day (9 December), Human Rights Day (10 December), International Migrants Day (18 December), UN Day for South-South Cooperation (19 December), International Human Solidarity Day (20 December), and Winter Solstice (21 December) pass by, without much ado.

During the month, our rediscovery that we are not having any control on the path we take, has been endorsed many times over. We remain ready to flow in the direction of our intent and the universe flows take us in their stride.

Watersheds, employment, entrepreneurship, enterprises, sustainable development/livelihoods, coastal communities, tribal communities, elders, marginalized communities, vulnerable groups, their collectives, the people who work with/for them – staff, volunteers, professionals, entrepreneurs, mentors, mentees and the civil society continued to hog the most of the time of our time during the month. Efforts continued to appreciate applying livelihoods framework for coastal communities and outline processes for using venture capital and innovation funds. Material for Resources and Livelihoods Course of the distance mode PG Diploma in Sustainable Rural Development is getting ready. The program is expected to be launched in January 2010. Business Plan for the Socially Responsible Micro-Finance Institution for the Elderly, and Strategic Plan for scaling-up sustained community action to address health needs including HIV/AIDS are also taking our time. Scaling-up community-managed sustainable agriculture offers new options for the poor farmers. We are yet to transcend the draft conceptualization of the project for restoring the livelihoods of the flood affected.

Perspectives

G. Muralidhar

CNN IBN annual awards announced: AR Rahman voted Indian of the year; Rahul Gandhi - politician of the year; and Pratham –Indian of the year for Public Service.

While 80%+ of Indians are poor if we go by USD 2 per capita line, 37% of Indians are poor, according to a report by the expert group headed by former chairman of Prime Minister's Economic Advisory Council Suresh Tendulkar. Bihar and Orissa are the poorest states. For the first time, poverty line, defined based on items - a wider access to commodities and services like health and education and not just calories, has been used – per capita/day of Rs. 19 in urban areas and Rs. 15 in rural areas. The report has also concluded the drop in poor in India is marginal over the decade. This would mean we need to raise allocations for the poor at least by 50%, even if we want to target the existing schemes to all the poor.

Government of India has evolved common guidelines and is supporting the implementation of Integrated Watershed Management Program, with a view to cover the entire cultivable land in 10-12 years. Thus, the micro-watersheds gave way to larger integrated watersheds to be implemented by the Mandal/Block Panchayats, instead of Gram Panchayats in Hariyali program. **A way forward in decentralization!?**

This month also belongs to Telangana. Telangana, meaning 'land of Telugus', was a part of the erstwhile princely Nizam state of Hyderabad. After the accession of Hyderabad State with India in 1948, it remained a separate state till 1956 when it was merged with Andhra State, carved out of Madras province, to form Andhra Pradesh. It was India's first state formed on linguistic lines. Currently, 10 districts – Adilabad, Hyderabad, Karimnagar, Khammam, Mahabubnagar, Medak, Nalgonda, Nizamabad, Ranga Reddy and Warangal – form part of Telangana. It is situated at a high altitude in an upland Deccan plateau with two major rivers Godavari and Krishna flowing through the region. However, most of the land is arid. It shares borders with Andhra and Rayalaseema (parts of the existing Andhra Pradesh), Karnataka, Maharashtra and Chhattisgarh. Its area is 114,800 sq km and population - about 35 million. Major languages spoken include Telugu and Urdu. It sends 119 legislators to the 294-member Andhra Pradesh assembly and 17 MPs out of 42 Lok Sabha MPs from AP. As of now, Greater Hyderabad, the capital of AP, is located almost at the heart of Telangana.

Telanagana was merged with Andhra in 1956 despite the recommendation of First State Reorganization Committee. The struggles for separate Telangana in 1969 and separate Andhra in 1972 have been successfully ignored. BJP wanted to give Telangana in 2000 but their alliance then with Telugu Desam could not afford it. Telangana became a part of the Common Minimum Program of UPA in 2004 but did not see the light. In 2009, Telugu Desam and new Prajarajyam expressed their solidarity with Telangana.

Then, KCR of Telangana Rashtra Samiti went on to do indefinite fast on 29 November 2009. Students, Employees, Jouranlists, Advocates etc., joined the struggle. Suicides, Rallies, Bandhs etc., continued. Most parties across the spectrum have shown solidarity with Telangana. Finally, in response, Chidambaram announced on 9 December 2009 that the process for creating Telangana would be initiated. Telangana witnessed jubilant celebrations and the rest of Andhra Pradesh witnessed wide-spread protests. Calls for Jai Andhra, Greater Rayalaseema, Uttara Andhra, Kalinga Andhra, Greater Hyderabad as Union Territory, apart from United Andhra have been raised. Strangely, most parties have changed their mind in a day and said they cannot support Telangana. Assembly in AP and Parliament have been paralyzed for days. Demands for more small states outside Andhra Pradesh have regained currency. Demands for commissioning State Reorganization Committee have also sprung up. In AP, most MLAs and MLCs outside Telangana Region have submitted their resignations. Some

Leaders have started indefinite fasts. Health of many of themis deteriorating. Protests, Rallies, Bandhs etc., are in full swing. Telangana is also persisting and pressing for separation in its own way. Meanwhile, Rajagopal et al started ending their indefinite fasts. Now, Chidamabaram on behalf of Core Committee has put Telangana on hold on 23 December – *"… after the statement (on Telangana on 9 December), the situation in Andhra Pradesh has altered. A large number of political parties are divided on the issue. There is a need to hold wide-ranging consultations with all political parties and groups in the State. Government of India will take steps to involve all concerned in the process….."* Telangana started the fight again. En masse resignations followed.

Notwithstanding whether Telangana and other small states become a reality or not, there is a case for decentralization in federal polity. When USA with 400 million population can have 50 states with less than average population less than 10 million, India can think about at least 60 states with an average state population of 20 million. There is nothing wrong in more than one state per language. Already Hindi's states are multiple. Thus, we need more small states. Telangana will be one. Tomorrow, it can become two more states.

It has to be noted that new small unit does not mean losing out. The newly carved out unit and the remaining unit, both, may show performance superior to the performance when together/ united. The issue is, when one of them is unhappy, whatever be their reasons, for a very very long time, the way forward is to endorse separation.

In a family, if one of the members has opted to be on her/his own and have a separate family, it makes enormous sense that sentiment is respected when s/ he persists for a long time, say more than 60 years, and let her/him lead her/his life her/his way in her/his way. Period. In fact, others have to support her/him in establishing the family in a decent manner, rather than coming in the way.

Decentralization does not end with empowered small states. We need empowered small districts. If I have to say a number, we need at least 1200 districts – one per 1 million population. AP could have 75 districts. We need empowered small blocks/mandals, one per 5000-10000 families. Further, we need empowered Gram Panchayats and Municipalities. It would mean implementing 73-74 amendments to constitution and building further on them. **25 years is a long time to announce the intention to decentralize and actually ensure that this happens and the local governments get empowered.**

Further, empowered units have to ensure increased greater local participation and greater accountability in the delivery of services, which has become possible with units of governance being optimally small. Building plurality of effective leaders, in a variety of fields and disciplines, for these units is also important.

It has to be noted that new small unit does not mean losing out. The newly carved out unit and the remaining unit, both, may show performance superior to the performance when together/united. The issue is, when one of them is unhappy, whatever be their reasons, for a very very long time, the way forward is to endorse separation.

However, when separate, they need to work to a vision and robust strategic plan (s) including building clusters/engines propelling growth spread all across. Further, the separate units need to be weary of rapacious rent-seeking politicians. They need to pursue sound policies that work to support universal inclusion and strong people's institutions, business and social entrepreneurs across sectors, and sound human development indicators including social security. They need to run schools to produce hundreds, if not thousands, of ethical business and social entrepreneurs and professionals who work in ethical business and social enterprises.

At UN Climate Change Summit 2009 (7-19 December), COP15, at Copenhagen, **world leaders have missed an opportunity for ensuring a better and safer planet for our children.** They could not agree to reduce the dominance of fossil fuels and Carbon emissions in our biosphere at large and America and China in particular. So called deal at COP15 contains no legally binding targets and no indication of when or how they will come about. There is no declaration that the world will aim to keep global temperature rises below 2 degree C. Copenhagen has revealed that climate change crisis or carbon crisis is indeed a political crisis at its core. US, EU, and China have not responded well at all, given the scale of the crisis. In fact, there is nothing in this agreement that would persuade energy utilities to go out of business. Negotiations under the Bali Action Plan (BAP) and the Kyoto Protocol (the current treaty to fight climate change) remain inconclusive.

However, something that can cause little cheer is the setting up of $100bn global climate fund. Most of us, who understand development cooperation and funding, can figure out this fund is largely made up of existing budgets. There is no indication of how the funds will be raised and distributed so that poorer countries can go green and adapt to climate change. Of course, BASIC has become stronger.

At COP15, what we saw and heard articulated by the most powerful men who ever lived was nothing less than the very worst instincts of our species. So much for prosperity, peace and sustainability of the planet for our children!

What should we do? We know that dependency is not liked by anyone. We need to let people bridge knowledge gap/ chasm that exists across, enhance choices before people and help them make more informed decisions and seek accountability from these 'powerful' leaders. We need to build and make our promising youth leaders to commit to this agenda.

We may be a facilitator, leader, mentor, entrepreneur, integrator, manager or a communicator in this pursuit. **Whatever we are, we need to make it our business to pursue building mentors of mentors, lead mentors, mentors, professionals, leaders and volunteers. We need to learn and mentor learning. Tirelessly! Persistently! Repeatedly! Again and Again!** ■

Water

Water is fundamental to the genesis and perpetuation of life. There is practically no livelihood on earth that is either directly and/or indirectly not dependent on water. In the Indian subcontinent, from the East to the West and from the North to the South water has defined life and livelihoods for thousands of years. Civilizations have historically begun and flourished around rivers and waterways. Water ensures sustained availability of food-chain. While all livelihoods depend on water in some way or the other, there are several livelihoods that the water sector itself creates. 'livelihoods' focuses on this *elixir of life* to know its relation to the livelihoods of people, particularly of the poor and the issues that exist in the water sector.

“How can we sow anything without water? What will my cow drink? Drought is so often here. Water is our life” - A resident of Orgakin, Russia

“I repeat that we need water as badly as we need air” – A woman, Kyrgyz Republic.

These are the opinions drawn from a World Bank research in 1999 involving 20,000 poor women and men from 23 countries. In this study poor men and women from all the countries described their daily struggles to obtain water for human use. Most of them felt water means so much for them. This is really true. Water is everything for all of us. It fulfills the needs of both our life and livelihoods.

Water is a ubiquitous chemical substance that is composed of hydrogen and oxygen and is essential for all known forms of life. In typical usage, water refers only to its liquid form or state, but the substance also has a solid state, ice, and a gaseous state, water vapor or steam. Water covers 71% of the Earth’s surface. On Earth, it is found mostly in oceans and other large water bodies, with 1.6% of water below ground in aquifers and 0.001% in the air as vapor, clouds (formed of solid and liquid water particles suspended in air), and precipitation, Oceans hold 97% of surface water, glaciers and polar ice caps 2.4%, and other land surface water such as rivers, lakes and ponds 0.6%. A very small amount of the Earth's water is contained within biological bodies and manufactured products.

Civilizations have historically flourished around rivers and major waterways; Mesopotamia, the so-called cradle of civilization, was situated between the major rivers Tigris and Euphrates; Indus valley civilization flourished across the river Indus; the ancient society of the Egyptians depended entirely upon the Nile. Large metropolises like Rotterdam, London, Montreal, Paris, New York City, Buenos Aires, Shanghai, Tokyo, Chicago, and Hong Kong and our own metropolitan cities like Mumbai, Chennai and Kolkotta owe their success in part to their easy accessibility via water and the resultant expansion of trade. Islands with safe water ports, like Singapore, have flourished for the same reason.

India is blessed with many rivers. Twelve major river systems drain the subcontinent along with a number of smaller rivers and streams and form a total catchment area of approximately 252.8 Mha. Groundwater represents one of the most important water sources in India. Total replenishable groundwater potential of the country has been estimated by the Ministry of Water Resources as 431 Km3 per year. India has a tradition of worshipping water as god as water remains a source of life. Access to adequate water supply can enhance a wide range of assets; both tangible and intangible.

Water has multiple uses in the people’s lives. All living beings need water for drinking and cleaning. Human beings use water for wide range of domestic purposes like washing, cooking, cleaning and drinking. Water is essential for industrial development as it is an important source of energy. Many small scale and large scale industries need water for production related activities.

Water plays an important role in many aspects of people’s livelihoods. In an agrarian country like India, the economy will not thrive without sufficient water. About 60% of Indian population that is dependent directly on agriculture is also directly dependent on water. Other occupations of poor people like livestock rearing, fisheries, salt farming etc are also dependent on water. Small scale and large scale Industrial development, which is also providing employment for many, has become possible only because of water and the power generated by it.

Agriculture is the major consumer of water in the world. The most important use of water in agriculture is irrigation, which is a key component to produce enough food. Other related sectors like horticulture, floriculture are also dependent on water resources. Nursery rising is another livelihood that is dependent primarily on water. Being a big country with large population to feed, India can’t solely depend on rain fed cultivation. Realizing the importance of irrigating vast area of land, India had to invest in the construction of large irrigation structures like dams, canals etc. Hence huge investments had been made towards this in the past years. Efforts are also in progress to connect all the major rivers across the country to meet the growing needs for water. Other methods of bringing ground water for irrigation using bore wells also became popular. In this process of building large irrigation infrastructure and indiscriminate digging of bore wells, the traditional irrigation structures like tanks, ponds etc have been neglected over the years leading to depleting ground water resources. Many studies have shown that the efficient way of providing irrigation to larger area is to have smaller irrigation structures than to have big projects. In fact, the irrigation facilities created so far has benefited mostly the rich than the poor. In many places, poor are being displaced from their livelihoods without being adequately compensated in the process of constructing big dams. All the technologies that are meant to improve irrigation and water facilities are not accessible to all uniformly. Even in this context the rich and the powerful are benefited more and poor have not been able to access them at all but are bearing the brunt. For example, bore well is one technology that brings ground water to the surface. However, digging of a bore wells is an expensive affair that only rich farmers can afford. Because of indiscriminate digging of bore wells, ground water as well as the water levels in the tanks and ponds depleted. Small farmers who are mostly dependent on the tanks to irrigate their lands are suffering as there is no sufficient surface water for irrigation nor can they afford to dig bore wells.

India has the largest livestock population in the world. Distributed over 100 million households in approximately 600,000 villages, Indian farmers’ stock animals as varied as

the little known Yak and Mithun to the seemingly insignificant backyard poultry. Of the total households in rural areas, about 73% own some form of livestock. The contribution of this sector to the national economy is estimated to be about 25 per cent of the total value of output of agricultural sector. Water is essential for rearing livestock as animals and birds need water for drinking. Sufficient water consumption is necessary to yield good quality meat and milk. Water is also required to clean the animals to keep them healthy. Shortage of water hinders the families from engaging in livestock rearing.

There is no fish without water. Fish is an important source of food; it provides essential nutrients and proteins required for the body. It constitutes an important part of the meal of many especially for poor families that cannot afford to eat meat in their diet. Indian fish biodiversity in terms of over 2,200 fish and shellfish species in the marine, brackish water, freshwater and cold water environments is a rich and diverse resource available with few countries in the world. The inland fisheries resources include rivers and canals, reservoirs, floodplain wetlands, estuaries, freshwater and brackish water bodies. About 250 million people make a living within a range of 50 km, along the coast of India that is about 8000 km approximately. About 1 per cent of the population in India depends on fishing sector as a primary source of livelihood. Of this 1 per cent about half depend on coastal marine fisheries. Fisheries provide direct employment to more than 6 million and another 6 million are employed in fishery related activities. Water is also a source of wide variety of other sea food like prawns, crabs, snails etc which is also providing livelihoods to lakhs of people. Another water based livelihood vividly seen on the coast is salt production. India is the 3rd largest salt making country in the world producing about 18 mt a year. There are more than 1, 50,000 salt workers in India.

There are many places in India that are dependent on water transport. Many island villages are connected to the main land by the means of water transport. Water transport includes small rafts, boats, ferries and launches which provide livelihoods to many poor people in these areas. Many other livelihoods in the island villages are also dependent on this essential service. Large scale exports across the world takes place through sea route. This is the cheapest means of transport through which bulk quantities of goods are transported to other countries. Many people have been employed in the business of shipping, loading, unloading and other support activities like repairing to boats, packing etc.

Many rural non-farm livelihoods especially pottery, handlooms, washing clothes etc are heavily dependent on availability of water. Traditionally the people dependent on these livelihoods had specific source of water to carry on their activities. With the depletion of water resources in rural areas these livelihoods are facing lot of problems. Due to the problem of water coupled with other problems such as lack of raw material, marketing etc, many of these people are moving out of these livelihoods.

Hotel and food processing industry is another major consumer of water as water is an essential ingredient in the preparation of food. It is also used for cleaning and is served along with food in hotels and other food joints. 1.6 million People in India are dependent on food processing activities for livelihood. In the coming 10 years, this number is expected to reach 9 million which is indicating a growing demand for water resources in this industry.

There is a growth in entertainment and tourism industry around water. There are no cities without water parks that provide various water sports for entertainment. Most of the temples and pilgrim centers in India are situated on the banks of the rivers or on the sea shore. Developing on this trend many beach, river and backwater resorts and restaurants have been developed around the theme of water. These locations are hubs for various livelihoods starting from a small vendor who sells ground nuts, sea shell crafts etc. on the beaches to the people work in big restaurants and resorts.

The first activity in a day for any woman is to collect water for various family needs. In many places, the sources for various needs of water are different and therefore needs to be collected separately. Potable water is collected from any well, tank, river, stream etc. This water is generally hard and can be used only for washing and cleaning purposes. Drinking water is a very scarce resource for many and to be collected separately and many times by paying a price. Access to both potable and drinking water is not uniform across the country. There are many places where people have to walk miles and spend lot of time to fetch some water. Even when water is available, access to water is restricted to only some sections of people in some places. The other marginalized sections of people have to fetch water from separate sources. In India on an average each household spends around 12 hours every month in collection of water. Time spent on water collection represents time lost to household and national

economies. Every month, the Indian economy misses out on over 100 million working days in this way. Apart from this, lack of access to safe drinking water affects the health of people which results in further loss of working days. For monitoring purposes, the World Health Organization/United Nations Children's Fund (WHO/UNICEF) Global Water Supply and Sanitation Assessment 2000 Report specifies reasonable access to water as at least 20 liters per person per day, from an improved source within 1 km of a user's dwelling.

Access to safe drinking water is still a far away reality to many households even after 60 years of independence in the country. Many rural households and urban slum dwellers have no access to safe drinking water as well as potable water. Water essential to carry on livelihood activities is also increasingly becoming inaccessible to many. There are many reasons for this situation. The degradation of water harvesting structures like tanks, ponds etc and also the depletion of ground water resources are not the only reasons for this situation but also the improper management of water resources by the state. Previously water resources management was a function of community but later it shifted to the state. State did not have the wherewithal to manage this and the depletion of water resources is a resultant of this shift in management.

Between 1950 and 1995, over 500,000 million rupees were spent by the State on the creation of surface storages, big, medium and small, and creating a storage capacity of around 20 million hectare meters. There is, however an opinion that full benefits have not been realized from them (Vohra, 1996), due to faulty measures. It was felt that adequate attention was not paid for storage of water mainly in the form of soil moisture and groundwater. Soil and water conservation was not given the priority that it needed. Out of about 350 mhm of precipitation that the country receives annually, about 160 mhm are lost to the sea as river flows, around 20 mhm are stored as surface water, around 125 mhm as soil moisture and around 45 mhm as groundwater. A nationwide programme of afforestation and soil and water conservation could reduce the run – off losses by 25 per cent. Due to poor drainage, water logging, and salinisation of the soil, the lands once fertile have been lost to production. Over exploitation of groundwater has resulted in the lowering of water tables to an alarming level in several States and coastal areas.

With excess usage of water by few in the elite sections of the society and resultant increase in per capita use of water is also one of the reasons for water scarcity. Water pollution by the industries is also contributing to the scarcity of potable and drinking water in the country. Most of the industries release the used, untreated water into the canals, tanks and rivers nearby which is making the water pollute and non-usable. It is estimated that some 2 million tons of waste per day are disposed of into the waters in the world, including industrial wastes and chemicals, human waste and agricultural wastes (fertilizers, pesticides and pesticide residues). Although reliable data on the extent and severity of pollution is incomplete, one estimate of global wastewater production is about 1,500 km3. Assuming that 1 liter of wastewater pollutes 8 liters of freshwater; the present burden of pollution may be up to 12,000 km3 worldwide. As ever, the poor are the worst affected, with 50 percent of the population in the country is exposed to polluted water sources.

Climate changes are also contributing to this scarcity in water as they affect the water cycle. In the recent years the pattern of rainfall in the country has changed because of increased emission of green house gases, deforestation and rise in the sea levels and air temperatures. As a result, the monsoon which provides 70 percent of annual precipitation in a four-month period, is affected. It also leads to the melting of Himalayan glaciers which further leads to rise in sea levels which submerge the islands and increase the pressure on the main lands to accommodate livelihoods of the people living in the islands. As we have seen in the case of Kiribati Island, which submerged in Pacific Ocean, the displacement of lives and livelihoods not only affected its inhabitants but also lead to conflict between neighbouring countries i.e. Australia and New Zealand. With raising sea levels agriculture plains are threatened by salt water intrusion leading to food shortage.

Both government and markets have responded to this water crisis in different ways. Several technologies have been introduced for efficient water management like rain water harvesting through proper soil and water conservation measures like contour bunding, contour stone wall, and contour trenching, and by providing check dams and

construction of percolation tanks. The ancient system of water conservation, based on the principles of rain harvesting, by constructing tanks to trap the entire runoff water of one region at one place, is being revived and many such tanks which have gone out of use are being cleaned up for reuse.

Many private firms have started water purifying plants and have also put in place channels for distribution. In few urban areas even potable water is supplied by tankers. The business of providing water has several layers to it at each layer the process of purification that the water goes through varies. Today we have various water purification technologies. There are filters that remove impurities, invisible micro organisms, remove harmful minerals and chemicals like fluorine, iron and salts and make water fit to drink. There are complex filtration processes that make waters fit to be used in laboratories and preparation of medicines. Now the water industry is wide spread across the country and is providing employment in manufacturing of purifiers, purification process, packaging, maintenance, distribution and selling. Purified water has reached every

nook and corner of the country today so much so that a small petty shop in a remote village has a stock of packaged water starting from a two rupee packet to 25 liter water can which costs Rs 25. In public places one can find water vending machines that provide water on a payment starting from one rupee per liter.

Involvement of market in the water business has two sides to it. On one side it has made drinking and potable water available at the door steps and on the other hand with the entering of market, water has been made into a commodity making the fundamental need of the people unavailable to many. It is also surprising to hear from the governments like Andhra Pradesh that they want to partner with some private agencies to provide safe drinking water to the people at a cost as a welfare measure. When it is the primary responsibility of any government to make essentials like water accessible to all people, how can a government 'sell' it at a price?

Poor are the worst sufferers of the consequences of water shortage. It is evident that lack of water poses threat to the life and livelihoods of all people. But poor will be the most affected as they will not have resources to buy water from the market and also they lack the power to negotiate with the state. Being an agrarian economy, water scarcity also means shortage in food production. If this happens, the poor will not only have no water to use but in future they will also not have enough food to eat. Small farmers suffer as they will not able to cultivate the land and become wage labour as the rich farmers compete with them for the meager water resources. As the small farmers themselves are going to join the bandwagon of wage labour, the people who are already working as wage labour suffer as their number of days of employment and wages reduce with the increased competition.

In case of livestock rearing, water scarcity can result in shortage of fodder and reduction of grazing lands. The poor farmers will be forced to buy fodder for their livestock paying high prices. Water pollution caused by industrial, agriculture and domestic waste is responsible for extinction of many fish species and also to the reduction in fish production. The poor fisherman will not get good harvest and will be forced to go for deep see fishing which is beyond his capacity in terms of resources. He might end up becoming a wage labourer for a big fishing contractor rather than pursuing his own livelihood. Similarly the non-farm sector suffers as many of the activities carried out by the people in this sector are dependent on water. Most of these non-farm livelihoods are dependent on agriculture and when agriculture suffers it impacts on the non-farm livelihoods which are mostly pursued by poor people.

Apart from posing a threat to the livelihoods of poor, water scarcity is also posing threat to their quality of living. Safe drinking water is increasingly becoming a commodity which only people who are able to buy can access. Even though the government is supplying safe drinking water through its water supply programs, people do not consider it so safe to drink that water. The recent incident in Hyderabad city where many people in a slum died after drinking contaminated water supplied by government is an example of the quality of the service provided by government. As a result of such incidents people don't trust the water supplied by the government as safe and prefer to buy water sold in the market. The poor people who cannot afford to buy water have no choice but to drink the contaminated water as there is no alternative source of safe water for them. As a result, the poor people are more prone to water-borne diseases. Ill health to a person in a poor household results in increase in health expenditure, loss of employment days and there by income and also loss of valuable life in some cases. Water scarcity also increases the drudgery of women as women have the responsibility of collecting water for the household needs. With scarcity of water, women need to spend more time to walk longer distances to collect water.

Government seems to be more concerned with short term measures like building rain water harvesting structures and partnering with market to provide drinking water etc in response to this situation. In this busy business it is forgetting the larger picture of addressing the issues related to climate change, which if neglected will lead to no rains to be harvest at all.

To regenerate sources of water, concrete steps like reducing the emission of green house gases by using eco-friendly technology, reducing usage of chemical fertilizers and pesticides by promoting organic methods of cultivation, conserving energy by promoting usage of renewable energy sources like solar and wind energy, conserving trees and forests etc. need to be taken up immediately as a measure of addressing climate change. Apart from this, a balance has to be maintained between investments on promoting smaller traditional water conservation methods and big irrigation projects. There should be tougher policies towards penalizing the industries which releases untreated water waste into fresh water resources.

Efforts should also be made towards bringing awareness among public on water conservation like controlling the wastage of water, constructing small rain water harvesting systems at homes, eating only seasonally available food which reduces pressure on farmers to grow unseasonal food crops using more water and other resources.

The present thought is to revive the traditional rain water harvesting structures. Interventions are being made in this regard by building check dams, desiliting ponds and tanks, putting restrictions on bore-wells etc which is not only addressing the issues of water scarcity, but is also providing employment to people engaged in this work. But these interventions not seem to be enough. Many more interventions need to be planned, implemented in an integrated manner. The community's traditional knowledge over resources needs to be integrated with the technical and expert knowledge so that local level plans to revive water resources emerge. Community should have a greater role in this planning, implementation and management activities.

Couple of decades ago many did not imagine that the days of buying drinking water are around the corner. So is the case with depleting water resources today. We are witnessing water wars between states, people migrating because of lack of water and other dire consequences. How much longer waits and longer distances does it mean for our women to fetch a pot of water ? When water, the very source of life cannot be saved, then everything else is just a matter of opinion. Can we wait further to have an integrated water management system in place? ■

...Believe in Self

Vineela, who is an inspiration to many others, faced all odds in life and every time she faced a trouble she emerged bolder and stronger. 'livelihoods' interviews this young woman to know more about her inspiring life.

Q: What is your name?

A: My name is Vineela Devi.

Q: What is your home town?

A: I belong to the town Machilipatnam which is in Krishna district of Andhra Pradesh.

Q: Can you say about your family?

A: My father used to work as a police constable. He died when I was very young due to some health problem. My father has four brothers. When our father was alive, we and all the families of my paternal uncles used to live together. Even after the death of my father we all continued to live together.

Q: Can you tell us about your studies?

A: I studied in Machilipatnam since the beginning and completed my graduation. I wanted to continue my studies further and to do social service but my family's financial position did not allow me to do so. Even when I was in my graduation, I worked as an LIC agent to support my mother at least to some extent. Later I stopped my education after graduation.

Q: Why, has your family's financial position become so bad?

A: My mother is an uneducated housewife. After my father's death, she had no option but to depend on our paternal uncles to survive. They were not interested to send me to higher education as it costs them much. Apart from that my uncles cheated us by not giving our share in the common property when they were distributing the property among themselves. We had no one with us to question this injustice done to us. My mother and I had no option but to keep quiet. But this incident made me stronger and I decided to come up on myself without depending on anybody.

Q: What did you do after stopping education?

A: Though I stopped education, I always wanted to pursue higher studies. Further due to my family's economical situation I thought that I should not sit idle at home and should do something to grow personally and financially. With this zeal I came to Hyderabad with support of a relative and started search for a job.

Q: When did you come to Hyderabad and what did you do immediately after coming here? Did you face any problems initially?

A: I came to Hyderabad about one year back with some little money that I was able to save from my first job as an LIC agent. I left my mother there in Machilipatnam itself as I thought after I settle I can bring her to Hyderabad. Immediately after coming here, I stayed at one of my relative's house and started my job search. My relative's family treated me well in the initial days but after few weeks they started treating me as a burden.

Q: What did you do then?

A: As my relatives treated me as a burden on them I decided to shift from their house. Some other relatives at Hyderabad called me to come and stay in their houses. But I did not go. I decided to stay away from all relatives and hence joined a working women's hostel. Since then I am staying in hostel only.

Q: How did you try for job? Did you face any problems in searching for a job?

A: In the beginning I approached a consulting agency to get a job. I Paid Rs 15000/- to that agency with a hope that they will find a job for me. But the consultancy people did not show me any opportunity and also they cheated me by not paying my hard earned money back. I felt very depressed at that time. But very soon I recovered from depression and tried for a job on my own. I attended as many as 30 interviews without losing confidence. At last I got a job in the commercial tax department. Now I am leading quite comfortable life.

Q: In the beginning you said that you are interested in social service. Are you planning to do something?

A: I am already doing whatever I can. I adopted two orphan children and giving them education. I joined one destitute elder in an old age home by paying my own money. But I am not satisfied with this. I want to do more. I pray to god to provide me opportunities to serve more number of people.

Q: What is the reason behind the thought of adopting children?

A: Without parents it is very difficult to live. I know personally what it means to a child. After my father's death I faced many humiliations and suffered a lot to come to this position. I thought I should help at least some orphan children in their studies.

Q: Didn't you think it as a difficult task to adopt children without any support?

A: I knew that it is a tough thing. But still I took this decision and went ahead as it is something I really like to do.

Q: How is your life now and how do you feel about your life?

A: I really feel proud about myself sometimes. With nobody's support I am able to lead good life and I am also supporting others as far as I can. My adopted children are staying in a good hostel and studying. I am also pursuing MBA course through distance education. I was cheated and humiliated by my own people many times. But I never felt depressed. In fact I emerged as a strong and bold woman with these incidents. I realize that it is very important to believe in self. If you have belief in yourself, you can achieve anything. This is what I learnt from life. ■

Mineral Water

Water is most important for living; it is difficult to imagine a life without water. There would be no life, at least not the way we know it. We can survive without food for some days but not without water. Water covers ¾ of earth. But nearly all the water is unavailable for human consumption without being processed first. The oceans make up for 97% and the polar ice shields hold another 2%. Only about 1% is soft water from lakes, tanks, ponds, rivers and wells are sources of drinking water. Among this ground water is considered to be the safest for the drinking purposes as it goes through a series of natural filtration processes underground.

Reverse Osmosis Plant Equipment

In urban areas drinking water is sourced from lakes and tanks in the vicinity of the city or some times even from a distance place. This water is drawn to houses in the city through network of water pipes. In most cases these waters go through series of filtration to make it safe for drinking. In rural areas most of the drinking water is provided by tube wells which is directly pumped into a water tank and then distributed through taps. In contrast to the drinking water provided in the cities, in most cases these waters are not treated/ purified before supplying.

With the decrease in the ground water table, contamination of ground water, drying up of lakes, ponds and tanks access to safe drinking water has become a problem. Water is contaminated to such an extent that simple filtration processes under taken by water works department in the cities have failed in making water safe to drink. Ground water is also mixed with minerals and chemicals making even tube water unfit for consumption. As a result there is an increase in the cases of chronic water bound diseases.

In this context usage of mineral water has increased. What used to be a prerogative of hygiene conscious person, has today become a necessity for all. With the advent of superior technology and spending power, every day the consumer expects products which not only enrich their health but also enhance their life styles.

Mineral water contains minerals or other dissolved substances that improve the taste or give it therapeutic

Inputs	Pre-purification	Purification	Post-purification	Marketing
➢ RO Plant Equipment ➢ Labour ➢ Finance ➢ Small Shed ➢ Power ➢ Water storage tanks. ➢ Water cans ➢ Bottles ➢ Trolley vehicles to carry water ➢ Bore to extract ground water	➢ Build a small shed to put RO plant ➢ Electrification ➢ Set up one water bore to extract ground water ➢ Extracting water everyday using the electric bore.	➢ The procured water goes into RO system ➢ Purified water is collected into big containers	➢ After getting the pure drinking water, it can be stored in the big tanks to distribute water itself ➢ Water is packed into big and small containers and also into bottles.	➢ Purified water is transported directly to the regular customers in autos ➢ Transporting the water cans to the retail outlets.

value. Salts, sulfur compounds, and gases are among the substances that can be dissolved in the water and can be made sparkling. Mineral water can be prepared or can be obtained from naturally occurring mineral springs. In many places, mineral water is often colloquially used to mean carbonated water, which is usually carbonated mineral water, as opposed to tap water.

Before too long, in the pre-liberalization era, the bottled water market in India was a miniscule market catering to only the upper strata of society, travelers and conference meetings in five star hotels. Even today in comparison to the global scenario, the Indian market for processed bottled water is a very small. For example, the per capita consumption of mineral water in India is a mere 0.5-liter compared to 111 liters in Europe and 45-liter in USA.

In India sale of mineral water has witnessed tremendous growth in the last ten years. Once a product found mainly at railways stations, mineral water today occupies a place on the shelf in most superstores, grocery shops and even paan shops. With a compounded annual growth rate of close to 30% over the last decade, the mineral water market has witnessed a large growth in terms of volumes. From a mere 60 towns in the year 1997, it is predicted that mineral water is today available in more than 1000 towns and cities across India.

Cost to produce one liter mineral water: Rs 0.60

Wholesale selling price of one liter bottle: Rs 9.40

Distributor price of one liter bottle: Rs 10.40

Retail selling price of one liter bottle: Rs 14

The bottled water industry is one of the most thriving sectors in India. India is the tenth largest bottled water consumer in the world. The market is growing at a whopping rate of about 30-70 per cent annually and is expected to cross Rs. 1000-crore mark within the next couple of years. The total annual bottled water consumption in India had tripled to 5 billion liters in 2004 from 1.5 billion liters in 1999. Global consumption of bottled water was nearing 200 billion liters in 2006. Almost all major national and international brands have taken a plunge. Parle's, Bisleri that virtually monopolized the bottled water market is now competing with Nestle, Coca Cola, PepsiCo, Manikchand, UB and Britannia. According to a national-level study, there are close to 200 bottled water brands in India. Nearly 80 per cent of these are local brands.

Groundwater is the major source of water in our country with 85% of the population dependent on it. Both the communities and the majority of the bottling plants are dependent on groundwater. This can created huge water stress in the areas where these bottling water plants are put up. This has also resulted in conflict between the community and owners of the bottling plants. Private companies have the technology of siphon out, exhaust and export groundwater free because the groundwater law in the country is archaic and not in tune with the realities of modern capitalist societies. The existing law says that "the person who owns the land owns the groundwater beneath". This means that, theoretically, a person can buy one square meter of land and take all the groundwater of the surrounding areas and the law of land cannot object to it. This law is the core of the conflict between the community and the companies and the major reason for making the business of bottled water in the country highly profitable.

Water being a core requirement for existence companies need to play socially responsible and proactive role. There is a need to strike a balance between making a profitable business and not denying people of their basic need and protect themselves from water bound diseases. Government has a more important role in protecting rights of the people as well as providing scope for business development. Water bottling industry also provides livelihoods to many people like technicians, store keepers, distribution team and others. ■

Freshwater Action Network South Asia (FANSA)

Freshwater Action Network (FAN), a major network of Civil Society Organizations (CSOs) implementing and influencing water and sanitation policies and practices throughout the world, is working with a vision of creating a world where water is respected and protected as an essential resource for all forms of life and universal access to water and sanitation is achieved responsibly and inclusively.

FAN was established after 2nd World Water Forum in March 2000 as a freshwater advocacy network. It was obvious that local NGOs working on delivery of water and sanitation had so much to contribute but no organization was around to facilitate their participation in policy processes. FAN was set up to ensure that CSOs working on water or sanitation issues were strongly represented at international water policy forums their voices are heard during the increasingly political water debates. FAN has many regional networks such as FAN-Central America (FANCA), African Civil Society Network on Water and Sanitation (ANEW), FAN-South Asia (FANSA), FAN-Mexico. Over 600 organizations are currently registered as FAN members representing countries from all regions.

FAN South Asia (FANSA) is meant for India, Bangladesh, Nepal and Pakistan. It is working with the Mission of empowering CSOs through realization of water and sanitation right for present and future generations and working with vision of universal access to water and sanitation as an essential resource for all forms of life.

FANSA aims to strengthen the engagement of CSOs in policy-making and development initiatives to achieve the international targets on water and sanitation, improve regional co-operation between CSOs of different perspectives, priorities and skills and increase the number of NGOs to advocate and communicate clearly on water policy issues and the broader agenda.

FANSA subscriber membership is open to all NGOs, community organizations who are local implementers of policies and programmes, working in challenging situations, such as urban slums and degrade environments, with weak governance and inadequate legal or regulatory frame works or NGO networks respected for their unique skill, experience, perspective providing innovative approaches to water management with an interest in water and sanitation and/or integrated water resource management and who are committed to the vision of FAN. Also individuals, organizations or interest groups involved in sustainable water management and water supply and sanitation are being considered as solidarity members.

Members of FANSA benefit from information shared and developed by FANSA and also expected to provide information for sharing and dissemination. This includes top quality and up-to-date information on water policies and civil society actions from around the world through their website, e-bulletin and newsletter in English.

FANSA develops all its activities based on the following principles and postulates:

1. The access to safe water and sanitation is, above any other consideration, a fundamental human right. The states must guarantee the access of all population to these services without any kind of gender, ethnicity, religion, economic situation or geographic location discrimination.
2. The water is and must continue being a good of public domain given its vital and strategic natures for all nations in the world. Therefore the water is not, nor can be merchandise; nevertheless it has economic value in all its uses.
3. Potable water supply and sanitation must be managed and provided by non profit organizations, communities, local governments or National States and all management of water resources must be done with an active participation of users, communities and their organizations.

FANSA actively identifies opportunities for members to access policy makers at the national and regional levels. It works to ensure that during discussions that affect gross root water users, the right people are in the room to present their experiences and share knowledge of how progress can be made. It lobbies for the members to be invited to key meeting and conferences and facilitate their participation. It works to increase the number of NGOs, advocates equipped with the skills and tools to communicate clearly on water policy issues.

FANSA organizes international meetings that offer opportunities for civil society to come out of the field and their local environments and to share their local experiences and influence policies at the international level. The learning potential is high with many opportunities for learning and forging relationships with other organizations working on similar issues through networking with diverse actors outside of the meeting rooms. FANSA held a civil society South Asian Conference on Sanitation (SACOSAN) meeting of 70 grassroots organizations from all over South Asia recently along with Water Aid and the Water Supply Sanitation Collectively Council (WSSCC) to review the commitments made on sanitation by South Asian governments. Water Aid India, WASH forum and FANSA organized a planning meeting to look at the right to water and sanitation in India and to share experience of securing rights for education, health, food and water.

FANSA is doing a unique service by bringing together the diverse skills, knowledge and experience of various Civil Society Organizations working on water and sanitation and is influencing the governments across South Asia to formulate pro-poor policies in water sector. ■

Water Purification Systems in India

According to a 2007 World Health Organization report, 1.1 billion people lack access to an improved drinking water supply, 88% of the 4 billion annual cases of diarrheal disease are attributed to unsafe water and inadequate sanitation and hygiene, and 1.8 million people die from diarrheal diseases each year. The WHO estimates that 94% of these diarrheal cases are preventable through modifications to the environment, including access to safe water. Simple techniques for treating water at home, such as chlorination, filters, and solar disinfection, and storing it in safe containers could save a huge number of lives each year.

There are many large and small companies in India that provide safe drinking water to the people. Widely varied techniques for water purification are available to remove the fine solids, micro-organisms and some dissolved inorganic and organic materials. The choice of method will depend on the quality of the water being treated, the necessity and need of the situation. Some of the most commonly used water purification methods are

Distillation: This is a long established process for water purification in which water is heated until it evaporates and the vapour is condensed and collected. Feed water is pumped into a pressure vessel containing a spiral or set of hollow fibres of semi-permeable membranes. The purified water passes through the membrane to form the 'permeate'.

Ion exchange: Ion exchange is widely used in laboratories for providing purified water on demand. Anions and cations in the feed water are removed by ion exchange resins and are replaced by hydrogen and hydroxyl ions from the resins. The hydrogen and hydroxyl ions combine to form water molecules.

Reverse Osmosis: Reverse osmosis (RO) is a process that overcomes many of the shortcomings of distillation and ion exchange. It is a process of water treatment, under high pressure using special membranes to remove suspended, hard, dissolved, bacterial and chemical impurities up to 0.0001(1 micron=1/10000mm)from water. If a pressure greater than the osmotic pressure is applied to the higher concentration side of the membrane, the normal direction of osmotic flow is reversed, pure water passes through the membrane from the concentrated solution and is thus separated from its contaminants. This is the basic principle of reverse osmosis (sometimes call hyper-filtration).

Mobile Water Purification System: Mobile water purification system enables the supply of water for disaster management operations such as flood, earth quakes and tsunami hit areas. This is the ultra purification system in addition to the ozone purifier. This unit can be used for providing drinking water for people go to deep sea fishing.

Electro Deionization: Electro deionization (EDI) is a purification process that is electrically driven and features a combination of ion exchange resin and ion-selective membranes. EDI, which is normally coupled with reverse osmosis, provides a useful alternative to other purification methods. It provides laboratory reagent water at high volumes without the need for deionization cartridges. This approach avoids the decrease in product water quality associated with cartridges as they become exhausted as well as the associated cartridge replacement costs.

Ultra Violet Water Purifier Machine: Ultra Violet Water Purifier Machine offers a wide variety of soda water machinery with its associated accessories, filling machines, capping machines and labeling equipment. The Ultra Violet Water Purifier Machine is designed for a maximum flow rate of 500 liters per hour. The compact size of the unit makes it ideally suitable for all industrial / commercial purposes where crystal Clear pathogen free water is required instantly.

Analytical Water Purification System: Analytical Water Purification System used for the pharmaceutical and biotech industries for laboratory research and analysis in research centers and educational institutions

Ultra-filtration: Ultra-filtration uses a covering very similar in design to reverse osmosis, except that the ultra-filter pores are slightly larger, from 0.001 to 0.02 micron. For pyrogen removal the pores of an ultra-filter should be about 0.002 microns in diameter or less and should exclude all molecules with a molecular weight of 5,000 or larger. This is used for drinking water through reducing the bacteria.

Photo-oxidation: Photo-oxidation uses high intensity ultra-violet radiation to destroy bacteria and other micro-organisms and to cleave and ionize any organic compounds for subsequent removal by ion exchange cartridges. Radiation with a wavelength of 254 nm has the greatest bactericidal action, while radiation at shorter wavelengths (185 nm) is most effective for the oxidation of organics.

The above are the various methods of water purification that are generally followed by corporate companies. There are also certain traditional methods like simple filtration, boiling and using the clearing nuts (Strychonus Potatorum) for purifying water which are generally followed by rural people. Actually these methods are simple and less costly than buying water from corporates. But somehow these methods are fading away from people's memory. Now even rural people are accustomed to buy bottled water as many mineral water companies penetrated into rural markets. This is actually increasing the expenditure of people. There is a great need for increasing awareness regarding the consumption of purified drinking water to protect people from water borne diseases and at the same time there is also a need for bringing the purified drinking water at the door steps of the people at free of cost. ■

Water at what Cost?

One of the main causes of low state of health in India at the time of independence in early 1950s was lack of safe water supply and sanitation, among other things. Even after six decades things are more or less the same, as we lack pro poor policies. Water, that supports life is available in abundant on earth. It was believed that these are non-exhaustible resources and is being exploited by profit making business houses backed by the State. Today we are in a situation where there is water pollution, scarcity of drinking water, drought etc.

If you look back at the past and forecast the future it will not take some rocket science to understand the fact that water was in abundant and fit enough to use and available to all. There were few exceptions as in case of dry areas, where the only source was ground water and water spring.

If we look at the data available from the table given, most of the Indians living in the villages use river and ground water as main source for drinking water. Gradually the demand and usage of water has increased due to industrialization, globalization and increase in the world population. Because of the uncontrolled extraction of water by the industries and companies that sell water, the level of ground water is coming down drastically and the rivers are getting polluted. In a country like India which has the second largest population in the world, government has come under pressure to supply clean and safe drinking water to its citizens.

When already in a pathetic condition, people in the country got another jerk in the year 1990 when India opened its door for foreign investments without any stringent polices to control their operations. Though foreign investment in the form of MNCs has benefited Indian economy by creating more jobs the problems created by them are many. One such problem is unlimited exploitation of natural resource without estimating its long term effect and impact. One such impact is depleting water resources leading to water scarcity.

Private companies have green signals from the government to harvest water from all kinds of water sources like ground water, river, streams and others. Water privatization in India has taken the dominoes form of leasing out certain stretches of rivers to private parties (Indian or multinational) in recent years. Such rivers are Sheonath in Chattisgarh, Bhavani in Tamil Nadu, water from Upper Ganga canal in Uttar Pradesh etc. A 22.6 kilometre stretch of

Sheonath river was leased out for 22 years to Radius Water Limited, a private company, to build a dam and use the water exclusively to the nearby industrial estate. Simultaneously Government also put restrictions on farmers belonging to 13 villages along the river. They were stopped from install tube wells within one kilometre radius from the river. Traditional fishing by the villagers is not allowed. There are restrictions on the cattle in entering the Sheonath river. From the Bhavani river, a tributary of Cauvery, 100,000 litres of water is supplied daily to Coca Cola even as there is widespread drought and water scarcity in Tamil Nadu (Shiva et al, 2002). Similarly several villages in the downstream of a check-dam across Vaitarna River in Maharashtra State have started facing water scarcity for drinking as well as cultivation after the Coca Cola was given permission to draw 300,000 litres of water a day from the reservoir. The villages had no water problem till then. The crucial decisions about water privatization between the companies and the governments are made behind closed doors without the knowledge of the citizens.

Water from an unlimited and available natural gift for India has changed into a limited resource and unavailable in many places of the country. This is due to the mishandling of water sources like river, lakes etc and uncontrolled extraction of ground water. This commodity has now become a *'product'* under different brand and selling at Rs.10 to Rs.15 per liter. In a local brand a 20 liter jar costs Rs.25 to Rs.30 where as for branded water cost around Rs.50 to Rs.60. It is a hard fact that to make more profit the drinking water providers are cutting their cost incurred

Percentage Distribution of Households by Principal Source of Drinking Water and Sanitation in India: 1988-1998

(Source: NSSO, 1999)

Source	Rural			Urban		
	1988	1993	1998	1988	1993	1998
Tap	15.5	18.9	18.7	72.1	70.4	70.1
Tubewell, hand pump	39.1	44.5	50.1	17.2	18.5	21.3
Well	39.1	31.7	25.8	9.2	8.6	6.7
Tank, ponds etc.	2.2	2.1	1.9	0.3	0.8	0.3
River/canal/lake	2.4	1.7	1.3	0.3	0.1	0.2
Spring	1.4	0.9	1.7	0.2	0.1	0.1
Other	0.6	0.3	0.4	0.8	1.4	1.1
All	100.0	100.0	100.0	100.0	100.0	100.0
No latrine used	89.0	85.8	82.5	31.8	30.6	25.5

Global coverage figures from 2002 indicate that, of every 10 people:

· roughly 5 have a connection to a piped water supply at home (in their dwelling, plot or yard);

· 3 make use of some other sort of improved water supply, such as a protected well or public standpipe;

· 2 are unserved;12

· In addition, 4 out of every 10 people live without improved sanitation.

in scientific purification and sterilization process.

If the government sells all the rights of providing safe drinking water to private bodies, amount expended by a family to avail safe drinking water from the market will increase. It could be possible the free drinking water supplied by the government will not be safer to drink due to corruption at the processing and supply end as well as there could be pressure from the corporate to abolish free drinking water supply system.

For example if you take an average consumption of drinking water for an adult they need nearly 5 liter and children and teen-agers need 3 liter per day. For a four member family with two children it will be 16 liters per day for that family and monthly consumption will be 480 liters which costs nearly Rs.720 per family per month for safe drinking purpose. If this condition prevails, more than 40% of the country cannot access the safe drinking water and with due course of time the percentage will go high and drinking water will become a premium product in the hands of rich.

There will be soon such conditions, if we neglect the situation and intensify privatization of water sources. Water will become a commodity and get a place in various commodity exchanges in the world as the gold is being traded now. Not only this, it will be in the consumer price index and whole sale price index to measure the inflation and price movement cause due to increase in the prices of safe drinking water.

If this happens the precious gift given by nature will be taken away from the hands of poor and rural people. Government's dream of '**Garibi Hatao'** will be anyway be fulfilled as there will be no poor people left. It is high time that the government should study this situation carefully with a different lens to ensure that the right to free and safe drinking water is protected. ■

Nilendu Mukherjee

GMRVF announces a 6 months course on 'Advanced Practicum on Practices in Community Services'

GMR Varalakshmi Foundation, Hyderabad in affiliation with Indira Gandhi National Open University is offering a 6 months Certificate Course on 'Advanced Practicum on Practices in Community Services'.

Eligibility: MA (Social Work) and MSW or any other Masters.

Only 6 seats are available.

The course will start in Jan 09 and will have a major component of field training along with some components of classroom teaching. The place of work will be Shamshabad, Rangareddy district, Andhra Pradesh.

Candidates will have to pay fees of Rs 1000/ for the course (covering fees directly payable to IGNOU etc.)

During the course candidates will be provided Rs. 1000/- stipend per month.

Major thrust areas of field work will be:

1. Education

2.Health, Hygiene and Sanitation

3.Empowerment and Livelihoods

4.Community Development

For registering please contact:

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From Copenhagen?

The rich and the poor countries are fighting once again. The fight is also happening between the developed and the developing countries. All in all 192 countries are fighting; the issue in contention is CLIMATE Change. Who should own up the climate mess? Who should clean it up? Who should pay for it? And many more such questions are raised and very few resolved, poor countries feel lost and developing countries feel compromised while the developed/rich countries pushed across the half-baked Copenhagen Accord on Climate Change this month. The 15th Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) abbreviated to COP15 was held for two weeks this month in Copenhagen, the capital of Denmark.

Discussion on climate change is not the flagship theme of 21st century. These discussions in fact started way back in the late 1700's and early 1800's. Like the two schools that prevail today – the believers and the non-believers about the happening of climate change, there persisted similar two schools in the 17th and 18th centuries. Even among the believers there is a division – while some believe that climate change and the pace at which it is happening is natural others strongly suggest that human emissions of greenhouse gases are accelerating the change for the worse. Way back in 1896 a Swedish scientist, Svante Arrhenius, building on others works, realized eventually that Carbon Dioxide (CO_2) in theosphere would double increasing the temperature of earth and decreasing the snow and ice cover on earth. But because of the low amount of CO_2 in the atmosphere at that time he thought it would take thousands of years for humans to perceive a significant change.

With better instrumentation, more sophisticated theories, better understanding and felt impact across the world, scientists in the 20th and 21st century are able to effectively argue climate change, global warming and the impact of human emissions on climate. In 1979 the World Climate Conference of the World Meteorological Organization concluded that there could possibly be a warming trend by the end of the century and definitely by the next century. In 1985 the conference on the "Assessment of the Role of Carbon Dioxide and Other Greenhouse Gases in Climate Variations and Associated Impacts" concluded that greenhouse gases are expected to cause significant and inevitable warning in the 21st century. In 1988 Intergovernmental Panel on Climate Change (IPCC) was established and since then the panel issued a series of Assessment reports including the last one released which was very conclusive in the role of humans in changing the climate with greenhouse gas emissions.

In 1997, the United Nations Framework Convention on Climate Change (UNFCCC) spawned the Kyoto protocol that was entered into force in 2005. The purpose was to stabilize the amount of greenhouse gases in the atmosphere at a level that would prevent dangerous interference with the global climate. Many countries ratified the Kyoto protocol except the biggest emitter of greenhouse gases – the United States of America. There was no obligation set for the emergent emitters like China and India to reduce greenhouse gas production. There are 5 principle points to Kyoto:

- A legally binding agreement that developed countries must reduce their greenhouse gases
- Implementation to meet the reductions
- Minimize impact on developing countries by creating a fund for them
- Have systems in place such as accounting, reporting and review to ensure the goals are being met
- Establishment of a committee to enforce compliance

The target agreed upon was an average reduction of 5.2% from 1990 levels by the year 2012. Kyoto is considered pretty much dead in spirit even before it lived through its agreed timeframe. Following Kyoto, in 2007 UN climate talks were held in Bali and amidst bitter disagreements the participants agreed to start work on a new global agreement. The road was hence set to Copenhagen.

The scientific side of climate change over the years has received more media attention overshadowing the political and economic dimensions of the issue which are actually controlling the global climate decisions. It is critical to try and answer questions like – who are the culprits that contributed to accelerated climate change and who are the victims; who are willing to and who are forced to clean up the mess and what does it mean to them economically and politically etc.

The unprecedented accumulation of wealth by select few nations/individuals that joined the bandwagon of industrial revolution and continued since did not come for free. It had/ has a cost – Global Warming, a cost that is unfortunately equitably distributed across. While the rich are busy building ways to cope with the cost and devising mechanisms to shift the cost to the poor, the poor on the contrary are struggling to understand the cost itself. Those that are in transition from being poor to being rich are negotiating both ways.

Industrialization, privatization, globalization, liberalization and all associate trends have caused unprecedented increase in the exploitation of resources and increase in indiscriminate consumerism unmindful of the negative consequences for a long time. All this is termed "Development". All the rich today are not willing to go back or even reduce the pace of their "Development". They fear this will invite economic and political backlash. Countries whose political climates are influenced or are being increasingly influenced by the corporate world are highly cautious about making any commitment to help reverse or slow down climate change. Such a commitment might mean environment friendly investment by corporates and hence some dent in their profit margins. However, around the world the realization has dawned that we already reached a tipping point in terms of climate change. Therefore efforts are made to distribute the cost of Global Warming equitably no matter who actually created the cost in the first place.

It is further important to realize that the cost of global warming is not even distributed equitably. The poor are always affected disproportionately. Developing and poor countries have many more livelihoods that are directly and indirectly involved with the environment therefore will be affected greater than developed countries. On a community level, vulnerability manifests itself in developing countries due to a lack of resources and capacity to respond. Poorer communities also have limited means to cope with the losses and damage inflicted by natural disasters. Lack of insurance, savings or credit make it almost impossible to replace or compensate for the numerous things lost or destroyed, including houses, livestock, food reserves, household items and tools.

In India for instance increase in the sea level will have a huge impact on millions of poor people living in the low-lying areas and the small and marginal fishing communities. Loss of coastal mangroves will also impact them. Scientists predict changes in water regimes, salt water intrusions and land loss in the major delta area of the Ganga, Brahmaputra and Indus rivers affecting millions of lives and livelihoods. Mass migrations induced by depletion of natural resources may no longer be an event of a distant future and when that happens will put physical and social pressures on the target areas of the migration causing social and economic chaos. Flooding and drought, erratic monsoon have become more common than before affecting our food security. Increased temperatures will impact agricultural production. Food prices will shoot up. India is already ranking high in the number of malnutrition and under nutrition cases and this will only get worse.

The poor are always affected disproportionately. Developing and poor countries have many more livelihoods that are directly and indirectly involved with the environment therefore will be affected greater than developed countries. On a community level, vulnerability manifests itself in developing countries due to a lack of resources and capacity to respond.

Where did the road to Copenhagen culminate? Many agree that it culminated with very small progress, a cautious commitment by the rich. An accord was signed (that is not legally binding) to stop global temperatures from rising by more than 2C by 2050 and give money to the poor countries to fight global warming. A Copenhagen Green Climate Fund will be created to support initiatives on mitigation, adaptation, finance, technology, reducing emissions from deforestation in developing countries and capacity building. The collective commitment toward the fund by developed countries over the next 3 years will approach 30 billion USD. For long term finance the developed countries committed to a goal of mobilizing jointly 100 billion USD a year by 2020 to address the needs of developing countries. Governments of developed countries intend to establish a new technology mechanism to accelerate development and transfer in support of action on adaptation and mitigation.

The Copenhagen outcome sounds like a good beginning with few specific figures, commitments or timelines. Environmental groups like Greenpeace termed the summit as ignominious and futile. Russia the third largest emitter of greenhouse gases after the US and China said it is ready to cut emissions by 25% from 1990 levels by 2020, if the United States and China and others followed suit.

Developed countries are not willing to backtrack. Developing countries want to follow suit of developed nations in terms of "Development". The Poor countries have lost hope in this race. The very existence of billions of people and their ecology is jeopardized. If this is not high enough cost then what is? Is it time to redefine "Development" itself? ■

National Water Policy 2002

Water is the most important natural resource and it is a basic human need. Water is a scarce and precious national resource to be planned, developed, conserved and managed as such, and on an integrated and environmentally sound basis, keeping in view the socio-economic aspects and needs of the States. It is one of the most crucial elements in developmental planning. With this background, the National Water Policy 2002 was adopted by National Water Resources Council in its 5th meeting held on April 1, 2002.

The objectives of the National Water Policy 2002 are building outmost efficiency in water utilization, creating public awareness of the importance of the water conservation, developing water resources, setting proper water managing systems for water resources sustainability, improving water quality by eliminating pollution in surface water and ground water, improving existing strategies and innovating new techniques resting on science, increasing efficiency in dealing with drought and flood situations and meeting the needs of the rapidly growing population in the country.

The policy suggests various strategies to achieve the objectives. One of the strategies is regarding developing information systems for water related data including water availability and actual use at state level and national level, improving quality of data and processing capabilities, making comprehensive and reliable projection of future demands of water for diverse purposes, introducing modern information systems and promoting free exchange of water data among various agencies.

The second strategy suggested by the policy is regarding water resource planning. Planning should be done to bring the available water resources into the utilisable water resources to the maximum possible extent, promoting frontier research development in a focused manner in non conventional methods such as inter- basin transfers, artificial recharge of ground water and desalination of brackish water or sea water and traditional water conservational practices like rain water harvesting including roof- top water harvesting. Planning also should be done to develop and manage to incorporate qualitative and quantitative aspects as well as environmental considerations in usage of surface water and ground water in a sustainable way.

The policy proposes institutional mechanisms for planning, development and management of the water resources on a hydrological unit basis, integrating quality, quantity and the environmental aspects. As maintenance of water resource schemes is under non-plan budget, it is generally being neglected. The policy suggests that the institutional arrangements should be such that this vital aspect is given importance equal or even more than that of new constructions. The policy requested to establish appropriate river basin organizations for the planned development and management of a river basin as a whole or sub-basins, wherever necessary.

The policy prioritises the water allocation broadly such as drinking water, irrigation, hydro-power, ecology, agro-industries and non-agricultural industries, navigation and other uses. Policy proposes the water resource development projects should be planned and developed as multipurpose projects including drinking water and preserving the quality of environment and ecological balance. It emphasizes that special attention should be given to the needs of scheduled castes, tribes and other weaker sections of the society. It also suggests that the involvement and participation of the beneficiaries and stakeholders should be encouraged right from the project planning stage.

The policy recommends making efforts to prevent over exploitation of ground water and making integrated and developed surface and ground water resource plans as an integral part of the project planning stage and request that water allocation in an irrigation system should be done with due regard to equity and social justice. Regarding rehabilitation and resettlement at the time construction for water resource storage, policy insists to prepare careful planning to ensure that the construction and rehabilitation activities proceed simultaneously and smoothly.

The policy recognizes the need of physical financial sustainability of the water resource facilities. It recommends the water charges for the users with subsidy to the poorer sections of the society. It suggests forming Water Users' Associations and the local bodies such as municipalities and gram panchayats for maintenance and management of water infrastructures.

The National Water Policy encourages private sector participation in planning, development and management of water resources projects for diverse uses, wherever feasible with the hope that it may help in introducing innovative ideas, generating financial resources and introducing corporate management and improving service efficiency and accountability to users.

The policy recommends regular monitoring of structures and systems and necessary rehabilitation and modernization programs and ensure the safety of water resource structures like dams. It recognizes the need of training in information systems, sectoral planning, project planning and formulation, project management, operation of projects and their physical structures and systems and the management of the water distribution systems.

The National Water Policy recognized the importance of community involvement in the management and maintenance of water resources to some extent but there is no much emphasis on this vital aspect which has been recommending for years by environmental groups across the country. There was much focus on big constructions like dams and there was very less focus on the need for the construction of smaller harvesting structures like check dams, tanks, ponds etc. However it is very encouraging that the policy recognized the need for optimal, economical and equitable utilization of water resources keeping in view the current and projected future water scarcity. ■

Christmas and New Year Livelihoods

Expanding Pharma Chains

Shining livelihoods

Ear Cleaning in Doldrums

Declining livelihoods

Rajendra Singh- 'The Water Man of India'

Rajendra Singh, the water man of India, is leading a successful effort of greening Alwar district, a drought-prone region of Rajasthan, India by rediscovering the local know-how for building check dams ("johad") and combining it with strong principles of local participatory management. He inspired a holistic transformation of rural life in over 1000 villages: from making agriculture viable again, reversing migration to cities, re-foresting the Aravali hill slopes and rejuvenating seasonal rivulets into perennial rivers.

Rajendra Singh was born on 6th August, 1959 in Rajasthan. He is a post graduate with an M.A in Hindi from Allahabad University and was trained as Ayurvedic physician from Rishikul Ayurvedic Mahavidyalaya. After finishing his studies, he joined as a National Service Volunteer at Jaipur under the youth education program of the Ministry of Education, Government of India and worked in it till 1984. Later he took up a career as a teacher in the villages of Rajasthan for some time where he observed the plight of villagers because of lack of water.

After this Rajendra Singh left his job and committed him self to rural development. With four companions he went to a desolate village in Alwar district in Rajashthan and started organizing the community in the villages of Alwar by establishing an organization named Tarun Bharat Singh (TBS). Upon the advice of a local village elder, Rajendra singh and his friends began the process of repairing and deepen old Johads (Johad is concave structure which collects and store water throughout the year. It is used for the drinking purpose by humans and cattle). Initially the residents of Bhanota-Kolyala village which is in the Aravali mountain ranges, with the help of the TBS, constructed a johad at the source of river Aravari which was dried up completely by that time. Soon villages around the catchment area and along the dry river constructed tiny earthen dams. Even after constructing some Johads in and around the Sariska Tiger Reserve which is located in the same Aravali mountain ranges, the water level did not go up. Rajendra Singh observed that this happened because of mining in the Aravali mountain ranges as the water collected in the pits left unfilled by the miners after their operations. He also observed that the mining operations in the area resulted in dangerous floods when ever there were monsoon rains. Overwhelmed by these calamities, villagers abandoned their villages and men shifted to the cities for work. Women spirited frail crops from dry grounds and walked several kilometers a day to find water.

With a view to address these issues and fulfill the needs of the Rajasthan villagers Rajendra Singh and his companions took up the issue and filed a public interest petition which eventually led to the closure of 470 mines operating within the eco fragile Aravali ranges and periphery of the Sariska sanctuary. Soon the Ministry of Environment and Forests banned the mining in the Aravali hill system. In the mean time the villagers in that region went on constructing the johads and other water harvesting structures with the help of Rajendra Singh and TBS. When the number of dams reached 375, the river began to flow. The villagers still consider it as a miracle. The workers who became job less because of closure of mines were rehabilitated through water and forest conservation activities and rural development like animal husbandary, agriculture and through different types of employment generation activities initiated by TBS.

Guided by Gandhi's teachings of local autonomy and self-reliance, Singh has introduced community led institutions to each village, i.e. Gram Sabhas, Mahila Banks, River Parliament etc. He initiated an awareness campaign for Gram Swawlamban under which the activities like Soil conservation, improved seeds, collection of herbal medicine and Shramdan were undertaken. The residents of the region went on to constitute a parliament of their own. Arvari Sansad, is a representative body of 72 villages in the areas served by the river. The Arvari parliament has framed 11 major rules to fix the cropping pattern and water use. The rules permit only landless farmers to draw water directly from the river and ban the cultivation of sugarcane and the raising of buffaloes as these activities would require relatively large amounts of water. In principle with his Gandhian Philisophy, He used Pad yatras as an activity to bring awareness among the community and also to pressurize the government to hear to the people.

Rajendra Singh played a catalyzing role in the building of 10000 johads in 1000 villages spread over 6500 sq.km. Out of these 3500 were built by TBS and as an after effect of these, the community was motivated to build the remaining 5100 structures. The area covers parts of the contiguous districts of Alwar, Dausa, Sawai Madhopur, Karoli and Jaipur districts. Johads and the other appropriate water structures have also been built in the districts of Jaisalmer, Ajmer, Udaipur and Bharatpur.

As a result of all these efforts, the five seasonal rivulets Ruparel, Aravari, Sarasa, Bhagani and Jahajwali in the north eastern Rajasthan area which had nearly dried up have now become perennial. Water conservation gave numerous positive impacts on the communities inhabiting the area. Employment opportunities have increased and migration has reduced substantially. Studies have shown manifold increase in the enrollment of students in school and output of food grains and milk production.

Through his determination, vision, hard work and dedication, Rajendra Singh has transformed the life of people in 1058 villages of Aravali hills. He has turned the arid land cultivable, densely afforested large tracts making a wild life sanctuary by water management, made the dry rivers flow throughout year. His vision and leadership has got wide recognition across the world and he got the Ramon Magsaysay Award for Community Leadership in the year 2001. His pioneering work in water management is an inspiration to many across the country. ■

Story

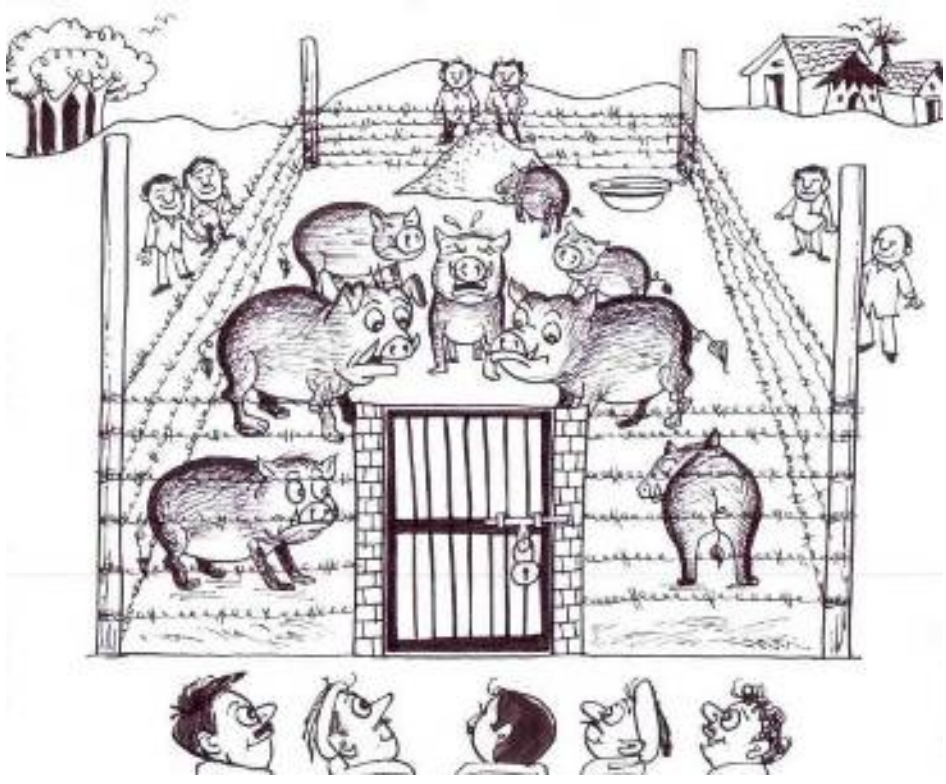
‘Trapped’ in Comfort

Many of us become too comfortable with our life styles and many times don’t realize that we are being trapped in one way or the other. If we don't realize this trap of comfort, we will not try to grow in life. This small story of wild boars is an excellent example of this truth.

There was a village that was attacked by wild boars. Everyday the wild boars would enter the village to rampage the whole village of their food. The villagers tried various means to fight and chase away the wild boars, but without much success.

One day the village headman approached a wise man to offer his advice. He told the villagers that they will have to follow all his advice and directions. Out of desperation, the villagers agreed. The wise man told the villagers to gather food from every household and put it in the middle of a big empty field. They followed his advice, and immediately they saw hundreds of wild boars approaching the vicinity where the food was placed.

The wild boars were apprehensive initially, but after a while they went for the food. Once the wild boars had a taste of the food they came back for the free food everyday. And everyday the villagers would put more food in the field and the wild boars would come to have their free meals. After a while, the wise man asked the villagers to erect four poles at the four-corners of the field.



The wild boars were too busy having their food that they did not took notice of what was happening. After a few weeks, the wild boars developed the habit of having free food. The wise man then asked the villagers to put fencing around the field, with a large gate through which the wild boars can enter to have their food. Finally once the fencing and the gate were completed the villagers closed the gate and all the wild boars were trapped inside the field. The wild boars were finally caught!

Habits are easily developed but are difficult to get rid of.

The wild boars were trapped because out of their greed, they developed the habit of having free food, and without having to work for their food. They became so comfortable, that they did not realize they were being trapped. Many of us are like the wild boars. We become too comfortable with our life style and do not realize we are in one way or another being “trapped”. ■

Drinking Water in India

Percentage of Households with the Principal Source of Drinking Water and the Sanitation Facility in Major States in India: 1998

State	Drinking water source				No latrine used	
	Rural		Urban			
	Tap	Tubewell/ handpump	Tap	Tubewell/handpump	Rural	Urban
1. Andhra Pradesh	26.2	46.9	75.1	12.8	88.5	30.8
2. Assam	7.3	49.5	42.2	38.4	24.7	2
3. Bihar	0.7	70.3	35.3	43.1	89.4	45.3
4. Gujarat	46.6	31.7	91.1	7.3	79.9	21.1
5. Haryana	31.1	49.9	80.5	19.4	84.5	32.5
6. Karnataka	26.6	53.9	80.9	11.2	88.9	30
7. Kerala	10.6	1.4	40.2	3.5	23.1	5.1
8. Madhya Pradesh	5	52.2	76.1	13.1	94.5	45.2
9. Maharashtra	41.1	24.4	92	5.3	85.8	15.8
10. Orissa	2.9	53.2	38.7	32.3	96.1	35.8
11. Punjab	14.8	82.7	64.4	35.5	67.9	14.8
12. Rajasthan	19.2	36.2	85.4	10.4	87	25.5
13. Tamil Nadu	50	31.1	74	18.7	88.5	32.5
14. Uttar Pradesh	8.8	63.5	43.2	53.2	90.6	28.2
15.west Bengal	4.1	75.6	56	38.2	76.1	15.2
India	18.7	50.1	70.1	21.3	82.5	25.5

Note: These 15 major states account for about 90 percent of the population of India as per 2001 census. For the inter-state analyses, these 15 major states are considered by most of the scholars. There are a total of 35 States and Union Territories in India.

Source: NSSO

There are several States in India in which tap water is the principal source for less than 10 per cent of rural households and they are highly dependent on groundwater. In urban areas, the coverage is much less than that of all-India average in Bihar, Kerala, Uttar Pradesh and West Bengal. Dependence on groundwater is also quite high in urban areas of several States. Percentage of households not using a latrine is close to and over 90 percent in rural areas in a few States. There are some States in which the urban households not using a latrine constitute 30-45 percent. Public health standards may be very low in these States. The figures for Kerala are low for tap and tube well/hand pump and also 'no latrine' categories for both rural and urban areas. It should be noted that Kerala has the highest level of indicators for education, health and social development in India. For drinking water, open wells are the principal source for a very high percentage of households (55.4 in urban and 85.1 in rural) in this State. ■

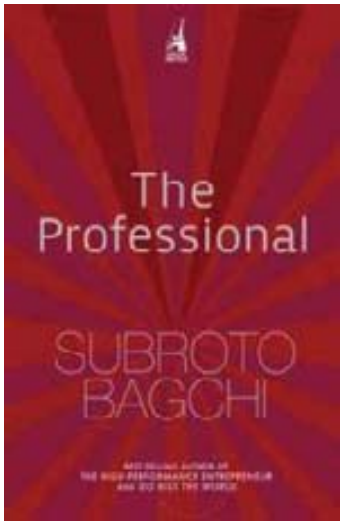
Books

Book Summary

Name: **The Professional**

Author: **Subroto Bagchi**

Publisher: **Penguin Portfolio**



"The Professional" is a book on who becomes a professional in ones career by defining the difference between a competent and a professional employee. It is characterized by simple and short chapters structured into 7 parts. The author Mr. Subroto Bagchi, advices readers to read the book in the same sequence as presented.

Author says that the first three parts are the foundational pillars on which every individual must build his work life; indeed these should be the basis on which he engages with others in day to day life.

Part I presents the idea of Integrity, and why it is the keystone of the arch of professionalism. In Part II, author moves to self-awareness and discusses the thin line between those who are competent at their jobs and those who are professional at it. In this section, Mr. Bagchi also discusses the key attributes of self-aware individuals and how one can acquire these attributes. And Part III relates to basic Professional Qualities that "Make someone a well-rounded individual who can perform the responsibilities that come with the tag 'professional'.

In Part IV, talks about how one can manage great volume of work. This is especially important for those who have achieved or are on their way to mid-management positions. Part V focuses on the professional qualities senior managers require to deal with complex situations and problems, both at work and in their personal lives. In Part VI, author talks about five important "emergent concepts" such as inclusion and gender, cross-cultural sensitivity, governance, intellectual property & sustainability. And, finally, in Part VII, the discussion is focused on what it means to be a 'professional's professional'.

Author explains these things through a wide range of examples, some positive, some negative. His explains the dilemma that a fresher goes through when he get a call from a head hunter for a job which offers a 50 per cent hike. He says that in such situations fresher should remember two things one is that he should know that he has not paid back your organization for taking a risk in hiring you and the second point is that for the head hunter fresher is just another head to hunt, to make his cut and bonus.

In another case he talks about how after the 9/11 attacks when all airlines were laying off people, cutting wages and grounding aircraft, Southwest Airlines CEO Jim Parker decided to go ahead and "deposit $179 million into an employee profit sharing account (because) it was the right thing to do." He also decided against grounding planes and layoffs, and decided to give full refund for cancellations by passengers too terrified to fly. The result: Southwest made a profit in the last quarter of 2001.

The books ends with a chapter titled 'a yen for professionalism' with a list of 10 attributes of professional and un-professional. ■

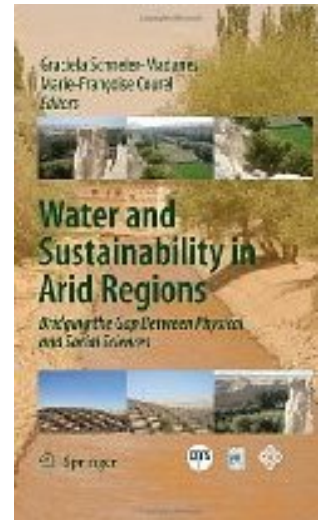
K Visweswararao

New Books

Name: **Water and Sustainability in Arid Regions: Bridging the Gap Between Physical and Social Sciences**

Author: Graciela Schnejer-Madanes **(Editor), Marie– Francoise Courel (Editor)**

Publisher: **Springer**



Name: **Corporate Social Responsibility and Social Entrepreneurship: How to be a Successful Advocate in Your Company and Community**

Author: **Manuel London**

Publisher: **Routledge**

Water – Role of Various Organizations

* The role of the **Central government** is to guide investments in this sector, encourage the need for training and research, and also to promote water quality monitoring and human resources development programmes.
* The **State governments** plan, design and execute water supply schemes and operate through departments like Public Health Engineering Departments, Panchayat Raj Engineering Departments or Rural Development Engineering Departments and Water Boards.
* The **Central Water Commission (CWC)** in the Ministry of Water Resources (MoWR) is responsible for regulating the use of surface water for irrigation, industry and drinking water purposes. It also mediates in inter-state water allocation disputes.
* **Central Groundwater Board (CGWB)** under the MoWR has an overseeing responsibility for the monitoring of groundwater levels and rates of depletion and the production of water resource inventories and maps.
* **National Rivers Conservation Directorate (NRCD)** under the Ministry of Environment and Forests (MoEF) oversees the implementation of Action Plans to improve the quality of the rivers in India.
* **Central Pollution Control Board (CPCB)** under the Ministry of Environment and Forests (MoEF) promotes basin-wide pollution control strategies. It liaises with State Water Pollution Control Boards for laying down standards for treatment of sewage and effluents. The Board is also responsible for action in the case of non-compliance by agencies.
* **Rajiv Gandhi National Drinking Water Mission (RGNDWM)** under the Department of Drinking Water Supply, Ministry of Rural Development (MoRD) formulates policies, sets standards, and provides funds and technical assistance to the states for rural water supply and sanitation activities.
* **Ministry of Agriculture (MoA)** is involved in planning, formulation; monitoring and reviewing of various watershed based developmental project activities.
* **Ministry of Urban Development (MoUD)** is the nodal ministry for policy formulation and guidance for the urban water supply and sanitation sector. The Ministry's responsibilities include broad policy formulation, institutional and legal frameworks, setting standards and norms, monitoring, promotion of new strategies, coordination and support to state programmes through institutional expertise and finance.
* **Life Insurance Corporation (LIC)** which is owned by the Government of India as part of its statutory requirements has to invest 25 per cent of net accretion from its controlled funds in socially oriented schemes such as housing, education, water supply and road transportation. It has been advancing loans to local bodies and state level water supply and sewerage boards.
* **Central Bureau of Health Intelligence (CBHI)** under the Ministry of Health and Family Welfare deals with the collection, compilation, analysis and dissemination of the information on health conditions in the country.
* **Housing and Urban Development Corporation (HUDCO)** is active in supporting activities in this sector. Realizing the importance of water supply needs HUDCO has accorded topmost priority to financing water supply schemes, especially in small and medium towns. For instance, as much as 37 per cent of the cumulative loan sanction for urban infrastructure schemes by HUDCO has gone to the water sector – for augmentation, rehabilitation extension as well as new schemes with development of sources for un-served areas in Orissa.
* **BIS** is responsible for drafting of standards pertaining to drinking water quality. ■

Case Studies

Out of Poverty

Building Skills Pays

Chakrapani is a resident of Srikalahasthi, Chittor district, Andhra Pradesh. He had been living with his mother and father. He has a brother. His father was a railway employee (gate man at level crossing). It was difficult for his father to feed his family with his meagre income. While Chakrapani was studying 10th class, his father wanted to stop his studies and join some work. Chakrapani wanted to establish a small tea shop. He thought unless both of them work, their family would not be able to survive. While Chakrapani was in his trails to establish a shop, unfortunately his father expired.

After his father's death, Chakrapani took the family's responsibility. He joined his younger brother in intermediate college and he got married to a relative's daughter. His wife was also helpful in the maintenance of the tea shop. Like this Chakrapani pursued his livelihood of tea shop for about 5 years. In between he was blessed with 2 children. The income was hardly sufficient for his survival. Gradually his children grown up and started going to school. It became very difficult for him to pay his children's school fees, brother's college fees and fulfil even their basic needs.

Considering the family's economic condition, he wanted to find a new way of earnings. He wanted to avail his leisure time to earn more money. He shared his thoughts with his friends about this issue. Then one of his friends suggested taking up a job in a bakery. He joined the bakery for a monthly salary of Rs 2000/-. He learned to make biscuits and cake while working in the bakery. After few months, as work load increased at bakery, working in bakery and running the tea shop simultaneously became difficult for him. Then Chakrapani gave his tea shop for lease at a cost of Rs 3000/- per month. His economic condition slowly improved as he was earning from both ends.

Then Chakrapani was able to give his full time for bakery. He got adequate experience by working 8 years in the bakery. He was also able to save a good amount of money from his earnings. With this experience and savings, he decided to start his own bakery. He implemented his plan by starting a bakery near bus stand. In the initial stage, he took his family's help to run the bakery. Business started blooming. After that, he trained 3 boys in making sweets, biscuits and cakes. Then gave them work in his bakery. Chakrapani's bakery started selling not only biscuits and cakes but also sweets, cool drinks and ice creams.

Starting the bakery near bus stand is a plus point for him. Because, this is the only bakery available in the surroundings of the bus stand for the people who are going out of the station and coming into the town. He earns easily 10 thousands to 15 thousands of rupees per month from the bakery. He sent his brother for higher studies and got him married. His brother also got a good job and started helping Chakrapani in the maintenance of the family. Chakrapani and his brother recently built a house with their earnings. Now they are leading a very happy and comfortable life. ■

Broken Lives

Lost in Competition

Krishnaiah is a man who belongs to Pillala palli, Kalyanadurgam mandal, Ananthapuram district, Andhra Pradesh. He has wife and five girl children. He had 3 acres of agriculture land. But, water scarcity made him to cultivate only rain based crops (ground nut, jonnalu etc). Krishnaiah has one elder brother. His brother did not get married and he had been working in Bangalore and settled there. At that time, he used to send Rs. 20,000/- to Krishnaih per month.

Krishnaiah utilised some of that money for his household expenditure and with remaining money he used to buy groundnut seed, store them till the rains started and at the time of sowing, he sell them for higher price. In this way he was able to earn money sufficiently. But suddenly his brother died in an accident. Then Krishnaiah had to take care of the whole family's responsibility. After his brother's death Krishnaiah was able to lead his family with the income from groundnut business for 5 years. After that, their area caught under drought and the farmers were in distress. They stopped cultivation as there were no rains. Hence, Krishnaiah had no customers for his groundnut seeds. His business suffered a lot and he incurred huge losses.

One day, Krishnaih explained his condition to his friend. He advised him to start a cloth shop in Ananthapur to earn good money. Krishnaih asked his wife to give support to start the business. But she was not interested in this business as she thought this business was something unknown to them. However Krishnaiah convinced his wife and sold his house, land for 13 lakhs and reached Ananthapur. He took one house and a shop near by the main road for rent and commenced the business. His wife used to stitch cloths for people due to which she also was able to support family to some extent. For six years shop ran successfully. He did his elder daughter's marriage. Remaining 4 daughters were studying.

After 6 years, there were some new shops came in the main road. Krishnaiah's shop faced severe competition from those shops. The new shop owners also started attractive schemes for the customers. He couldn't able to compete with those shops and closed his shop. He sold the entire cloths of the shop for a total amount of Rs 50,000/-. For 5 or 6 months he managed with the income of his wife. But it was very less amount to be able to survive on it. So he decided to get back to his village by the advice of his wife.

At present, Krishnaiah is living in his native village in a small hut. He stopped his children's studies. Now all the children are working as wage labours. In spite of that they are struggling even to earn two square meals everyday. ■

'Yoga'kshemam

We had drought. We had floods. Still the economic recession is hanging around. May be we see light at the end of the tunnel. There is food shortage and the prices have spiraled up. Amidst all this, lots of our time, energy and some money, apart from the emotions, thoughts, and words have gone for 'reorganizing' Andhra Pradesh. It is official - Copenhagen has not delivered earth and environment.

Count of the international days that have gone by – World AIDS Day (1 December)! International Day of Disabled Persons (3 December)! International Volunteers Day for Economic and Social Development (5 December)! Human Rights Day (10 December)! Shortest day of the world (northern hemisphere) – winter solstice (21 December)!

Floods, coastal communities, non-timber forest produce collectors, vulnerable, elders, collectives, venture capital fund, innovation fund, rural tourism, skill providers, training institutes, civil society, mentors, teachers, students, volunteers, resource persons, service providers, social entrepreneurs, micro-venture entrepreneurs and writers continued to dominate our thinking space in this month.

Of course, Amber, Elise, and Caroline are still working on a business plan for 'livelihoods'.

G Muralidhar

It appears now 'fasting' has become a habit now. I need to put all my concentrated efforts in my practice of 'silence' and 'thought silence' continue. A walking protocol needs to emerge. It is interesting to see many a leader and/or an enthusiast taking up indefinite fast for Telangana or United Andhra over the month!

This month has nudged me to delve into 'bharatiyam'. It is a faith – vasudhaika kutumbakam - all life and non-life in this universe is one family. Therefore, it is towards a movement of People for Planet and Planet for People. It is for a planet, where all children have access to decent education, where all households have decent portfolios of livelihoods, and where people have fair choices to make! Thus, 'bharatiyam' is a way of caring, a way to make the planet free from poverty, a means to pay back to society, and an expression of live and let others live. **A philosophy from India for the Planet and its people!**

During the month, I have come across – things that can be tried to find the true path to happiness -

* Make a grateful list and be grateful
* Think positive and push away negative thinking
* Identify and seek small pleasures
* Practice kindness
* Make someone smile
* Connect and invest in love
* Exercise and eat healthy
* Find a purpose to work for/with
* Forget everything else and flow in your actions
* Study, reflect, and nurture self to pursue the true path

This month has also asked me to reflect deep within, building on tantra yoga (discussed last month) – to remain open and aroused completely for merging and balancing the masculine and feminine energies that exist in each individual in all dimensions. Reflecting on being 'useful', the need to go through a personal visioning exercise has been strongly felt and a process has begun towards the same. While the 'vision' may be clear and the vision of realizing the vision has to go multiple iterations, the basic elements in it include: be located in a small place, see more, write more and step up yatras and campaigns, practice being the instrument and complete surrender, begin identifying 10-20 mentors/life-workers and nurturing, and be available to all those who seek out.

In the confluence of the souls, and through the gentle flows of universe, **these midwinter months** reinforce the need to be always ready in all our dimensions to have yogamritam. No one dimension suffices. Keep the antennas of all dimensions sharpened. Keep them active and charged up. Continue to tune in. Till you find sync. Keep playing raga after raga, till you resonate in sync. Till you reach crescendo of climax, bliss and yogamritam. Forget not to set the 'sruti' keeping it always in ready state. Forget not to surrender and being the instrument, useful and open instrument.

Can we be this? **Yes, if we pursue Atma Yoga.** The focus is on being fully involved and having skill in involvement. Look around. No life is seeking a break from whatever it is doing. Rivers flow, sun shines, wind blows, and so on. Being involved for its own sake in the act, with the mind, heart and body, is the way forward. That is Atma Yoga, Atma Yogi pursuing yogamritam, being with the Guru exploring, showing, expressing, feeding, and teasing!

This effort of pursuit itself lets us articulate access to life(s), bond with, love, invite reconciliation and reconcile, desire, be passionate, be ready and aroused, be excited, and be lost in the joyous pursuit.

Krishna plays flute to tell us for seeking yoga in all our dimensions, in whatever dimension (s) we are capable of being ready. Rest of the dimensions he takes care. Krishna confirms – whoever does his/her work/business with total involvement and with mastery of skills of total involvement towards being useful to all life, as if s/he worships them truly, attains silence, peace and flows with the free and natural flows of the universe of souls. S/he will be 'lost' in them forever.

Krishna Dwaipayana reveals: wherever there is the archer working in tandem with the Guru, prosperity, victory, happiness and sustainability rule.

Join us in the world of yoga – celebrating the yoga of wisdom, action and devotion in all dimensions of our being towards complete advaitamrita siddhi and being useful to the life in the way it needs us. You will not regret it. ■

There are few people outside do far more better job than us and still glad about their job. This person here is a Coolie (Porter), who usually carry luggage to/from the bus, at Kalasyapalya bus station in Bangalore.

Few Facts:

Weight of the Pulsar 150 CC is around 200 kg.

The Cost of the Volvo side glass is about Rs 30000/-.

The Cost of the Vehicle is Rs 60000/-.

After seeing the effort that he has made, do you know how much he is charging??

Just Rs 20/-

livelihoods