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## **INNOVATION IN SCIENCE COMMUNICATION: AN AUSTRALIAN EXPERIENCE**

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There is a dangerous complacency about research into agriculture these days. People see agriculture as a sunset industry. The very success of modern agriculture has instilled a false sense of security. The perception is that with no increase in effort, we can coast into the 21st century and feed the world armed with our present technology.

For instance, Professor Tim Reeves, Director General of the International Centre for Maize and Wheat Improvement stated recently, 'I have become alarmed at the serious underestimation, by many, of the challenges we face to feed the global population even during the coming decades.' He continues, 'Two hundred people per minute added to global population, and millions of hectares of agricultural land lost to urbanisation and soil degradation each year. Surely this is a major concern that deserves redoubled investment in agriculture, rather than dwindling resources? Agricultural research has never been more important, both nationally and globally.'

This is the operational environment of ACIAR—the Australian Centre for International Agricultural Research—my organisation. Its members have the daunting task of selling the benefits of international agricultural research to a decidedly indifferent audience within Australia. They also need to stay in favour with their political masters, since ACIAR is a government-funded agency, so that their continued existence is deemed worthwhile and the money continues to flow. Further afield they

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need to spread the good news to our developing-country partners in research, to ensure that we maximise the benefits arising from the research that we fund.

The task of communicating to such a diverse audience can seem insurmountable, especially for a small organisation, and it invariably falls on the shoulders of an overworked few. For best effect the messages need to be clear and sharply targeted. They must be packaged to suit the best available means of transmission.

This paper describes how my organisation tried coming to grips with the problem of too much information destined for too many end-users. All staff members became involved in an exercise that examined what and to whom we communicate, and who must be involved in transmitting the message.

Establishment of ACIAR in 1982 by the government of the day was driven by a desire to help Australia's neighbours to improve their well-being and lift economic growth. Now, 16 years on, the Centre has earned a reputation for excellence in harnessing Australian agricultural research expertise to work for the developing world. We think of agricultural research as research undertaken to find answers to problems common to more than one country, particularly developing countries.

Australians know a lot about agricultural research and what it can do. When Europeans first settled our country they initially tried to farm it in the way they had farmed back home. But 18<sup>th</sup> and 19<sup>th</sup> Century agricultural methods did not transplant well into Australia's harsh environment and thin fragile soils. In the end the newcomers had to invent a whole new agriculture to survive. In the process these new Australians not only invented their own ways of doing things; they also developed a global reputation for excellence in agricultural science.

Australians, having learnt the hard way, know that agricultural technology cannot simply be transported from one country to another. We know that agricultural

research| international agricultural research| is needed to adapt the technologies from the developed world to suit the developing world, and to develop new technologies that meet the special requirements of people in developing countries. Recent history shows that without research, many well-intended agricultural development projects are certain to fail.

Right now, ACIAR is funding and managing more than 100 collaborative research projects in 24 developing countries—mainly in the Asia-Pacific region—that are linking together more than 1000 scientists from more than 200 research institutions. These projects span a wide range of activities, from crops to livestock, from forestry to fisheries, from grain production to grain drying, from pest management to the improvement of agricultural policy.

### **Communication—the lifeblood**

And that is where communication comes in! It is, in fact, ACIAR's lifeblood. We don't produce anything—we initiate, fund and coordinate research. And our mandate commands us to communicate to persons and institutions the results flowing from the research we commission. So our Communications Unit, which carries out ACIAR's Communications Program invests much energy to ensure that our research results reach those who can further develop and implement new techniques for the benefit of farmers, both in developing countries and back in Australia.

The Unit also focuses on the flow of information to government to keep the Minister for Foreign Affairs (our key donor), and other influential policy makers informed of our successes and convinced of our worth. And it also talks to lobby groups, non-government organisations and people in the community at large who are interested in overseas aid, development, agriculture and environmental issues—both in Australia and in the 25 developing countries where we have projects.

But we, the professional communicators, don't do it all. ACIAR's program managers—scientists who commission research—have a large communication role. They act as brokers, travelling within Australia to liaise with research groups and

overseas to build up relationships with partner institutions in Asia, the Pacific and to a lesser extent Africa. Project development involves the bringing together of an Australian research organisation and one or more collaborators in one or many countries. (ACIAR's charter demands that benefits accrue to Australia as well as its partner countries.)

Communication encompasses establishing relationships of a scientific, cross-cultural and personal nature. In many instances ACIAR has been the catalyst that helped institutions within a country talk to each other and brought about dialogues that transcended national borders. Australian scientists have gained a reputation in the developing world for being there to work alongside local scientists, providing training and assistance on request rather than imposing the opinions of the foreign expert.

### **Could we do it better?**

In 1997 the Centre embarked on a major exercise to examine all the processes of information management and communication embodied in its functions. It was a 'health check'—an opportunity to analyse how we manage information needed by staff and others working with ACIAR, and to examine how we communicate to our target audiences. And, of course, we asked ourselves how we could function better.

The process had its origins in the major effort that created ACIAR's corporate plan for the period 1997—2001, which calls for appropriate communication and networking strategies. Guided by two external facilitators and mentors<sup>3</sup>, the Centre's

Communications Unit developed the process specifically for ACIAR. We created a framework that became the basis of an 'Information Management and Communication Strategic Plan' for the Centre, with a spin-off Action Plan for the Communications Unit. We tried to include all members of staff both in Australia and overseas. It was a dynamic process that comprised brainstorming sessions at staff meetings, consideration of particular issues by 'slice' and focus groups, and questionnaires.

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<sup>3</sup> Tim Healy, Strategic Planning Associate for ACIAR, who facilitated the Centre's corporate planning and priority setting, designed and facilitated the communication planning process, and in conjunction with Anne Tuppack, Information Manager, CSIRO Division of Tropical Agriculture, gave guidance and advice to the Communications Unit during the exercise described in this paper.

**How we went about it**

Planning was vital. Before moving to a staff-wide consultation process, it was important to ensure that the focus was on the right questions. We asked ourselves what we do, and what were the most important aspects of information management and communication within and outside ACIAR. And we asked for what purposes we needed to manage and communicate information.

We examined the fundamental purposes for the establishment of ACIAR. We looked at who were our stakeholders and what they needed to know. We looked at what tasks of communication all staff members undertook and what sources of information they needed in order to carry them out effectively (noting that good management of information was the prerequisite for all effective communication).

We then suggested to our colleagues that as staff members of ACIAR we all carried out information and communication management activities to achieve three purposes:

1. to ensure ACIAR's project results are recorded and their benefits captured;
2. to help build external relationships with those who have a crucial influence over the Centre's well being;
3. to help make ACIAR staff work as an outstanding team to achieve the Centre's goals.

Our colleagues accepted these as a basis for further developing the strategy. So we next examined these purposes to see if they embodied our corporate goals.

In the early stage valuable information came from slice and focus groups who supplied insights into the sorts of issues important to staff members. Five groups comprising mixtures of different sections within the centre considered such topics as 'What's working well in communications, what's not working well, and what really frustrates us?'—a process we have dubbed GBF (the good, the bad and the frustrating) analysis.

This exercise created a diverse set of positive and negative replies. Negatives included: 'ACIAR is not well known in Australia', 'There is nothing in our project design about communicating results to farmers', 'We have no idea about who uses our publications', 'We don't produce enough extension notes and training films', 'Our communication technology is outdated', 'Our database could be more useful', 'It is difficult to find out at the end of a project what it actually accomplished', 'We scarcely cater for non-English readers, the target audience seems to be English-reading scientists', 'Never enough coverage in the media', 'Not enough use made of posters and other exhibition material'.

At the same time staff received questionnaires asking how much time they spent on communication and information management, and how much they thought would be ideal. A considerable number of those replying thought they should spend more.

All this information and issues collection culminated in a workshop, to which all staff were invited. This workshop aimed to:

- clarify the key issues
- identify which of the Centre's stakeholders it is essential we communicate with, those we should, or would like to communicate with, and those we should be developing alliances with
- identify clearly what outcomes we are really trying to achieve over the next 5 years, and also indicators to tell us we are succeeding
- identify strategies to achieve the desired outcomes and determine who should carry out each strategy

### **Outcomes, indicators and strategies**

The workshop yielded five desirable outcomes that fitted with our three previously agreed purposes. These are shown in Figure 1.

**Figure 1. Purposes and Outcomes**

**Purpose 1**—ensure ACIAR’s project results are recorded and the benefits captured.

**Outcome 1.** High awareness and use of project results by identified users.

**Outcome 2.** Enhanced capacity of partner country scientists to record, assess and transfer technology.

**Purpose 2**—help build external relationships with those who have a crucial influence over the Centre’s well being.

**Outcome 3.** Understanding, acknowledgment and appreciation among stakeholders of the Centre’s priorities, activities, effectiveness and project results.

**Purpose 3**—help make ACIAR staff work as an outstanding team to achieve the Centre’s goals.

**Outcome 4.** Effective teamwork among ACIAR staff to achieve the Centre’s goals.

**Outcome 5.** Effective uses of information technology to maximise the efficiency of our administrative processes, information management and communication.

Twenty nine indicators were developed as a means of gauging progress towards achieving these outcomes.

The means of achieving each outcome were broken down into strategies (35 in all), and specific staff groups were nominated as the key people for carrying out each strategy. And the staff groups nominated were not just the organisation’s professional communicators. For the first time many of the administrators were confronted with the realisation that they too had an important communications role, and if they didn’t fulfil it the organisation wouldn’t function.

**What did all this achieve?**

1. It made ACIAR’s staff think (however briefly) in a new way about what each member does.
2. It allowed ACIAR to identify the gaps in information management and communication and approach it in a structured and logical way.

3. It allowed ACIAR to think about present and future uses of information technology to achieve its information and communication aims in a coherent way.
4. It gave the Communications Program professionals legitimacy and boundaries within which to work and to set the Program priorities, in other words it defined their roles more clearly.

### **How the process helped the Professional Communicators to define their roles**

Priority setting for communications groups in almost any organisation is notoriously difficult. Outside forces continually impose extra requirements on them. Of the 35 information management and communication strategies identified, 24 involved the professionals of the Communications Program, guiding them to the appropriate tactics and actions needed for the program to function effectively. Thus what the communication professionals do was tied back into the whole broad spectrum of what ACIAR does.

Unfortunately the tasks ascribed to the group did not diminish the workload!

The list is long:

- Publishing (about 20 scientific books each year)
- Regularly producing a newsletter and a magazine that interprets project results
- Writing articles for external publications
- Providing corporate information (annual report, brochures, answering enquiries)
- Providing information about our projects in summarised form
- Engaging the mass media—putting out media releases, carrying out media liaison and compiling video footage
- Providing library services
- Keeping these activities glued together with effective administrative support.

So, the problem remained—how to prioritise our activities, vs how to make best use of skills in-group, vs how to best use of the time available to the five busy people in the group.

### **The priority setting exercise**

ACIAR's earlier corporate planning exercise had involved priority setting at the organisational level. Priorities were assessed using a frame that analysed the attractiveness (potential benefits from commissioned research vs the ability of our research partners to capture the benefits) and feasibility (R&D potential vs R&D capacity of our partners) for socioeconomic objectives of interest to ACIAR.

We decided to try to adapt this framework to the outcome and priority dilemma. We analysed around 20 current activities by comparing the impact of each against the effort required to carry them out. We viewed the *impact* of a communication activity as a function of the influence that the target audience can exert on achieving the objective of the communication, the extent to which the message can be controlled, the likelihood that the information will be used, and the extent to which the activity complements other communication activities. The extent of the *effort*, we thought, was reflected in the availability of skills (both in house and elsewhere), the cost, and the time involved in conducting the activity. We used a 3 x 3 matrix to plot the perceived impact from specific activities against the effort needed to carry them out. This enabled us to reflect on the cost-effectiveness of each of our activities in terms of their impact compared with the effort we expended (Figure 2), and hence whether the impact was really worth the effort.

**Figure 2.** Assessment of Communications Program priorities

<b>Perceived impact</b>	high	Briefings	Project Summaries Monographs	Annual Report Partners/newsletters Proceedings Scientific writing training	Is the impact worth the effort we're putting in?
	medium	Training Videos	Technical Reports Media Liaison Requests	Library	
	low	Working Papers Displays	Web Page Research Notes	Corporate Videos	
		low	medium	high	
		<b>Effort required</b>			

Although what we did was an intuitive exercise and did not involve the range of stakeholders or the data preparation of a formal exercise, we were pleasantly surprised at the results. We found the process provided us with food for thought and raised other important issues when we compared the activities and rated them high, medium or low effort vs high, medium or low impact. For example, we gained a perspective on the role of public awareness, for which there is always pressure to do more. For us it became clear that it was not cost-effective to increase our efforts. We also concluded that we should not yet invest heavily in building up ACIAR'S Web page on the Internet since a major proportion of our key developing country clients do not yet have access to the Internet.

### **How the planning process helped**

1. It enabled the staff of the Communications Unit to examine what we do against the five outcomes identified for organisation-wide information management and communication and decide which are the most important and cost effective. Certain activities fell out as key factors in achieving outcomes—e.g. scientific publishing against Outcome 1, publishing the *ACIAR Annual Report*, *ACIAR Newsletter* and *Partners in Research for Development* magazine against Outcome 3. But examination of the library enabled us to redefine what investing in a library is all about, and how it fits into the broader information management and communication spectrum: it is not an institution in its own right, it is a means to achieve ends (outcomes 5 and 6). We were able to decide that for ACIAR it was appropriate to minimise the book and journal side of the library and to use information technology to make it a conduit for information to be imported and exported.
2. It let us prioritise our activities, giving us protection against the imposition of activities by those outside the Program, for example a push to produce a bigger and better Web page. We can't ignore the need for a corporate presence on the Web, but it seems unwise to invest heavily, at the expense of other important activities, until more of our developing country colleagues have access to the Internet.

3. It gave us an agreed corporate document to use as a framework to prioritise or even reject initiatives thrust upon us from outside. In other words we have more control of our own destiny.

### **Some lessons that may help others**

Lesson 1. *Ownership of ideas is essential* It is insufficient to allocate responsibility to a group and assume it will embark on a course of action. Before we started we were rather cynical about the value of the evaluation and planning process, but we now feel it was extraordinarily useful. But not all members of ACIAR are playing their part in improving organisational communications.

Lesson 2. *Trust-building is paramount* You can design processes, but internal processes that make the team work better require that staff must open up and be willing to state their opinions without fear of retribution. Moving to a culture of openness within an organisation is difficult. In ACIAR's case, although a good start to building trust was made during this exercise, an unrelated industrial issue some time later caused self-interest to undermine staff relationships.

Lesson 3. *Get the amount of time right* People always underestimate the time and effort required for a proper planning job. This analysis took considerable time, but the end product made it time well spent.

Yet it is important to set a limit to how much time you should spend on each activity involved in developing your strategy. The temptation is always to say that we need more information and time. But in such an exercise people's intuition is a good guide, and spending extra time rarely improves the result very much.

Lesson 4. *People perceive things differently* It was evident when the findings were presented to the staff that members were reluctant to accept specified communication roles—until they were shown that they were doing many already.

Lesson 5. *Be ready to counter hostility* Staff members may be annoyed at the prospect of taking part in an extensive survey and consultation. They need to be reassured and encouraged.

## **Conclusion**

We were sufficiently encouraged by this somewhat informal and intuitive communication planning exercise to contemplate doing a more rigorous one, which would involve assembling detailed data and including a range of internal and external stakeholders. If our framework holds up during that exercise we will be encouraged to believe it is robust and potentially useful for other organisations.

Since we developed our three purposes as the basis for our analysis, they have been successfully used as a basis for analysing communication issues by three other organisations. We consider this encouraging and regard it as an affirmation of what we did.