



VIPNET NEWS

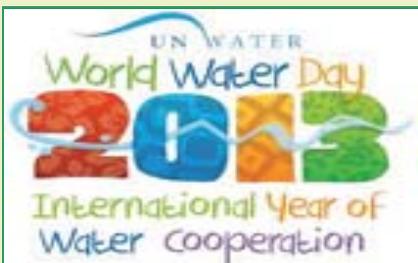
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Fifteen Year's Journey of VIPNET Clubs

Dear Vipnetians

It was in 1998 when Vigyan Prasar, in the broader pursuits of its objectives, started the VIPNET Programme. VIPNET stands for Vigyan Prasar Network – a network to weave all science clubs, societies, and organisations which are already established or are going to be established and are willing to work with Vigyan Prasar to strengthen the science popularisation initiatives in the country. The basic objectives of VIPNET clubs are: dissemination of information on science and technology; evolution of a holistic approach towards problems through awareness, involvement, and application of scientific methodology for their solution; and stimulation of the spirit of curiosity, enquiry, innovation and creativity through activities to supplement conventional education and make science an enjoyable and interesting pursuit.



VIPNET Clubs Organising Activities

This year the VIPNET programme completes 15 years of its existence. The journey, which begun with a few clubs formed by child scientists above the magic age group of 17 years, has now taken the shape of a countrywide movement. At present there are 12,000 VIPNET club members in 535 districts of 33 States and Union Territories of India. One-third of the total number of clubs function outside the school setup and work as a strong link between science and society. A majority of the VIPNET clubs are named after Dr. APJ Kalam.

All the clubs receive VIPNET News and other resource material and invitations for different training programmes being organised by VP. The strength of the VIPNET family has been growing every year. More and more schools, organisations and individuals are eager to join the fraternity of VIPNET clubs. Every month we receive about 50 to 60 application for affiliation. Some existing network of science clubs like eco clubs, DNA clubs and clubs run by different State agencies and Institutes are also joining the VIPNET fraternity. In short, now VIPNET has emerged as a strong force engaged in science popularisation in the country. Several action-oriented programmes and campaign have been taken up by VIPNET clubs in the past and today it is emerging as a strong force, despite the fact it still remain a loose federation, because each club is allowed to retain its individualistic identity. Some of the important achievements of the VIPNET programme are as follows:-

"No one can see their reflection in running water. It is only in still water that we can see"
(Taoist Proverb)



1. The strength of VIPNET clubs has increased to about 12,000 as a result of orientation and sensitisation/training workshops and collaborative projects (45 Nos.) in different parts of country.
2. The VIPNET clubs are present in more than 535 district of India in all the 33 States/UTs.
3. Anup dated VIPNET database is being maintained and same is also uploaded on the VP website, showing state and district-wise details of all registered clubs. The database on the web is updated weekly.
4. Some clusters of clubs about 30 to 50 clubs in a district) have been developed in the States of Jammu& Kashmir, Bihar, Madhya Pradesh, Orissa, West Bengal, Manipur, Uttarakhand, Maharashtra, Kerala, Tamil Nadu, and Andhra Pradesh.
5. The monthly newsletter *VIPNET News*, which is being published regularly since December 1998, has established itself as a major link between the clubs and Vigyan Prasar..
6. As part of the National and International Years observed in the past, special features, articles, biographies of scientists, word puzzles, and quizzes have been made a regular feature of *VIPNET News*, which is being sent to all registered science clubs and other agencies and institutes. The total number of *VIPNET News* subscribers is around 15,000.
7. Constant feedback is being received from a number of VIPNET clubs in the form of reports, letters and email's, etc. The feedback mechanism is also being used to identify most active clubs for developing them into lead clubs and resource-cum-facility centres for the programmes and activities of Vigyan Prasar.
8. Five regional workshops were organised in different parts of the country to learn about the hopes and aspirations of the VIPNET clubs, which were attended by more than 350 science clubs. Direct feedback has also been received from more than 225 clubs about their hopes and aspirations.



Five Regional workshops were organised for VIPNET Clubs during 2012

The basic premises of VIPNET clubs

In order to nurture and retain the scientific temper among children, it is necessary to impart encouragement, guidance and a bare minimum of facilities so that they can satisfy their curiosity and pursue their individual interests and hobbies. It is for this purpose that science club activities assume even greater importance than the class room activities. Further, science clubs possess the potential of triggering interest in science even amongst the grown-ups, who could in turn constructively contribute to consolidate the activities of the clubs. Eventually, a science club could become a nodal point or a hub of dissemination of scientific information on a variety of subjects in the local area. An exchange of information on various scientific activities undertaken with science clubs in other parts of the state/ country could then give rise to a science club movement which could play a key-role in transforming our country into a nation of scientifically thinking and attitudinally rational people. It was with such considerations that Vigyan Prasar Network of science clubs(VIPNET) was born.

VIPNET aims to establish a vast countrywide network of science clubs.

Broadly, the objectives of VIPNET are:

- i. Dissemination of information on science and technology (S&T), which is an essential tool for development. VP has the right technology back-up and mandate to reach out to the masses. The VIPNET clubs are planned to be Vigyan Prasar's extended arms and agents for change at the remotest of places in India.
- ii. Evolution of a holistic approach towards problems through awareness, concern, involvement, and application of the scientific methodology for their resolution. Various short- and long-term activities and programmes are envisaged for the science clubs which are doable and relevant.
- iii. Stimulation of the spirit of enquiry, innovation and creativity through activities which could supplement conventional education and make science an enjoyable and interesting pursuit.
- iv. Development of academic excellence and spirit of innovation among the promising students.

9. During the five regional workshops, certain core areas and themes were identified for initiating programmes and activities and developing new resource material in the form of books, activity booklets, CDs, kits, etc. An activity calendar of each zone/state was also developed.
10. A brainstorming session with stakeholders was organised to formulate a new road map for the functioning of science clubs along with some specific recommendations to maintain the enthusiasm generated among the clubs over the years.
11. Material in the form of books, activity kits, etc., are being sent to clubs as and when necessary.
12. There was overwhelming response by VIPNET clubs during the national campaigns for the Total and Annular Solar Eclipses of 2009-10; International Year of Biodiversity 2010; and national campaign on Transit of Venus 2012.
13. During 2013, all the clubs are organising activities on theme "Manage to Save Water".

Over the years, it has been observed that science club activities are essentially people-oriented activities. They are not formal classroom or laboratory experiments, nor do they provide any bookish or theoretical knowledge; but they invite and involve people to see, do and learn things by themselves and find out the truth. Therefore, the science club activities have always been a strong link between the community and schools. This is further evident from the involvement of a large number of clubs in the national campaigns launched as part of the International year of Astronomy 2009, International Year of Biodiversity 2010, International Year of Chemistry 2011, and National Year of Mathematics 2012. Every day VP receives more than 10 reports of VIPNET clubs from different parts of the country either through post or email. A few clubs are regularly uploading their reports on the website of VP.

The impact of science clubs observed over the

past few years can be summarised as follows:

- i. The club activities connect classroom learning to the real world, and help improve students' achievement in science.
- ii. With an informal science learning experience, the science club students are developing an ability to transfer their knowledge from familiar to unfamiliar contexts.
- iii. Science club activities have increased enthusiasm and learning experience of the students at large and they are now the agents of change for the future.
- iv. Most of the science club students are not only getting the opportunity to learn at a higher level but remain active in science popularisation activities

However, after working for one-and-a-half decades with science clubs and societies, the members and functionaries of some of the clubs are finding it extremely difficult to sustain the zeal and excitement with which the clubs were formed. The analyses of reasons have shown that, either they lack new ideas or activities, or fall short of active members or minimum funds to carry on with something meaningful and educative. A few other gaps, which are proving a limiting factor for the VIPNET



VIPNET Club Member's During National Camp organised as part of International Year of Biodiversity, 2010

programme are as follows:

- i. The majority of the VIPNET clubs is from the rural areas and located in the remotest corners of the country. Communication with them still remains a one-way process.
- ii. The access to Internet is very limited and the web resources created for VIPNET clubs have always remained under utilised.
- iii. VP is also not providing any financial help to these clubs except providing resource material in the form of books, activity kits, etc. As result, the communication between the clubs and VP is very occasional and reports of activities are not sent by the clubs regularly.
- iv. There is no viable mechanism to support such a

Outcome of Brainstorming session held with stakeholders (30-31 August 2012)

A two-day brainstorming session on science club movement in India was organised in the sprawling campus of the Institute of Seismological Research (ISR), Gandhinagar during 30-31 August 2012. About 30 experts and resource persons across the country working in different disciplines attended the programme and had an in-depth discussion on suggestions for science club activities that can act as a spark to bring interest among children to learn and appreciate science. There were five technical sessions including those on: (i) present functions of science clubs; (ii) making science clubs nuclei of change and hubs of information; (iii) financial implication for science club activities; (iv) accountability/reporting of club activities; and (v) new vistas/new initiatives for science club movement. Dr. Saroj Ghose, Padma Bhushan well-known science populariser, Dr. Rajendra Singh, Magsaysay Awardee for water movement, Dr. V. B. Kamble, former Director, Vigyan Prasar, Dr. Pramod Verma, Science Advisor and Director General of MP State S&T Council, Dr. Rajendra Dhobal, Director General of Uttarakhand State S&T Council, Dr. P. Iyamperumal, Executive Director, Tamil Nadu State S&T Council, Dr. Surendra Singh, Advisor, Manipur State S&T Council, Dr. Amita Gill, Director, DST, Rajasthan, Shri A. P. Deshpande, Marathi Vigyan Parishad, Dr. Samar K. Bagchi, Former Director, BITM, Kolkata, Shri B. K. Tyagi, Principal Scientific Officer, Vigyan Prasar, and Dr. Narottam Sahoo, Advisor, GUJCOST conducted various interactive sessions on different aspects of the science clubs and possible activities.



Expert brainstroms for science club future at Gandhinagar (Gujrat)

large number of clubs financially.

- v. Each club has its own unique way of functioning or conducting activities, as VIPNET is a loose federation.
- vi. The clubs' activities in majority of cases especially in a school set-up) still remained centred around some highly motivated persons/teachers. Once the teacher is transferred or leaves job, activities of clubs come to a halt.

To address some of major issues that emerged from the first regional meet of VIPNET clubs (new activities/ideas, training to conduct activities and issue relating to funding to clubs), a brainstorming session was organised. About 30 experts and resource persons across the country working in different disciplines held an in-depth discussion covering four broad areas like functions and making science clubs nuclei of change and hubs of

information; financial implication for science club activities; accountability/reporting of club activities; and new vistas/new initiatives for science clubs.

Some of the important points that emerged from the discussions were as follows:

1. For sustainability, there is need to develop an effective mechanism to receive constant feedback, orientation of coordinators through exposures visits, skill upgradation programs, and yearly convention with selected projects of the clubs.
2. New resource material for new programmes/activities/campaigns may be developed on a continuous basis which should include books, booklets, kits, training modules, films and audio/video CD, etc.
3. Outstanding project reports of clubs and assessment thereof may be published in VIPNET



News as well as on VP website for wider replication.

4. Some clubs may be identified as lead clubs and assigned more responsibility so that they can work as extended arms of VP in a district.
5. A list of resources, strength and activities undertaken by the clubs may be compiled and the clubs may be categorised as 'Active', 'Very active' and 'Not active'.
6. The clubs should mobilise fund from local agency/ community by establishing their credibility among the local people by taking up local issues. VP may provide software and training as per the needs.
7. Some training programmes may be organised for clubs in some income-generating activities which may include development of low-cost kits, etc.
8. If a particular club has to its credit extraordinary work/ project or activity that can meet national/ international standards, VP can provide extra funding for such projects.

It is a fact that the VIPNET clubs can play a very important role in taking science to the grass roots level. The feedback received from the regional meet and recommendations emerging from the brainstorming session will go a long way in further strengthening this network of science clubs. The activities of the newer network clubs would further enhance the scope for joy of learning, innovativeness and creativity along with supplementing the formal curriculum. The VIPNET clubs in schools as well as outside would certainly provide an environment for learning and nurturing academic excellence. There is no doubt that, by incorporating some of the findings of regional meets and recommendations of brainstorming sessions, the VIPNET clubs will emerged a movement with a renewed vigour and strength. The social-oriented activities of the clubs would further help the country to transform into a nation of scientifically thinking people, equipped to make informed decisions and choices.

The aim of the brainstorming session was to develop a road map for the science clubs to motivate the children and the youth to take up scientific activities and contribute towards the cherished goals of achieving a scientifically aware society in the country. The expectations from the meet were as follows:

1. What should be the possible institutional mechanism that can be established for the clubs?
2. The possible linkages which can be offered to

these clubs (Local/State-level/National-level).

3. The resources which can be developed for the clubs by VP and allied agencies.
4. What kind of activities and programmes can be organised for VIPNET clubs in sustained way (some possible common programmes in clusters)?
5. What and how financial support can be provided to the VIPNET clubs?

Recommendations

Vision

Science club activities should be encouraged, motivated and supported from all direction to establish it as a movement of change for future. The overall guiding vision and working of science clubs should have four main components viz., (i) public participation, (ii) nurturing and promoting scientific attitude, (iii) spirit of innovation, and (iv) academic excellence.

1. Functions of science clubs

Children can be involved in natural resource management through action-oriented activities to bring an attitudinal change in the user resources among the community and to deal with emerging issues like sustainable development, climate change and global warming, etc.

2. Sustainability of clubs

- i. For sustainability, there is a need to develop an effective mechanism to receive constant feedback, orientation of coordinators through visits, skill upgradation programs, and yearly convention with selected projects of the clubs.
- ii. New resource material in the form of new programmes, activities and theme-based campaigns including development of books, booklets, kits, training modules, films and audio/ video CD, etc., may be developed for science clubs.
- iii. An inventory of investigative projects/ideas promoting spirit of innovation may be developed.
- iv. Contemporary theme-based activities and resource material need to be developed regularly to keep the clubs updated and socially relevant.
- v. Updating science clubs on projects/missions of national priorities through write-ups and resource material.
- vi. Club activities can be linked with formal education system through State Education Departments.

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3. Science club networking and accountability/reporting by VIPNET

Steps needed to strengthen the existing base of clubs in term of resources and capability to make them a centre of change and hub of information would include:

- i. Compilation of a list of resources, strength available and activities undertaken by the clubs and categorisation thereof as 'Active', 'Very active', and 'Not active'.
- ii. Revising the list of VIPNET science clubs so that each club can be identified and assessed according to states/district/localities/nature of activities/resources, etc., and databases should be made available to all clubs using IT.
- iii. The existing networks of science clubs can be brought within the fold of VIPNET for strengthening the network and resource sharing.
- iv. Collection from individual science clubs' most outstanding projects and assessment thereof for impact and e-publication on VP website and *VIPNET News* on monthly basis.
- v. Recommendations of selected projects to Inventions/Innovation Promotion Board/agencies for financial support.
- vi. Vigyan Prasar in association with State S&T Councils and other scientific organisations and resource persons may prepare a uniform Scientific Activity Calendar for the science clubs.
- vii. Vigyan Prasar should identify some clubs as lead clubs and assign them responsibility so that they can work as extended arms of VP in a district. Support and monitoring of these clubs could be done through respective State S&T Councils or some identified agency.
- viii. To begin with, about 200 VIPNET science clubs can be identified as lead science clubs in some States involving S&T Councils including (i) MPCOST, (ii) GUJCOST, (iii) UCOST, and (iv) TNCOST, etc. The activities for these clubs should be carefully planned, executed and monitored which may be disseminated and implemented to other states and regions.
- ix. Organising state level and annual convention of science clubs.



VIPNET Clubs Member during a rally

- x. Stress to be given on (i) the quality/impact of the projects, and (ii) the size of participation.

4. Financial implication for science club activities

- i. At local level (state/district) some partner agency may be identified for financial support, but theme-based/activity-wise support may be provided by VP in the form of software, training programmes, etc.
- ii. Science clubs need to be encouraged to design and develop low-cost activity kits, songs, dramas, etc., by associating local people, science teachers and local scientists and Institutes.
- iii. The clubs should mobilise fund from local communities by establishing their credibility among the local people by taking up local issues.
- iv. Some training programmes may be organised for clubs in some income-generating activities.
- v. If a particular club has extraordinary work/project/activity which can meet national/international standard, VP can provide extra funding for such projects.

- vi. More science magazines and periodicals need to be published for clubs.

New vistas/New initiatives

- i. The 12 issues identified by clubs are quite extensive and programmes and activities can be built around them for next few years.
- ii. For selected themes, activities can be evolved as short-term (less than a week) medium-term (up to a month) and long-term (more than three months in project mode)
- iii. Guidelines and resource material of 12 themes may be developed accordingly.

(VP also conducted a systematic assessment of the VIPNET programme in term of its functioning at national, state, district and school level. The study focussed mainly on learning the working of science clubs, usage of literature provided by VP and its outcome in terms of creation of S&T awareness among the students. The assessment was expected to provide inputs to consolidate the gain made so far, identifying the gaps and prioritise the areas in need of further action, to achieve the objectives of the VIPNET programme. The finding of this study will be shared with all Vipnetarians in our next issue.)

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पानी के लिए समर्पित जीवन

जलपुरुष के नाम से सुविख्यात राजेन्द्र सिंह से साक्षात्कार आधारित लेख

‘जल ही जीवन है’ इस उक्ति को चरितार्थ करते हुए ‘पानी संरक्षण’ को अपना जीवन समर्पित करने वाले जलपुरुष के नाम से जाने जाते हैं। राजेन्द्र सिंह जी का जन्म 6 अगस्त, 1959 को गांव डौला, जनपद बागपत उत्तर प्रदेश में हुआ। उन्होंने अपनी कर्मभूमि राजस्थान के अलवर को बनाया। आज वह देश में ‘जलपुरुष’ एवं ‘राजस्थान के डांडी’ के नाम से जाने जाते हैं। उन्होंने गांव किशोरी-भिकमपुरा, तहसील थानागाजी, जिला अलवर, राजस्थान में ‘तरुण भारत संघ’ के नाम से एक ‘एनजीओ’ 1975 ई. में बनाया। संघ का कार्यक्षेत्र मुख्य रूप से राजस्थान, मध्यप्रदेश, गुजरात, आन्ध्र प्रदेश रहा। संघ द्वारा 850 गांव का वर्षा जल संग्रहण कर अभी तक लगभग 4,500 बांध और जोहड़ का निर्माण किया जा चुका है और कई नदियां जो मृतप्रायः हो गयी थी, उनको जीवनदान दिया गया। इतना ही नहीं उनके द्वारा भूजल पुनर्भरण के लिए गांव-स्तर पर महत्वपूर्ण कार्य किये गये। राजेन्द्र सिंह जी को देश भर में जलपुरुष के नाम से जाना जाता है। अपने अभियान में उन्होंने महाराष्ट्र, गुजरात, हरियाणा, राजस्थान, दिल्ली, पंजाब, हिमाचल प्रदेश, उत्तर प्रदेश आदि प्रदेशों के लोगों को शामिल किया। 2001 में उन्हें ‘रेमन मैगसेसे पुरस्कार’ एवं 2005 में ‘जमना लाल बजाज’ पुरस्कार से सम्मानित किया गया। उनके द्वारा ‘पानी’ एवं ‘प्रकृति संरक्षण’ के लिए किये गये महत्वपूर्ण कार्य एवं उपलब्धियों के सन्दर्भ में विज्ञान प्रसार ने जानकारी एकत्र की कि कैसे वह एक साधारण आदमी से जलपुरुष बने। प्रस्तुत है ‘अंतरराष्ट्रीय जल सहयोग वर्ष-2013’ के उपलक्ष्य में विज्ञान प्रसार द्वारा उनसे जुड़े कुछ रोचक अंश व पानी और उनसे जुड़े कुछ मुख्य बिन्दुओं पर साक्षात्कार आधारित विचार।



राजेन्द्र सिंह जी ने अपनी कर्मभूमि गांव-गोपालपुरा, तहसील थाना गाजी, जिला अलवर, राजस्थान को बनाया। आरम्भ में उन्होंने आसपास के गांव में दवाई और पढ़ाई का काम किया और लोगों से जुड़ने का एक माध्यम तैयार किया। लेकिन इसमें भी उनके सामने बहुत-सी बाधाएं उत्पन्न हुईं। स्थानीय लोगों ने उन पर संदेह किया और सहयोग करने करने से मना कर दिया। यह विरोध सामान्य न होकर इस स्तर पर पहुँच गया कि, लोगों ने सोचना शुरू कर दिया था कि इस व्यक्ति (राजेन्द्र सिंह) का सम्बंध या तो किसी डाकू गिरोह से है या यह व्यक्ति हमारे गांव से किसी महिला को बहला-फुसला कर ले जा सकता है। लेकिन राजेन्द्र सिंह जी ने हार न मानने की ठानी हुई थी। स्थानीय लोगों के सहयोग से वह आगे बढ़ते गये और उन्हीं लोगों से पानी के बारे में बहुत कुछ जानने का मौका मिला। जिसमें मांगू काका मुख्य हैं, जिनसे उन्होंने पानी का विज्ञान सीखा और सूरज द्वारा पानी की चोरी रोकने का काम किया। उन्होंने स्थानीय लोगों के पानी के सन्दर्भ में देशी ज्ञान को ही आगे बढ़ाने का कार्य किया और इस विचार पर दृढ़ रहे कि इस देश को बेहतर बनाना है तो वो दूसरों के ज्ञान से नहीं बन सकता। ये बेहतर बन सकता है तो अपने ही ज्ञान से जिसमें मुख्यतः स्वदेशी और स्वावलम्बन अर्थात् अपने काम अपने हाथ से, अपने मस्तिष्क के विचार से और अपने शरीर के पसीने से इसको कहते हैं स्वावलम्बन, इसीको कहते हैं गांधीगिरी, यहीं विचारधारा उन्होंने जीवन में अपनाई।



अंततः कहीं हम तो इसके लिए जिम्मेदार नहीं?

पानी के सन्दर्भ में उनकी विचारधारा उल्लेखनीय है कि धरती के बुखार को उतारने और मौसम के मिज़ाज को ठीक करने के लिए आपको नमी चाहिए और नमी तो बादल की बूंदों से आती है। यानि हमारा उत्पादन, पर्यावरण यहां तक कि उद्योग-धन्धे कहीं-न-कहीं पानी से जुड़े हैं। यदि हमें बुखार होगा तो हम पैरासिटामॉल ले लेंगे, पर धरती को बुखार होगा तो उसे

ठीक करने के लिए हरियाली और पानी चाहिए। इसलिए उन्होंने पानी और हरियाली लाने का काम किया और इसी को सामाजिक मुद्दे में परिवर्तित किया। उन्होंने युवाओं के सहयोग से ‘रिसोर्स मैपिंग’ एवं मानचित्र बनाए, जिससे पता लग सके कि पानी कहां, कितना और कैसे रोक सकते हैं। राजेन्द्र सिंह के शब्दों में “पानी को लेकर उन्होंने कोई बड़ा करिश्मा नहीं किया था, यह बिल्कुल छोटा सा काम था”। सब कुछ वहीं या बस उसे व्यावहारिक करना था, स्थायी ज्ञान से स्थानीय सहयोग से। ...और यह सम्भव हुआ भी। जैसे ही गोपालपुरा गांव में पानी आया, सैकड़ों युवा शहर से वापस आ गये और खेती करने लगे एक तरह से रिवर्स माइग्रेशन हो गया। भौतिक विकास पर भी वह टिप्पणी करने से नहीं चूकते कि जो विकास हमने किया है इस विकास के पीछे विनाश छिपा है, आज जो विकास हो रहा है सबसे पहले हरियाली का ही सफाया होता है और फिर पानी का। हमने विकास तो किया, लेकिन उस विकास ने हमें पहुँचा कहां दिया...विनाश के द्वारा पर? वे उस विकास कि बात करते हैं जिसमें हरियाली या नमी की बात हो?

भविष्य को लेकर भी राजेन्द्र सिंह का चिन्तन काफी सार्थक है अर्थात् अब ‘नेचुरल रिसोर्स’ वाकई बहुत ‘क्षीण’ अवस्था में जा रहे हैं। भले ही सरकारी रिपोर्ट कभी-कभी ये कहने लगती है कि ‘ग्रीन कवर’ बढ़ रहा है, लेकिन सरकार कभी ये नहीं कहती कि इसीसे जीवन चलता है और इसकी स्थिति भयानक तौर पर बिगड़ रही है। देश का कोई ऐसा शहर नहीं है जहां नदी बह रही हो। सारी नदियां नाले बन गये हैं, नर्मदा हो या यमुना सब प्रदूषित हैं। देश की राजधानी दिल्ली में बहने वाली यमुना नदी, जहां देश की सारी शक्ति/सत्ता विराजमान है, यह इस बात का द्योतक है कि जहां भी पॉवर है, जहां भी एजुकेशन है वहीं सबसे ज्यादा प्रदूषण है। शिक्षा और सत्ता लगता

है हमारे प्रदूषण नापने का हाइयेस्ट पैमाना हो गये हैं। जहाँ ज्यादा सत्ता है जहाँ ज्यादा शिक्षा है वहीं प्राकृतिक संसाधन सबसे ज्यादा प्रदूषित हैं। वे सवाल पूछते हैं कि क्या यह हमारी आधुनिक शिक्षा का कमाल है जिसने हमें हमारे प्राकृतिक संसाधनों का संरक्षण करना, सहजना, सिखाना छोड़, उनका अंधाधुंध दोहन करना सिखा दिया है। इसी के साथ-साथ हमें स्कूलों में अहसास का विज्ञान पढ़ाना होगा, जिससे हमारे छात्रों में अपने आसपास के माहौल, प्राकृतिक संसाधनों को समझना व उनके संरक्षण के प्रति एक कर्तव्य की भावना उत्पन्न हो। आज छात्रों को पर्यावरण से जुड़े मुद्दों को जानकारी तो है परन्तु क्या करें, कैसे करें, इस विषय पर वे अपने आप को असहाय पाते हैं। राजेन्द्र जी इसका समाधान सुझाते हुए कहते हैं कि इसका समाधान भी आसान है। हमें ऐसा कानून बनाना होगा जो लोगों द्वारा नदियों में किसी भी नगरपालिका का गंदा पानी डालने से रोक सके। यदि ऐसा कानून बना कि किसी भी नदी, जिसका पानी पीने के लिए प्रयोग किया जाता है, उसमें मलमूत्र नहीं डाला जायेगा, तो समस्या का 'मूल' काफी हद तक समाप्त हो जायेगा और यह जिम्मेदारी हर व्यक्ति की है साथ ही पानी से जुड़ी संस्थाओं का कर्तव्य है कि वह इसको अपनाये और लोगों को जागरूक करें, साथ ही सरकार को कानून बनाने के लिए प्रेरित करें।



क्या हमें इस दिन का इंतजार है?

अन्य महत्वपूर्ण मुद्दों को लेकर भी उनके विचार तार्किक हैं। उनके अनुसार मृदा प्रदूषण और खेती में जो रसायन प्रयोग किये जाते हैं, वो बहुत खतरनाक हैं। इस प्रदूषण को रोकने के लिए हमें ऐसी 'सजीव खेती' जिसे 'आग्नेयिक फार्मिंग' कहते हैं, उसमें पानी की खपत भी कम होती है और पानी का प्रदूषण भी कम होगा, को बढ़ावा देना चाहिए। ...और जो उद्योग हैं, उनके लिए ये सुनिश्चित कर दिया जाये कि किसी भी उद्योग को किसी भी कीमत पर प्रदूषण फैलाने का हक नहीं है। साथ ही उद्योगों से उत्पन्न 'पाल्युटेन्ट' हैं, उनका पुनर्चक्रण और पुनर्प्रयोग किया जाये इस सबसे भी प्रदूषण काफी हद तक कम हो सकता है। भारतीय कानून की अगर बात करें तो यह हाथी के दांत जैसा है, केवल दिखाने के लिए। चूंकि प्रदूषण फैलाने को हमारे यहां क्रिमिनल केस नहीं बनाया गया है, उसको सिविल केस में डाल दिया गया, जिसके कारण मुकदमे लम्बे चलते रहते हैं और लाभ प्रदूषण फैलाने वाले को मिलता है और अंततः वह बच जाता है, सजा नहीं होती।

राजेन्द्र जी धार्मिक मामलों पर भी टिप्पणी करने से नहीं कतराते हैं उनके अनुसार, हमारे सन्त, महात्मा, सन्यासी सभी नदियों के उद्गम से लेकर उसके आसपास ही अपना रहने का स्थान बनाते थे, अपना मन्दिर बनाते थे और जहाँ वे अपना मन्दिर बनाते थे नदी के किनारे, वहां की नदी की पवित्रता की जिम्मेदारी समझते थे। अभी वो टोटके-फोटके, क्रियाक्रम और दिखावटी कामों में लग गये हैं, इसीलिए सबकुछ बिगड़ रहा है। पहले प्रकृति से हम केवल अपनी आवश्यकतानुसार ही लेते थे, आज तो प्रकृति संसाधनों पर कुछ ही लोगों का कब्जा होता जा रहा है। यहीं कारण है कि आज हम प्रकृति का दोहन नहीं शोषण कर रहे हैं। गांव हो या शहर प्रकृति के विनाश की खुली छूट मिली है।

शिक्षा व्यवस्था को लेकर भी राजेन्द्र जी की टिप्पणी है कि जो शिक्षा हमें दी जाती है उनमें अहसास करने की क्षमता दिखती ही नहीं। ये सोचा ही नहीं जाता कि बच्चों में अपना दिल/दिमाग होगा या बच्चों की अपनी कोई कल्पना

होगी। ना पब्लिक स्कूलों में और ना ही सरकारी स्कूलों में। जब शिक्षा में से रस, पौषण, स्नेह ये सब खत्म हो जाता है तब जो शिक्षा आती है वो एक तरह से सूचनाओं का जंजाल होता है और उन सूचनाओं के बलबूते हम कम्पीटिशन में भाग लेते हैं। फिर कम्पीटिशन को क्वालिफाई करके अर्थात् जो उन सूचनाओं को ज्यादा अपनी खोपड़ी में रख लेता है, समझ जाता है वो होशियार है, बड़ी नौकरियों में चला जाता है। जो उन सूचनाओं के साथ ज्यादा खिलवाड़ नहीं कर सकता, उन सूचनाओं का विश्लेषण नहीं कर सकता वह बेचारा पीछे रह जाता है। आज की शिक्षा सृजनात्मकता को ग्रहण लगा देती है। जब हमारी शिक्षा, हमारी सृजनात्मकता को, क्रियेटिविटी को दबा देती है फिर उस शिक्षा में किसी रोल मॉडल को समझना, समझाना, सीखना और सीख के उसे अपनाया ये बड़ा मुश्किल काम हो जाता है। रोल मॉडल को समझने और उनके विचारों, सिद्धांतों को अपनाने का जो एक दायरा होता है, उस दायरे में कमी आ गयी है। आज भी उन्होंने रोल मॉडल की प्रासंगिकता को उचित बताया है। जरूरत है उसे अपनाये की।

फेसबुक, इंटरनेट आदि की वर्तमान सन्दर्भ में प्रदूषण के प्रति जागरूक करने में महत्वपूर्ण भूमिका को भी उन्होंने समझा। इसके माध्यम से उन्होंने अपने साथियों के साथ मिलकर बहुत काम किया है। उनके अनुसार मीडिया 21वीं शताब्दी के दूसरे दशक में नयी क्रान्ति के बीज बो सकता है। इन माध्यमों से वे अपने आप को अपडेट भी रखते हैं और सतत् रूप से कार्य करते हुए आगे बढ़ते रहते हैं। इसको सतत् परिवर्तन की प्रक्रिया कहते हैं। ये जो सतत् परिवर्तन की प्रक्रिया है, इस प्रक्रिया में आपको हर दिन, हर समय कुछ करना होता है। राजेन्द्र जी युवाओं के साथ-साथ साइंस की पत्र-पत्रिकाओं के सम्पादकों, पत्रकारों, लेखकों से युवाओं को सही मुद्दे के दर्शन कराने को कहते हैं। उनके अनुसार उनका काम है सही मुद्दे के दर्शन कराके उसको आगे बढ़ाना। उन्हें लगता है कि इसी के द्वारा यदि इस देश के युवा लोग अगले कुछ सालों में खडे हो गये, तो इस समय हमारी नदी जो नाले बन गये हैं, वो अगले पच्चीस सालों में दुबारा नदी बन जायेगी। जो पहाड़ों की हरियाली छिन गयी है, वो दुबारा से आ जायेगी। आवश्यकता है केवल अहसास जगाने की।

(राजेन्द्र सिंह का विस्तृत साक्षात्कार पढ़ने के लिए देखें ड्रीम-2047 अप्रैल, 2013 अंक।
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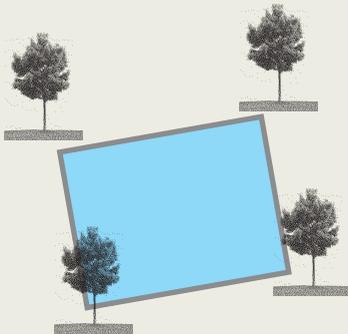
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पहेली संख्या Quiz No. -79
Brain Teaser /

- एक गाँव में एक चौकोर तालाब है। तालाब के चारों कोनों पर चार पेड़ हैं। समस्या यह है कि तालाब को बड़ा करना है ताकि उसका क्षेत्रफल दुगुना हो जाए। पर पेड़ों को बचाना है, काटना नहीं है। दूसरी तरफ गाँववालों की शर्त है कि नए तालाब की आकृति भी चौकोर होना जरूरी है। और पेड़ भी पानी में नहीं डूबना चाहिए।
- There is a square shape pond in a village, having for trees at each corner (as in picture). The village panchayat want to double the area of the pond by designing.

But they do not want to cut the trees and at the same time retain the shape of the pond (double area) in square shape: Can you help them?



- उत्तर प्राप्त करने की अंतिम तिथि: 30, जून, 2013
- डॉ. द्वारा चयनित विजेताओं को पुरस्कार स्वरूप विज्ञान प्रसार के प्रकाशन भेजे जाएंगे।
- अपने जवाब इस पते पर भेजें :

विपनेट चित्र पहेली - 79, विज्ञान प्रसार, ए-50, सेक्टर 62, नोएडा-201 309 (उत्तर प्रदेश)

- Last date of receiving correct entries: 30 June, 2013
- Send Quiz Ans. to desk :

VIPNET Photo Quiz 79, VIGYAN PRASAR, A-50, Sec. 62, Noida-201 309 (U.P.)

Correct Answer of Photo Quiz 77

विजेता/Winner

- 1- Aryan Rawat (Datiya-M.P.)
- 2- Komal Prajapat/Anil Kumar (Churu-Raj)
- 3- Abdul Majeed Sheikh (Baramula-J & K)
- 4- Ekta Dhull (Kurukshetra-Hariyana)



उक्त सभी पेड़ की लम्बाई क्रमशः

3, 6, 9, 12, 15, 18, 21=84 मीटर है।

Puzzle 34 Based on Dams and Water reservoir in India

A	S	A	R	D	A	R	S	A	R	O	V	A	R	K
S	D	F	G	G	O	B	I	N	D	S	A	G	A	R
D	J	T	J	K	Y	R	R	D	R	R	E	R	Y	I
J	R	T	D	R	H	H	E	E	R	A	K	U	D	S
R	I	T	D	E	E	E	G	H	T	G	E	R	D	H
D	D	D	T	T	R	T	Y	H	F	A	E	R	D	N
D	G	U	U	B	N	H	N	H	N	S	T	G	H	A
G	H	F	R	K	T	E	R	T	E	N	R	T	G	R
H	G	R	T	K	K	F	N	H	Y	U	F	T	R	A
R	H	G	R	T	H	I	T	R	T	J	E	F	G	J
I	N	D	I	R	A	S	A	G	A	R	G	R	T	A
G	E	D	F	G	H	J	D	N	R	A	S	G	J	S
F	G	H	Y	H	F	G	Y	D	R	G	R	D	D	A
D	F	G	N	T	Y	O	D	F	R	A	R	N	D	G
D	G	N	H	R	K	A	L	L	A	N	A	I	R	A
D	F	G	N	T	H	J	K	Y	R	E	R	G	G	R

Clue:

1. The highest dam in India.
2. A oldest/ancient dam in India built by Karikalan, A Chola King.
3. A man-made reservoir situated on river Sutlej, named in honour of Guru Gobind Singh.
4. The longest man-made dam in the world situated on Mahanadi river in Sambalpur district of Orissa.
5. World's largest stone masonry dam at the time of its construction, situated on Krishna river in Andhra Pradesh.
6. A gravity dam (a type of dams) on the Narmada river near Navagam, Gujarat.
7. A multipurpose project on the Narmada River in the Khandwa district of Madhya Pradesh
8. The largest completed hydroelectric project of India
9. One of the highest arch dams in Asia situated on Periyar River in Kerela.
10. A dam popularly known as KRS built on Kaveri river near Mysore.

□ R.K. Yadav
drrahiiprs@gmail.com

- Last date of receiving correct entries: 30 June, 2013.
- Winners will get activity kit/ books as a prize.
- Please send your entries to:-

Water Puzzle-34 , VIPNET News,
Vigyan Prasar, A-50, Sector 62, Noida-201 309 (U.P.)

The puzzle has been Designed as part of
International Year of Water Cooperation-2013

Answer Water Puzzle- 32

विजेता/Winner

- 1- AkshatKohli/AbhinavKohli (Lucknow)
- 2- Tilak Raj Sharma (Kullu)
- 3- Mr. Shinde P.S (Ainagar)

A	D	B	T	L	U	G	R	O	L	S	T	D		
L	D	F	T	O	S	D	F	K	R	O	D			
S	H	E	F	A	N	S	H	S	A	G	V			
S	O	E	N	D	T	E	S	T	S					
S	D	E	N	S	P	O	L	I	O	N	S	E		
R	G	D	R	S	E	N	T	E	D	U	S	E		
T	E	V	E	N	W	S	D	C	O	C	I	S		
N	I	E	D	F	T	S	A	C	D	H	O	D		
A	D	N	A	L	A	S	A	N	D	O	R			
C	E	T	S	L	D	E	S	F	N	O	Y			
H	E	D	N	S	E	F	S	I	F	D				
W	H	E	F	P	A	S	E	S	P	O	S			
M	S	K	O	N	S	D	W	E	P	A	N	S		
A	S	C	A	T	S	D	E	N	S	I	N	S		
D	N	A	S	E	N	T	C	O	L	E	W			

Club speak

विज्ञान प्रदर्शनी

डा. अब्दुल कलाम विज्ञान क्लब, सिवाना, बाड़मेर, राजस्थान द्वारा अक्टूबर से नवम्बर, 2012 के दौरान अनेक कार्यक्रमों का आयोजन किया गया। इस दौरान अक्टूबर माह में 'राष्ट्रीय जीव दिवस' मनाया गया, जिसके अंतर्गत 'प्रिय प्राणी' विषय पर पोस्टर प्रतियोगिता आयोजित कर पुरस्कार वितरित किए गए। इसके अलावा क्लब के सदस्यों ने भारतीय संस्कृति ज्ञान परीक्षा में भी भागीदारी की। क्लब द्वारा अक्टूबर माह में 'स्वच्छता सप्ताह' का आयोजन कर विद्यालय में स्वच्छता पर जागरूकता का प्रसार किया। नवम्बर माह में क्लब सदस्यों ने तम्बाकू उन्मूलन दिवस मनाकर तंबाकू से दूर रहने के संदेश का प्रसार किया। दिसम्बर माह में क्लब द्वारा एक दिवसीय विज्ञान प्रदर्शनी का आयोजन कर विज्ञान के प्रति जागरूकता का प्रसार किया।



Science Week

Vigyan Gaurav, Science Club, Kondli Delhi celebrated Science Week in Rajkiya Sarvodaya Bal Vidhyalaya during September, 2012. During



science week various competition such as painting, slogan writing and poster making were organized.

Activity report

Kendupatna High School Science Club, Kendupatna, Salipur, Cuttack, Odisha organized various science activity during 2012. During 4th August 2012, club organized four different science activities in school.



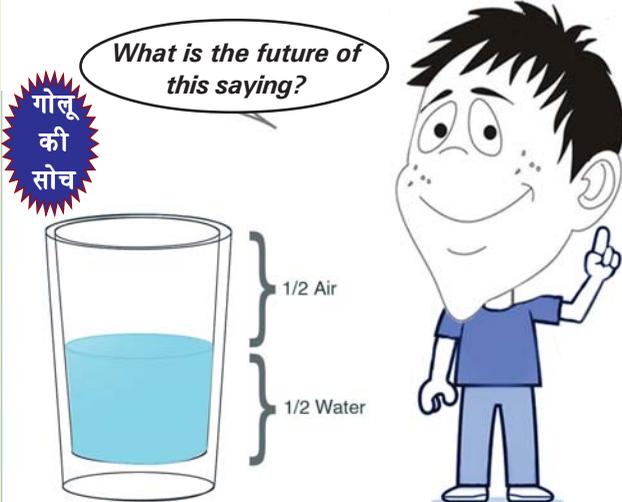
Club organized science seminar and school level science exhibition on 8th November, 2012. On 14th December, 2012 club observed National Energy Conservation Day.

Science Exhibitions

Young science vision-India, Varanasi, U.P. organized Science Exhibition on 2nd December, 2012 at Sanatan Dharma Inter College, Varanasi. Students from more than 15 schools participated in science exhibition.

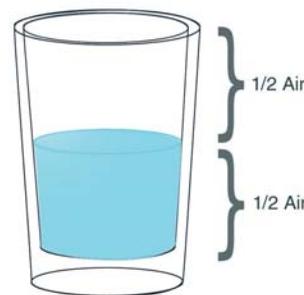


Now people say glass is always full, half with air and half with water.



चित्रांकन : मेघा

Glass is still full but this time 1/2 with air and half with the air again



Kindly save the water to save the saying

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HOW WE CAN BE OZONE FRIENDLY



Being Ozone friendly" means taking individual action to reduce and eliminate impacts on the stratospheric ozone layer caused by the products that you buy, the appliances and equipment that household or business uses, or the manufacturing process used by company. Products made with, or containing Ozone Depletions Substances (ODSs) such as CFCs, CTC, HCFCs, halons, methyl chloroform and methyl bromide can contribute to ozone layer depletion.

Actions that an individual can take to protect the ozone layer :

Be an Ozone-friendly consumer



Buy products (aerosol spray cans, refrigerators, air-conditioners, MDIs, fire extinguishers, etc.) that are labelled "ozone friendly" or "CFC free".

- Ask for more information from the seller to ensure that the product is ozone friendly.
- Tell your neighbour that you are the proud owner of "ozone friendly" products.

Be an ozone-friendly homeowner



- Dispose of old refrigerators and appliances responsibly.
- CFC and HCFC refrigerants should be removed from an appliance before it is discarded.

Consider purchasing new fire extinguishers that do not contain halon (e.g. dry powder).

Be an Ozone-friendly farmer



- If you use methyl bromide for soil fumigation, consider switching to effective and safe alternatives that are currently being used. Replace this ozone damaging pesticide.
- Consider options such as integrated pest management that do not rely on costly chemical inputs.

Be an ozone-friendly refrigeration servicing Technician



Ensure that the refrigerant you recover from air conditioners, refrigerators or freezer

during servicing is not "vented" or released to the atmosphere.

- Regularly check and fix leaks before they become a problem.
- Start refrigerant recovery and recycling programme in your area.

Be an ozone-friendly office worker



Help your company in identifying which of the existing equipments (e.g. water coolers, air conditioners, cleaning solvents, fire extinguishers etc.) are based on ODSs.

- Develop a plan replacing them with cost-effective non- ODS based equipments/ products.
- Become an environmental leader within your office.

Be an ozone-friendly company



- Replace ODSs used in your premises and in your manufacturing processes.
- Contact your National Ozone Unit to see if you are eligible for financial and technical assistance. If products manufactured in your company are based on ODSs, plan and implement conversion of production line to non-ODS technologies that do not destroy ozone layer.

Be an ozone-friendly teacher



- Inform your students about the importance of protecting the environment and in particular, the ozone layer.
- Teach students about the damaging impact of ODSs on ozone layer, health and what steps are being taken internationally.