

Disseminating Scientific Information

Nandadasa Kodagoda

Professor of Forensic Medicine, Medical Faculty, Colombo Campus

In any given society, there are some people who are better informed of scientific matters, than others. Some others are better skilled than the rest, and some have better scientific attitudes than others. It is up to such fortunate people to impart their knowledge and skills, and to impart healthier attitudes, to the less fortunate deprived brethren. This transfer of information, skills and attitudes from one sector of the population to another comprises the essentials of communication.

Why should anybody engage himself in this complicated process of communication? In other words, what is the broad objective of communication. If communication were a mere academic exercise, it would be an individual pastime, and not a national responsibility. It is an overt axiom that scientific thinking, and applications of science, help to make the total quality of life better. Improving the quality of life is everybody's responsibility, and if it can be helped by communicating science, the responsibility of doing so rests with every knowledgeable person.

Communication, in science as well as in other fields, is often an unintentional process that goes on all the time, if in an intangible way. This occurs between persons, and between different strata of society. In fact, social living is an unending web of communication. This kind of part-of-way-of-life human interactions are insufficient if communication is to support development in a rapid, regular and positive way; for that purpose, the efforts have to be systematic, methodical, and objective. What needs to be communicated multiplies at a very high rate, and therefore, the need to share it has become an urgent one. That is an added reason why communication efforts have to be deliberate and designed.

In a planned communication design, at its very outset, there are certain basic factors for consideration.

To whom has the information to be given? In other words, who is the target population? This is the question unfortunately left unanswered in many communication attempts, and that precisely is the reason why many of them fail. Having focussed attention on a particular sector of the population to whom the message has to be carried, the important characteristics pertaining to that population have to be recognised, and assessed in terms of the planned communication activity. Their number, age and sex distribution, reachability, educational level, main occupation, needs, disabilities, relevant cultural

features, fads and customs are all important considerations. It is cognizance of these that help in the working out of a strategy. This procedure may be called **target population diagnosis**.

Examples of instances where a target population diagnosis comes in useful are legion. To quote but a few, if the population to be reached are comparatively few, mass media would be a waste. In such a situation, interpersonal communication would not only be the cheapest, but also the most effective. If the need is to give a message to the womenfolk of a village, the best situation for the display of a poster might be the community well. Little use it would be to employ mass media, if the message is meant for poor, illiterate and remote village folk. A message for the males in a fishing **wadiya** will hardly ever have an impact if broadcast at night. Literature pertaining to paddy fertiliser would be wasted on people working on tea plantations. Praising the virtues of meat protein would be wasted effort on a community culturally antagonistic to eating beef.

What are the objectives of the contemplated communication activity? Put in other words, what should the target population know and be able to do, once the communication exercise has had its effects; and how should their attitudes have altered as a result of the exposure? It is paramount that the communication strategist identifies the answers to these questions **prior** to planning any further steps. It is important that the objectives so derived should be stated in measurable terms.

Let us consider an example with a heavy practical bias. Suppose a planner recognises that the reduction in agricultural output in a certain village is due to a lowering of work capacity of the farmers, due to anaemia, brought about by hookworm disease, which is spread as a result of faecal contamination of soil. The broad aim of a communication procedure in these circumstances would be to reduce the spread of hookworm disease in that community. In order to achieve this ultimate goal, the communication process should be such that on its completion, the people are able to remember and state how hookworms spread, and how this spread could be prevented. There is no particular skill that needs be taught. The target population should develop a relevant attitude; that is, they should be convinced within themselves that hookworm disease causes production loss, and that its prevention lies essentially in their hands.

That is not all. A very important aspect of this exercise would be to motivate the people to build latrines and **use them.**

The question that arises now is the content of the message. In order to achieve the specific objectives decided upon, what is the data that should be given to the target population? It is important that all relevant information be given. It is even more important that unnecessary and superfluous details are not given. With regard to the situation outlined above, it would be pertinent to tell the people that hookworm ova are passed in infected faeces, that they develop into larvae on the soil, that the latter enter bodies of healthy people by penetrating soles of feet, that they then become adults and live in the bowel, and that they suck blood causing anaemia which is responsible for weakness, lethargy, etc. It should be stated with emphasis that this harmful sequence of events cannot occur if faeces are deposited in lavatories. It would also be important to include the fact that State assistance could be had for building of lavatories, and how such aid could be obtained.

The message to be given, with what objective, is now clear. How could the people be motivated to follow this advice? This depends firstly, on the attitudes the programme has been capable of inculcating in the people. If they now believe that hookworm disease is in fact responsible for causing material loss, and if they are convinced that the arrest of spread of this disease depends upon the building and use of lavatories, the foundation for motivation is laid. Immediate personal benefit is about the most effective motivating force. The authoritative stature of the communicator and the confidence he has built are other factors responsible for motivation. Feasibility (from the point of view of the target group) of the suggested action, and examples of such action by peer groups, or esteemed groups are also helpful inducements.

The next step in the communication process is the actual transfer of the message. How best could this be done? What medium should be used? Naturally, the answer to these questions would depend upon the characteristics of the recipient population. This aspect was gone into at the outset.

Whatever methodology is used in communication, here are some important considerations to remember. **Never over-estimate the comprehending capacity**

of a target group, particularly with regard to technical language and scientific and rational thought. This is an ultra-truism when applied to the kind of population it is our sacred duty to deal with the semi-literate rural sector, drowned in traditional belief and irrational thought.

Whether the mode of communication is interpersonal or mass media, poster, printed word, spoken word, music drama or traditional media, there are a few rules worth following. **The shortest message is the best understood, and most retained. Short sentences and simple language help understanding. A technical word not explained is wasted. People welcome material when presented in form as applied to them. Repetition, up to a point, helps retention. Examples and anecdotes arrest attention and are so convincing. Pictures and diagrams can do wonders not only in enhancing comprehension, but also in assisting motivation. Posing questions make people alert and receptive.**

One caution about pictures and diagrams. What is so simple and obvious to the communicator may be complicated and meaningless to the observer. For instance, in a health education film strip, the close-up of a fly filled the screen; the response of some viewers was that such flies do not come to their village! It is unbelievable that once, a line diagram depicting a pregnant woman was not identified as such, by almost two thirds of the reader population in a village.

A communication process should necessarily be followed by two activities. The first of these is the provision of the service component relevant to the message given. For instance, there is little point in educating people about vaccination and its advantages, and giving them the necessary skills to look after vaccinated children, and motivating them to vaccinate all their children, if the local health authorities cannot provide the service. In fact, such educational programmes cause frustration in the target group, thereby making them insensitive even to other communication programmes.

The second activity that should follow an educational exercise is an evaluation of its impact on the target. That is, a measure of the effect the programme has had. This activity may be difficult, but is essential. There are several ways of setting about it, but that is another matter.

“There is no doubt that economic and social progress depends to a large extent on the transfer of scientific and technical information. The developing countries must therefore be helped to equip themselves with an infrastructure which will enable them to have access to the sources of this information and to make the best possible use of it, according to their needs.”

René Maheu
Former Director-General of UNESCO