Indian Society of Remote Sensing
Ahmedabad Chapter

NEWS LETTER

Vol. 5, No. 1 & 2 01 April 1991

Dear Members,

On 18th March, 1991, the sun as usual set on the dusty horizon of Ahmedabad. But the evening became memorable for the Ahmedabad Chapter of ISRS as it marked the successful completion of the open-house celebration of third anniversary of IRS-1A launch. In celebrating the landmark event of Indian Space Programme, the Chapter has discovered a new meaning to its existence and a sense of confidence in its abilities - to finance, publicise, organise and execute a mass awareness programme of an unprecendented level. All this was hardly foreseen during September 1990 meeting of Council when Chairman ISRS-AC proposed the idea in measured and essenceful tone. But as time went by, strategies and tactics were laid out and the actions snow balled. That the crescendo was demanding and the public response was overwhelming should be clear to you from Secretary's report and visitors comments recorded in this issue of Newsletter.

The theme subject of 'Remote Sensing in 1990s' will be dealt in the next issue of the Newsletter.

- Editor

CONTENTS

THIRD ANNIVERSARY CELEBRATION OF INDIAN REMOTE SENSING SATELLITE (IRS-1A) LAUNCH

One of the major utilisation areas of space technology is Remote Sensing - the observation of the earth's surface from orbiting satellites. In India this technology is being used operationally in many areas to generate information about earth resources. With the launch of IRS-1A on March 17, 1988, India joined the select group of nations having an operational remote sensing capability. IRS-1A completed three years of successful operation in orbit on March 17, 1991.

The Ahmedabad Chapter of the Indian Society of Remote Sensing is actively involved in promotion of remote sensing technology in Gujarat. In order to give awareness about the utility and capability of remote sensing technology among common people and students in particular, the chapter celebrated the third anniversary of IRS-1A launch by holding a two-day exhibition and a popular lecture at Bhai Kaka Bhavan, near Law Garden, Ahmedabad, on March 17-18, 1991.

The techniques of remote sensing was explained through posters and write-ups in two languages, viz. English and Gujarati. The exhibits were specially designed and prepared to suit the occasion. Models of the satellite and the launch vehicle were also displayed which made the exhibition an added attraction. Applications of remote sensing was explained using simple and interesting illustrations to arouse interest among the students community and also to demonstrate the utility of the technique to the citizens. Resource areas like agriculture, forestry, hydrology etc. were covered. A short duration video film on "**REMOTE SENSING**" was also screened continuously so that people could watch in batches.

A lecture on "Remote Sensing for National Development" was delivered by Prof. P R Pisharoty, Professor Emeritus, Physical Research Laboratory, Ahmedabad, in the auditorium of Bhai Kaka Bhavan on March 17, 1991. A souvenir containing articles on remote sensing technology in Gujarati, Hindi and English was brought out. An IRS-FCC image of Ahmedabad city along with its corresponding interpreted map was also printed for the occasion. The souvenir and the colour picture-cum-map of Ahmedabad were distributed to the people who attended the lecture and also on selected basis, to the visitors in the exhibition. The exhibition was visited by a large number of people including groups of students and their teachers from various schools and colleges of the city.

THEY CAME, THEY SAW AND THEY SAID

Voices of spontaneity from the visitors to the Exhibition

FROM BELOVED STUDENTS:

The Eye in the Sky was an eye opener indeed! What we study in books has been demonstrated - Ms Shalini Narula, Shalini Bagh K V.

Damn interesting! Good for students - Raj Kurup, A G School.

Very informative, the demonstrations were also very simple - Anuja Mehta, M. Sc.

Was very good but the language was difficult - Vinay V, Amruta M School.

The demonstrations and explanations have enriched our knowledge - Ms Papur.

I came to know about many things which I was unaware of - Gargi Mathews, F A H S School.

Has opened a new science for me and my friends - Firdaus Amrut School.

Has given me lot of knowledge about satellite, maps and other things - Y Dubey.

We want programs regarding this (remote sensing) in our school during the first terms - Gupta, Rajasthan Hindi High School.

This type of exhibition should be organised every month in different parts of the State so that large number of people know uses of a satellite. I would like to become member of your Society - Pandya Deepak.

Thanks for educating us about a technique which we were unaware of - Students from Jain School.

Quite interesting and good for students. Request to make more expansive and interesting in future - Santosh, A G School.

When we came, we were not knowing about remote sensing. Now we know a lot - Students of Rachana School.

Quite fascinating and interesting - Sandip Goyal, Rachana High School.

For the first time I have seen an exhibition about satellite - Kartikeya Dave, Rachana School.

Congratulations for wonderful work! All the best for future projects - Prashant Dubey.

KUDOS to all who are responsible for bringing India ahead in this field. Such exhibitions should be taken to educational institutions so that students are encouraged to pursue their higher education in this field - Rajesh Kaul, L D Engg College.

We thank the staff of ISRO for arranging such an interesting exhibition - S Gupta, FAHSS.

FROM HONOURABLE CITIZENS

The introduction is very impressive but finer details need more explanation. On the whole (it is) quite informative - Aruna.

Such valuable information should be put to more use for country's welfare - R N Batenwala, L&T Ltd.

Very informative. Can't miss it - Jignesh Parmar.

Very informative but the technical details are beyond comprehension of a layman - K K Naik.

We have really collected more information (than we knew from other sources) by visiting the exibition - Teacher, DBM Shala, Kankaria.

You should have a cassette explaining basics of RS technology and the language of explanation should be Hindi - Narendra, Dr. J N M Govt Polytechnic.

Was very informative so far as the usage of satellite in various fields is concerned - Teacher, R B Vidyamandir.

Very informative especially for the younger generation - A N Vora.

A must (to know about RS) for every citizen of India. Please make a film and go to schools. You never know, one great future scientist may be hidden in that school - Sushma J.

A very good effort to communicate to the curious public and students about various aspects of remote sensing endeavours made by our scientist in a very simple and concrete manner. Public at a large will be benefitted from such exhibitio - B K Sinha, Asstt Prof. of Psychiatry, Dept of Psychiatry, New Civil Hospital.

Why is this exhibition only for two days? If it had been for a longer period many more students could have been benefitted - Hemendra Bhatt, Shreyas Foundation.

Literature on RS should be prepared in Hindi, English and Gujarati and sent to High Schools and higher secondary schools of Gujarat State - B H Patel, Asst. Conservator of Forests.

FROM DIGNITARIES

Very educative and informative. Well done! - Prof. P R Pisharoty.

A very well-organised and informative exhibition - Shri Pramod Kale, Director, SAC.

A well-organised effort. Should be made into a mobile one and taken to different parts of Gujarat - Shri O P N Calla, Dy Director (SCA), SAC.

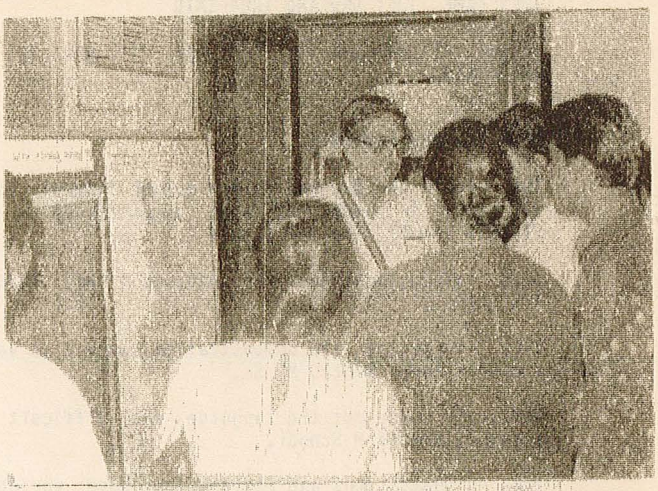
Innovative, Unique and Excellent! - Prof. S D Verma.

Very informative and useful even for a layman - Dr. D G Faldu, Director of Agriculture.

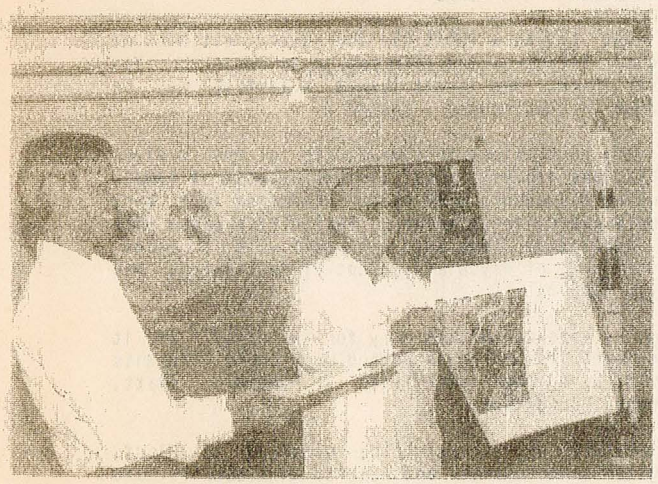
Nicely planned exhibition. Even a layman can

(CONTINUED ON P.6)

Inauguration of the exhibition by Shri O P N Calla

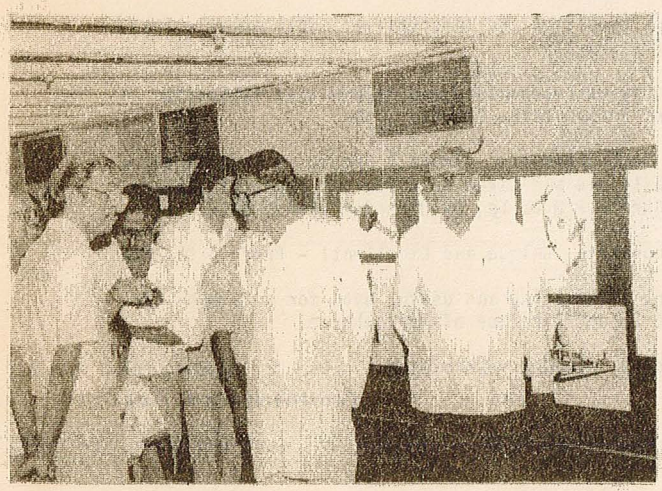


Putting finer points of RS across to a group of young visitors

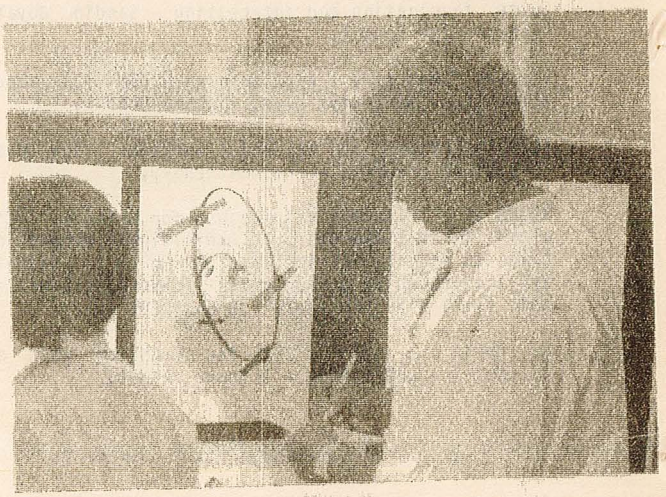


Release of Souvenir and image-cum-map of Ahmedabad

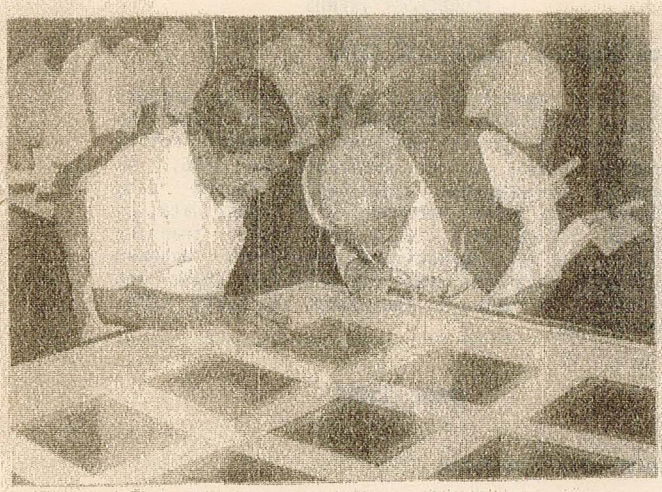
Telling all about the presiding deity of the day - IRS-1A



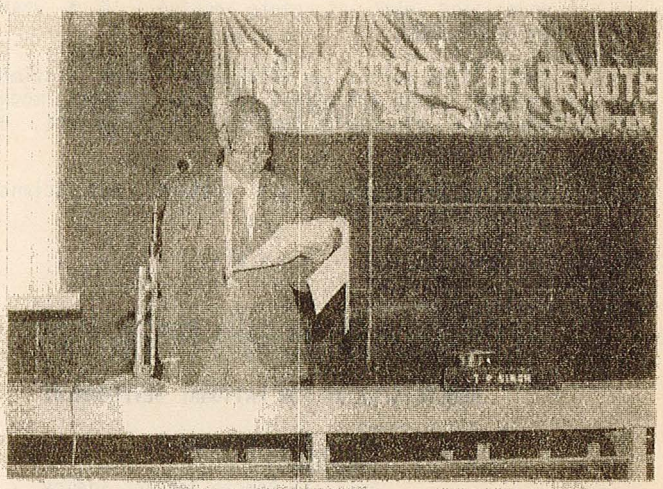
Shri Pramod Kale, Director SAC takes a round of exhibits, flanked by Dr. George Joseph, Chairman ISRS-AC and Shri O P N Calla



A solitary moment of concentration

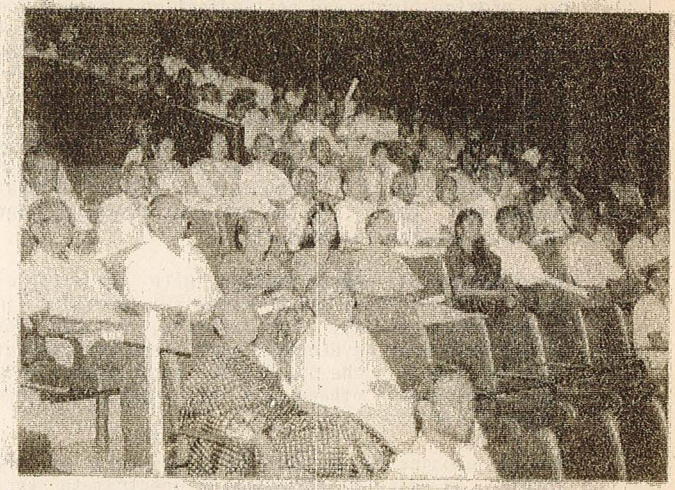


A senior citizen dwelves into the finer points of RS



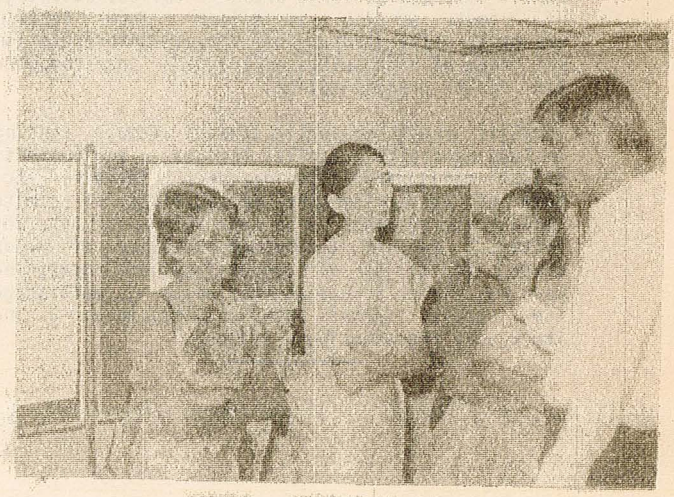
Prof. Pisharoty delivering the public lecture

Shining a star into their eyes



A section of the attentive audience during the public lecture

A view of dias in the evening



And the end was all smiles

understand what is remote sensing - C K Joshi, Director, DGM.

This is an exhibition which stands as a testimony to our young scientists who have adapted modern technique of remote sensing - N Madhukara, ex-Director, DGM.

Very enlightening - K S Kothari, HOD Science, Firdaus Amrut School.

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Fourth Laxmi Narayan Calla Memorial Lecture
SAC Campus, January 11, 1991

REMOTE SENSING FOR NATIONAL DEVELOPMENT

Prof. B L Deekshatulu
Director
National Remote Sensing Agency
Hyderabad

Remote sensing is important for national development in a number of ways. First of all, it can provide timely and cost effective information about the spatial distribution of various natural resources and thus help in increasing the productivity of the nation. Secondly, spatial and temporal nature of the remote sensing endows it with capability to evolve environmentally safe yet economically viable system for natural resource management, in contrast to traditional connotation of 'exploitation' associated with natural resources. Lastly, RS can pre-empt disasters and help in conservation measures.

Integration of remote sensing with conventional methods can yield valuable resource information in a much better way. For example, a plan for integrated area development will require various thematic inputs - the spatial one being amenable to RS techniques, others can be obtained from conventional sources.

Remote sensing can be defined alternately as the science of using electromagnetic spectrum to know 'what is where' and how much of 'what is where'. Applications of remote sensing pertain mainly to earth's atmosphere, ocean and land and to-date, the level of ooperationalisation achieved in these areas is low, medium and high, respectively. While repeat coverage of large areas is obvious advantage of remote sensing, it suffers from certain drawbacks like drudgery of visual interpretation and need of high skills in training the computer for digital classification.

Familiar areas of application of remote sensing include agriculture, soils, land use, environment, drought monitoring, water resources, forestry etc. Some of the challenging applications of remote sensing to be taken up in near future or already initiated pertain to yield forecasting of major crops, monitoring of desertification, grassland mapping, timber volume estimation using multistage sampling etc. (Summary based on notes taken during the actual presentation - Editor).

TECHNOLOGY TRENDS

Data Handling : Goodbye to CCTs?

The large amount of data churned out by sensors onboard satellites will finally have an answer in an efficient, compact data recorder called rotary recorder likely to be available by 1996. As compared to magnetic tapes which record data linearly, the rotary recorders will encode data, on compact optical disks, at a much faster transfer rate. It will grace, not only the onboard facilities but also make life easy for those who purchase the data in the form of bulky CCTs. (SPACE NEWS).

SPACE VISTAS

Electricity from Space

An Italian tethered satellite will be dragged through the space by a 99-km long cable attached to Space Shuttle during December 1991. As the tether cuts across the earth's magnetic fields electric power will be generated. This is one of the many electrodynamic experiments to be conducted during joint-US Italian mission. The latter, apart from 520 kg satellite, is also making a deploy device which will hold the satellite in shuttle cargo bay and reel it in and out (Space News).

NEWSPIX

Some interesting RS Applications

° A fertiliser company used Landsat data to delineate regions of low fertility and target those regions for enhanced sales, as the returns to farmers were assured.

° A big farmer knows from RS data that potato crop yield is depressed and holds his stock till the prices rise from $ 80 to $ 130 per ton at the end of harvest and end with a profit of $ 750,000.

° In the state of Arizona RS enforcement departments spends $ 10,000 on Landsat images to catch any illegal diversion of irrigation water - down to a single field (US, of course).

° Earthsat, an US firm, offers crop forecasting service in the form of monthly printed reports called CROPCAST. It also offers an interactive data base, a PC-compatible file, called CROPDIAL which can stack upto 12 layers of information and display multiple, interacting images on the screen.

° Water temperature anamolies are helpful in location of potential fishing grounds. It is also possible to predict the fish species by their preferred temperature ranges. For example, Salmon is found in waters of 49-51° F range. Satellite based SST charts can reduce the search time by 20 per cent - but the Nimbus charts at $ 1000 are prohibitive. (Source : Space Inc by Tom Logsdon).

A PC to teach you Remote Sensing

At a modest cost $ 185 per module, one can learn the key concepts through a PC compatible software package called 'Introduction to Remote Sensing'.

Developed by Australian Key Centre for Land Information Studies, this prize-winning course teaches to non-computer specialist the physical aspects of remote sensing and the spectral signatures presented in two separate respective modules. Modules have assessment and progress monitoring option suited to, not only first year students but to professionals as well. The program runs on PC systems with EGA graphics, a colour monitor and hard disk. (Source : CSIRO Space Industry News).

RS Directory

International Space University has adopted an Australian proposal to establish an international computerised directory of remote sensing topics and applications. Preliminary work on the directory has already begun and is likely to enter soon the production phase. (Source : CSIRO)

OBLIQUE VIEWS

Landsat Island

A team of cartographers used Landsat images to discover a new island off Canada's Atlantic Coast. This previously unknown island has been appropriately named as 'Landsat Island'.

Cocaine and Remote Sensing

US used RS data to map canobis crop producing areas in Mexico. Monitoring from the space helped reduce flow of drugs to insignificant levels. Colombia is now major drug supplier and it found that TM data can be used to identify coacaine-producing Cannobis crop grown by Slash and Burn method in forests. Even if the areas are camouflaged the detection is possible using refined systems. RS data can also help the law enforcement agencies by identifying the unchartered landing strips (RSS Newsletter).

MODEL YODEL

Twinkle, twinkle, crop pixels,
We always wonder, 'How many quintals?'
You shall yield very low,
That's what our models show,
But in the field you yield so high,
Will you ever tell us why?
Twinkle, twinkle, crop pixels,
We always wonder, 'How many quintals?'

(Contributed by Shri T T Medhavy, LRD/RSAG/RSA/ SAC)

BOOK REVIEW

SPACE INC - YOUR GUIDE TO INVESTING IN SPACE BY TOM LOGSDON, CROWN PUBLISHERS INC, NEW YORK 1988 (PRICE $ 22.50).

The book explores a wide range of industrial and commercial possibilities of space and the related technological developments. Set in popular tone of writing the book presents in an interesting and informal manner the immense potential of space enterprise in coming years. The author opens the book with a rosy picture of huge revenue of $ 65 b to be earned by private companies by the year 2000. The three attractions of space viz. microgravity, hard vacuum and wide-angle view of the planet earth will give rise to a variety of indispensible manufacturing and service sector enterprises - starting with exotic pharmaceuticals, glasses and semiconductors on one hand to communication and remote sensing and launch services on the other. Almost exhaustive list of possible subcomponents of various enterprises are given in lucid and readable details. The topics covered are manufacturing, communication, remote sensing, navigation, rockets, space station, retrieval and repair services and 21st century world view.

About remote sensing author opines that it will be $ 2 billion annual business and experience a growth rate of 10 per cent. The business of RS will primarily be centred around such key activities like sale of data (prints, tapes, transparencies), sale of value-added (enhanced, annotated, gridded, merged with collateral data etc.) products and specialised services/softwares/hardware for resource disciplines, following primarily the lead enterprises in oil, gas and mineral sectors. Expert systems, GIS and sale of resource information are the areas likely to experience intense developments, where private enterprise will flourish. Zenith of enterpreneurship is indicated by the resolve of one US company - Space America - to launch its own private RS satellite.

Even if you are not serious about 'pennies from space' and do not feel heady about typical American hi-tech, the book is worth its value for the immense sweep of perspective on almost all possible space endeavours and the sheer joy of reading its dramatised, catchy and explanatory openings to many otherwise complex topics.

- Editor

Congratulations Ms Beenakumari!

Ms Beenakumari won first prize in Fourth Hindi Competition at both SAC and DOS level for Essay writing, noting and drafting held during September 1990.

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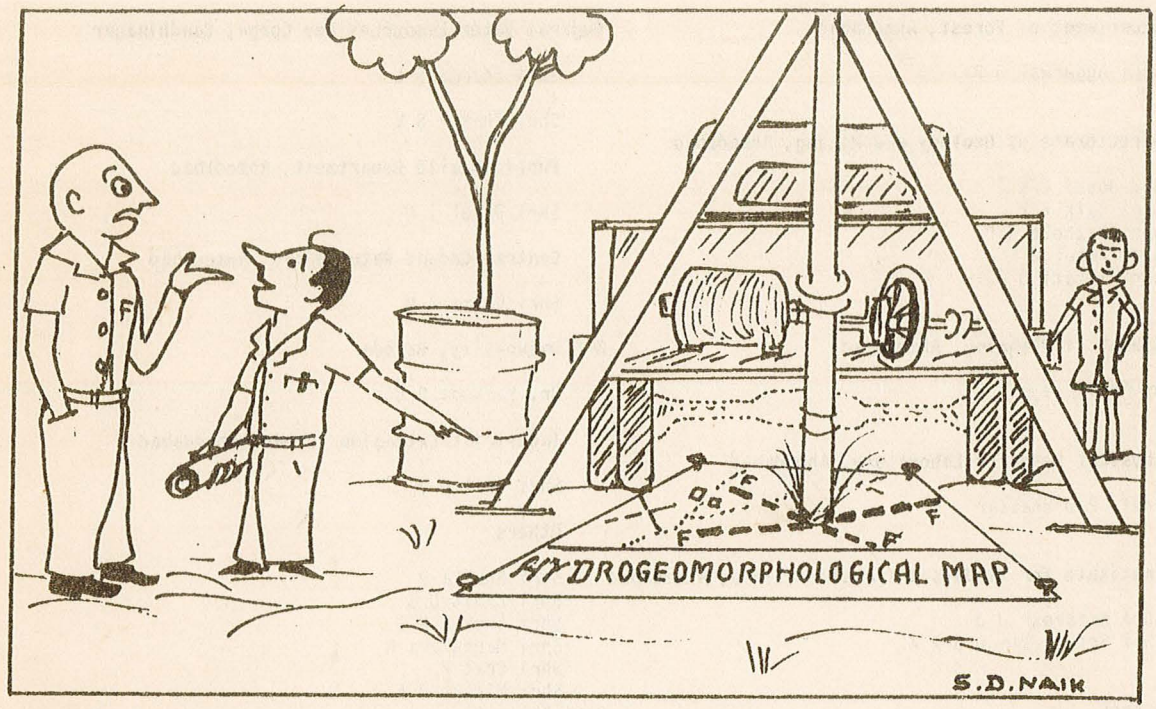

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BOOK POST

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