230. Multipronged Approach for Popularization of Science and Technology among the public

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Abstract. The rate at which Science and Technology is advancing in the world is simply unimaginable. It needs superhuman efforts to communicate Science and Technology to the public. However a large number of steps are already being taken by Govt. and Non-Govt. organisations in this regard. Yet it is inadequate. One solution appears to be to make it a mass movement. For this a multipronged approach may be made to expose and train the heads/leaders of various groups who can take Science and Technology down to the individuals at grass-root level.

Introduction

A glimpse at the steps taken in the past for popularisation of science by Govt. and Non-Govt agencies would indicate that, perhaps no stone has been unturned in this regard. Some are useful, some very useful and some are excellent.

Pamphlets, Leaflets, Articles in Print Media; Books, Magazines, Radio, Television, Talks, Debates, Jathas, Slogans, Morchas, Posters, Flagmarch with placards, Exhibitions, Museums, Quiz Competitions, science based Cultural programs and Folk art etc; are only indicative and not exhaustive. Prizes are also awarded as incentives for all these. Yet, it appears, there is much more that can be done.

Can this be converted to a mass movement - a movement to which people from all walks of life can be roped in? They can be made to be actually involved and contribute significantly in their own way.

Multipronged approach

Yes! It is possible. For this we can have a multipronged approach. We have to identify the groups, create awareness among their leaders/heads and train them. An approach can be to identify them by their age group, level of education, their pursuits of daily life, vocation, profession etc. For example, we have students, teachers, doctors, politicians, peoples' representatives, administrators, assistants, scientists, business people, corporate houses, social workers/self help groups, women groups, tribal groups, industrialists, labourers in organised and unorganised sectors; armed forces of all wings and paramilitary forces etc.

These different groups have different levels of education, understanding, exposure and interest. Hence while taking science to them; we have to adopt different approaches, strategies, methodology, techniques and mediums.

One can design and distribute leaflets, booklets, documents for different groups, organise meetings, training programs, workshops and interactive sessions. The duration of the programmes can be varied, from a few hours to a few days and spread in different locations. For top echelons, we may choose Secretariat Conference Room, Administrative Academies; for MLA's, Assembly or suitable Halls; for MPs, Conference Halls; for Collectors/Block Level Officers, collectorate conference halls and so on. For the grass root level, there are respective Panchayati Raj office premises. These meetings or workshops can be repeated for different groups.

The leaders in turn can take suitable steps for bringing science to the groups they head, formulate programs within their scope for inculcating scientific temper, removal of superstition and blind beliefs as well appreciation of scientific activities & achievements at different levels.

Experience

The approach indicated above is based on some experience we had way back almost three decades hence in the Department of Science Technology and Environment when a massive program was launched for creating awareness on Environment, various issues involved, steps to be taken at different levels, the roles to be played by the various groups and individuals, policies to be advocated for adoption by Govt. etc. A number of incentives and awards were instituted. These have since become a part of the system and have done yeoman service for creating an impact on

protection of the Environment in the State.

Another program recently organised by the P S Planetarium, under the aegis of DST, GOO is 'Scientific Exposure Visit' for students selected from schools under Tribal Sub Plan of the state. One student from each of the 254 schools are brought to Bhubaneswar, accompanied by some teachers and camped for four days. During this period, eminent scientists gave talks, visit to scientific institutes, like Institute of Physics, IMS, PSP, RSC, RMNH etc; were organised. Participants made notes on their observations and had interactive sessions at the end of the day. Selected students were awarded prizes at the Valedictory function. This is the 2nd year in succession. The participants had a rich experience which was communicated to their school mates. Let us consider some of the groups:

Students

Students constitute the major part of the society. As the future generation of the country, this group deserves maximum attention. Rightly so, a large number of programmes are being implemented. Besides science as a part of the curriculum, the other programmes are Science Exhibition talks or lectures, various competitions, National Children's Science Congress–starting from individual schools to National Level participation with a focussed theme, Science Centres under NCSM, though vary few in numbers; observation of various National Days like NSD, World Environment Day, Technology Day, Science Express, though only a small section is benefitted; Programmes on TSP, Olympiads and so on. Yet a few more things can also be done. More science based programmes can be broadcast by Radio, which will reach remote corners where there is limited scope for TV. The scope of students from remote areas to visit Science Centres, Planetaria may be increased. Mobile Science vans and Mobile Planetaria may be increased. Popular Science Magazines in local languages already available at subsidised rates may be sent to interior schools possibly at highly subsidised rates.

People's Representatives:

India is a democratic country. Policies are made by People's Representatives. Government Machinery is run by a vast network of committed Bureaucracy, overviewed by People's Representatives. They are the persons who interact with people whom they represent. Hence Science should reach them first so that they can appreciate the programmes and in turn take them to the people. That is the way their outlook will change to at least at limited extent, overcome superstition and blind belief, creating awareness of Health, Hygiene and Sanitation and protect the environment.
- At National Level: Members of Parliament; Members of Rajya Sabha
- At State Level: Members of Legislative Assembly
- At Municipality/Corporation/NAC Level: Councillors/Mayors, Chairpersons
- At Panchayat Level: Panchayats/Sarpanch

The Panchayati Raj is a system which enables people to run their own local Govt in rural areas.

The Panchayati Raj is a three tier system. It works at three levels–
- The gram panchayat at the village level,
- The block samiti at the block level and
- The zilla parishad at the district level

In our country, the system of Panchayats is very old. In 1992, the Central Govt. Amended the Constitution and formulated rules for the Panchayati Raj System. These rules became effective from April 1993.

The Gram Panchayat has various duties with emphasis on developmental activities such as agriculture, primary education, health and sanitation and responsible for implementing the Community Development Programme at village level.
- Block Samiti–Elected members + State Legislative Members + Members of Parliament of that area
- Zilla Parishad–Apex body of the PR System. Elected body + MLA + MP
- These institutes of Local Self Govt. also help to bring about social change.

Local Self Govt. in Urban Areas

A Municipality or Municipal Council is Local Self Govt. body in smaller towns and cities. The population of a town or city determines the number of members in the Municipality (usually in between 15 to 16). A head of the Municipality is called Commissioner or President.

In case of large cities, the Local Self Govt. body is called Municipal Corporation. The number of elected members is usually between 50 and 100 (may be more as in Delhi and Mumbai – 134 to 221). The head is known as

Mahapur or Mayor. The functions are:

1. Maintenance of public hygiene
2. Public Health
3. Public conveniences

4. Registering Births and Deaths
5. Education
6. Roads and Bridges
7. Solid Waste Management

    Note: A Nagar Panchayat is set up for an area that is changing from a rural to an urban type – Transitional area.

State Legislature

•   Legislative Assembly (Vidhan Sabha or Lower House)–The strength of State Legislature varies according to the population of the State concerned. The total strength for all States/UTs in India is 1485.

•   Legislative Council (Vidhan Parishad or Upper House)–The strength varies as per the population of the State, limited to 1/3rd of the strength of Legislative Assembly.

Parliament

•   Lok Sabha: Maximum strength is 550 + 2 nominated members (530 States and 20 Union Territories).

•   Rajya Sabha: Maximun strength is 250.

    In the preceding paragraphs, we have mentioned the People's Representatives of various categories starting from Panchayat Raj to Parliament. This indicates how effective our approach would be if they are individually and severally groomed in Science and Technology by way of exposure and training, however short they may be.

Women's Group

    Currently with the support from different programs at State and National level, several Women groups have become active and undertaking activities for socio-economic development.

    We may focus S&T communication for this group which will be very effective in achieving our objective.

Tribal Group

    The Tribal Group constitute a significant percentage of the population in several States. Along with the development programs they may be exposed to Science and Technology in an appropriate manner to appreciate the role of S&T for Social-Economic development and well being besides developing a scientific temper and removal of superstition.

    In addition to the above, there is another group/section that may also be roped in. They are the officers of Major Corporations who contribute to programme of Social Relevance. In fact the Social Corporate Responsibility is now a programme built into the system/organisation. They are already doing yeoman service for the welfare of the society where they are active.

Conclusion

    For effective communication of Science and Technology to the public, there should be a mass movement and a Multipronged Approach is highly recommended.