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FORUM

ON FORMALIZED OPINION OF PEERS IN MONITORING AGRICULTURAL RESEARCH†

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The practice of conducting annual "in house" reviews in international agricultural research institutes is discussed and possible virtues of widespread use of such reviews by Australian agricultural research organizations are reviewed.

INTRODUCTION

In 1972, CIMMYT¹ held its first "in-house" review (IHR). This review was attended by all the research staff and consisted of field inspection of plots and seminar presentation by respective personnel of a retrospective summary of, and short statement of future plans for, all research projects. Since then, the IHR has become an annual event of about eight days duration, and such annual reviews have been more or less adopted by most of the international agricultural research centres.

Some of the several reasons for holding such reviews are discussed below. However, the primary purpose here is to explore the relevance of reviews of this style for indigenous research institutions. It is recognized, of course, that many indigenous research organizations have on-going evaluative review procedures but to the author's knowledge the essence of the sketched IHR is unique to the international centres.

It must also be emphasized at the outset that the international centres (and CIMMYT in particular) also engage in (suffer from?) a variety of more conventional reviews of research programmes. These include reviews by external expert panels, appraisal by missions from donors and, of course, the day-to-day assessment and control by senior administrators and leaders of programmes. Not surprisingly, research scientists have been known to complain of the intensities and costs of such evaluation which, compared with typical indigenous practice, are high—doubtless reflecting the diverse structure of financial support

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¹ CIMMYT is the International Maize and Wheat Improvement Centre, Mexico. It is one of several international agricultural research centres, including also IRRI (International Rice Research Institute, Philippines), IITA (International Institute for Tropical Agriculture, Nigeria), CIAT (International Centre for Tropical Agriculture, Colombia), IPC (International Potato Centre, Peru) and ICRISAT (International Crop Research Institute for the Semi-Arid Tropics, India).

for the international centres. In spite of such general complaints, however, the research people seemingly approach the IHR with enthusiasm and vigour. What then contributes to this positive although perhaps masochistic attitude to evaluation?

ESSENTIAL FEATURES OF AN IN-HOUSE REVIEW

Several features appear to be essential to the success of an IHR but possibly the most important is the *comprehensive* nature. The feeling of "all in together" is important in discouraging feelings of victimization and transparent vulnerability that must always accompany any probing criticism of research work in progress. Every project planned, in progress or just completed is exposed to critical appraisal in open forum. Obviously a valuable service of intra-institute communication is thus performed as well as presenting the opportunity for feedback.

The fact that an IHR is *in-house* may also be essential for success. At CIMMYT, outsiders are seldom involved in the IHR and those that are are not encouraged to be vocal. This means that the review is by the (more-or-less) peer group of research staff and expression of inadequacies, errors and folly is not hindered by public exposure, especially to external authorities. Discussion can thereby be frank and honest, and hopefully the path to truth is not concealed by protective manoeuvring. However, not all the so called IHRs have this feature of being exclusively internal (e.g. IITA usually includes a few external experts in the IHR).

Another essential feature is the institutional commitment to the IHR and the declaration of a specified period (about a week at CIMMYT) as being *time completely dedicated* to the process for the whole institute. Naturally this requirement makes scheduling of the IHR a difficult problem but providing that ample notice is given and a relatively slack segment of the year is selected, it is not impossible to maintain the commitment on an institute-wide basis. Another constraint on timing is the possible requirement that the IHR slots in with the time for annual reporting of activities. An IHR serves as an ideal source of information for detailed annual reports.

A further and more subtle feature on a successful IHR is an *open constructive atmosphere for in-depth criticism*. This feature devolves essentially to particular personalities who can direct and lead discussion along perceptive and useful channels and who can criticize work without insult or personal attack. Qualities of this type are more readily described than found—but they do exist. Not only are the qualities rare but to be fully effective they must be almost inevitably linked to an achieved stature in the relevant profession.

Finally, a feature which has been regarded as essential to IHRs at CIMMYT is the initial *inspection of field trials* by all participants. This inspection is a challenging exercise in logistics when there is a large staff (say, 40 or 50 research workers) and when the field stations are spatially dispersed (say four stations averaging 100 km distance from the central station). Added to these challenges are the problems well-

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remembered from undergraduate field excursions of arranging for equitable access of participants to the material under discussion in the field.

The present observer maintains the heretical view that this final feature is not essential to a successful IHR. To the extent that it is valuable to see specimens and plots in the field, visual presentations can probably be made more effectively and less costly by bringing specimens from the field to the conference room and by imaginative use of photographic and video equipment. However, one possible disadvantage of confining presentations and reviews to the conference room is the potential loss of some of the useful opportunities for informal exchanges between research personnel thrown together for several hours in a bus.

POTENTIAL ACHIEVEMENTS OF AN IN-HOUSE REVIEW

The direct, comprehensive and up-to-date communication of the orientation and progress of individual projects in a research institution has already been mentioned as a virtue of an IHR. This is particularly valuable for orienting newly-arrived staff. Closely related to this improved communication of information on projects is the wider understanding of the interests and abilities of individual research workers. Some other potential achievements are briefly elaborated.

Most importantly, research managers are given detailed information with which to re-appraise the integration and direction of overall research programmes. Because long-term objectives and goals come into sharp focus in an IHR, they can be re-affirmed or perhaps modified and clearly articulated. Interaction between workers and managers can function also in the dual direction of workers having a forum to offer comment on grand plans.

A clear potential in an IHR is to identify and perhaps prune out projects or programmes that for one reason or another are just not working out. A project may be founded on misconception or a worker simply not being equal to the assigned task. Whatever the reason, a project may be discontinued in a seemingly democratic style by careful analysis in an IHR. The process may operate more smoothly if supplemented by prior "politics" by perceptive research managers. Further, major pruning of programmes will usually require follow-up work by a special committee subsequent to the IHR discussions. For instance, such a committee procedure was used to terminate in 1973 CIMMYT's biological assay work using meadow voles to evaluate cereal proteins.

Agricultural research workers are just as sensitive as any other research workers and an IHR should be somewhat sensitively conducted to engender success. However, people generally accept constructive criticism quite well when it comes from peers with common broad objectives. Hence the above-noted essential structure of an IHR. But quiet dispassionate discussion among friends tends to be a tame affair if no one is prepared to "rock the boat". For this reason it is good to have on the staff some strong personalities who can effectively address

cogent criticism. When such people are not available, there may be adequate cause to introduce appropriate outsiders to make a nearly-in-house review effective.

Relatedly, there have been occasions at IHRs in international centres where some scientists with strong dissonant views elected not to attend particular sessions presumably to avoid direct confrontation and disharmony. However, such actions also avoid desirable proper scientific intercourse. Probably strong research direction is required to avoid such problems.

RELEVANCE FOR AUSTRALIAN RESEARCH ORGANIZATIONS

Several potential benefits stemming from IHRs have been indicated above. None of the benefits is readily quantifiable, but in money terms these must be at least of the order of magnitude of the total costs of a good fraction of the more marginal projects. Even if the direct benefits proved to be small, IHRs are probably worthwhile because the marginal costs involved tend to be very small. Nearly all of the salaries can be regarded as fixed costs and so the relevant marginal costs incurred are opportunity costs of staff time. With ample notice, thoughtful scheduling and minimization of the duration of an IHR, there seems no reason why the opportunity costs need be substantial. Thus the notion of an IHR seems worthy in general and presumably has a potential role in Australian agricultural research.

Australian agricultural research organizations are typically much larger (especially in terms of staff numbers) than the international centres. Operation of an IHR in the manner described clearly becomes infeasible when large numbers of staff are involved. Thus to formalize opinion of research peers in monitoring the progress of research programmes implies for most indigenous organizations some means of splitting into reviewable units. Some mission-oriented units (e.g. the Queensland Wheat Research Institute) are obviously ready candidates. The research component of the divisional level of a typical state Department of Agriculture would seldom exceed the desirable size for an IHR. Some sub-divisional splitting may be necessary for IHR in the larger divisions of CSIRO but most are of a satisfactory size for IHR. Australian universities engaged in agricultural research generally have too piecemeal an approach to research to warrant IHRs of the type described herein, but doubtless they too would benefit from some regular formalized review of on-going research by the relevant peer group.

Australians generally pride themselves on their frank and straight outspokenness. Such a quality is well at home in an IHR. Some people might argue that Australian research workers are sufficiently and continually outspoken in their criticism of peers so as to obviate the need for formal institutionalization of such opinion in IHR. The author's limited observations have not encouraged him to share such a view. Accordingly he would like to see the notion of in-house or similar review seriously considered by the managers of Australian institutions engaged in agriculture (and other) research.