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Free Flow Of Information Vital For Development

—Dave Andrews and Bob Everett

IN the field of international development, much time and effor has been devoted to setting up structures and organizations. Much less time, however, has traditionally been given to studying how vital information and learning should flow through organizations and between individuals. As a result, bureaucratic organizations often rely on a few people "at the top" to make broadbrush decisions on enormously complex problems, while lower-ranking "specialists" remain firmly locked in their small and isolated compartments of thought. This can lead to stifling inefficiency and mammoth blunders.

In developing countries—where expertise is frequently scarce but rapid, controlled change is desirable—open and direct flows of information along a variety of paths are crucial to the effective introduction of new ideas and technology. But changes can be slowed or even halted when important information travels only along a straight and narrow route of opinion and decision-making.

Information flows often lead straight from the bottom to the top and back down again, overloading managers' desks and simplifying complex problems. Major issues might be overlooked because they are considered too much of an inconvenience or nobody knows where or how to start researching them. Good ideas can also go ignored when there is little time to consider them or they are proposed by someone on the lowest rungs of an organizational ladder. Worse still, lower-and middle-management people eager for promotion may feed those higher up with what they want to hear, not with the inconvenient truth.

After a boardroom decision is made on a complex problem, the downward-directed information path frequently consists of "filling in the details" —often done by a completely different set of people than the group that had considered the problem on its way to the boardroom. At this point, dialogues between the two groups might well be discouraged since such communication could be interpreted as challenging the decision power of management. Critical errors of judgement may go uncorrected as a consequence.

In practice, organizations operate largely through information "leaks" from department to department and from organization to organization—often across a canteen table or in the local bar. It is this informal flow of tacit knowledge that can actually stop the system from collapsing in a heap. Immensely practical, tacit knowledge is "how the world really is" rather than "what the book says."

When a new type of laser was first built in Canada, it was done so against assurances by many scientists that it could not possibly work. Even when it was working no one fully understood how it operated. It is not surprising that other laboratories around the world had great difficulty in replicating the device, even given precise constructional details. it actually took many visits of personnel from one laboratory to another, together with freqeuent telephone calls, to transfer the knowledge. The written word alone could not transmit all of the necessary information.

Transferring new ideas and technology around the world can be extraordinarily difficult. In such instances the written word has distinct limitations. So much is written by people who are considered experts on their particular subjects, yet those same experts do not know how to write to the level of knowledge of their readers. They study their specialized journals, attend conferences and develop a "jargon" by which to speak with other experts in their field—all the time widening the communication gap between themselves and "outsiders" who rely on them for information. Cultural and language barriers only serve to exacerbate this problem.

But it can be extremely embarrassing for an "expert" to venture out of a cozy ivory tower. In 1980, one of these authors attended a symposium on bilharzia, a crippling disease carried by water snails and widespread in developing countries. The conference was attended by doctors, engineers and biologists, all experts in their fields. During one of the presentations an engineer stood up suddenly and asked the speaker in a shocked tone, "Are you telling me that any body of fresh water in Nigeria is likely to become infected with biharzia, and that the local population will contract the disease if they bathe in it?" The answer he got was "Yes".

Unfortunately, his company had just designed a new town in Nigeria, deliberately locating it near and abandoned gravel pit as an amenity for water sports. The engineer, living in his specialized world, had not consulted health experts and was completely oblivious to information that the United Nations has been disseminating since the 1950s on the control of irrigation canals and shallow lakes to reduce snail populations.

Conversely, a flow of information from some unexpected direction can save a large amount of work. When a team of NASA engineers voiced their frustration over trying to design frictionless knee and elbow joints for space suits, a chance contact suggested that they take a look at old suits of armour exhibited in the Tower of London. The engineers were amazed to find that one suit worn by that portly English monarch, Henry VIII, actually covered the back of his knee and inside of his elbow with intricate and efficiently-designed armour plates. Properly inspired, the engineers returned to their drawing boards with some great "old" ideas.

There are a number of possibilities for improving information flows within organizations. Some can be implemented in even the most formal hierarchies. Others call for more radical measures that may not be too popular with those who prefer to work quietly.

Quality circles are groups of people with diverse skills (the more the better) who work together to investigate organizational problems and recommend solutions. The circles huddle at regular intervals for group discussions and to air their views before management.

Members of one such quality circle at the Wedgewood Pottery Company in England saved that company $30,000 annually by discovering that cup handles were regularly breaking after being stored at the wrong temperature. In another instance, an English weaving company sent its quality circle to visit a manufacturer that for some reason seemed unable to supply the right type of thread. The quality circle quickly uncovered the problem: the manufacturer was getting the orders wrong because it used different terminologies than the company it supplied. In other words, the companies did not speak the same business language.

Quality circles have their shortcomings, however. For example, a quality circle might have to present its views and suggestions to a middle manager, union shop steward or another administrator who sees it as a group of "troublemakers" rather than problem-solvers. Managers may feel that their authority is being undermined, or they might be embarrassed when faults that they should have spotted are pointed out to them by subordinates. As a result they might attempt to block the efforts of a quality circle rather than risk "losing face."

Another formal short-cut from the bottom to the top is to use worker directors as conduits for information. Worker directors typically take the needs and concerns of workers before management, sitting in on company decisions if necessary.

Frequent reorganizations are a third method for opening information flows. While such an approach might at first sound like an administrative nightmare, department reorganizations can bring new people with new ideas into closer contact with management. Moving people from department to department also shows where misunderstandings arise and uncovers problems, that were hidden before.

In addition, regular company social gatherings provide ideal opportunities for managers to find out what their workers are really like, and vice-versa. Company cricket matches, softball games, and "beer and chips" sessions held at a local pub or bar on Fridays are ways in which informal discussion can occur outside the confines of a office or factory setting.

In order to open channels for the flow of tacit knowledge to and from the outside, people must have both a means of communication and some method for discovering whom to contact. Information Routing Groups (IRGs)—informal or semi-formal referral groups—are one such means for establishing points of contact among various groups and individuals.

IRGs have many forms—most with useful applications in developing countries possessing a scarcity of resources. Like other groups, IRGs are comprised primarily of individuals who share similar interests, whether they are all agronomists, football fans, rockhounds or bird watchers. In its simplest form an IRG functions only as a common interest group. However, the links between IRGs can encompass businesses and professionals in countries around the world—especially with the recent proliferation of personal and office computers.

Computers can serve as "electronic noticeboards," instantly sending messages to computers in other countries via modems that convert computer signals into various tones for transmission over phone lines. Many IRGs function through this electronic medium, providing other IRGs with data on the skills and interests of group members. Electronic mail software is becoming a standard part of multi-user computer systems.

This kind of technology is still in its infancy in Western countries, and prices of computer terminals and data links must fall dramatically before globally-interconnected IRGs can become a widespread reality. But systems for rural areas are now under development around the world for access by radio—both for computers on the ground and on board satellites. It was only 30 years ago that the first commercial transistor radio was produced. Who knows what the next 30 years will bring? —Development Forum.