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Facilitating Transition – Agriculture in Indonesia

Joanne Bates

Agriculture Victoria Knoxfield

Sustainable agriculture has human and bio-physical dimensions suited to countries such as Indonesia, delegates were told at the recent Australasia-Pacific Extension Network Forum in Melbourne.

"The lessons learnt from the past are that intensive and high-input agriculture can have devastating effects on the environment. In developing countries, the transition to sustainable agricultural systems is also the path towards helping growers to increase their efficiency," said Coordinator of the Working Group on Participatory Research and Learning at the International Potato Centre in Indonesia, Elske van de Fliert.

Technology transfer in developing countries has traditionally aimed at straightforward adoption of standard recommendations. In comparison, extension for sustainable agriculture aims to facilitate the **adaptation of innovations to suit location-specific conditions at the grower level, and to influence the development of a supportive policy and institutional climate.**

In developing countries in Asia and South America, an extension method is encouraging growers to "go back to school in the field, their daily work place."

Known as the 'farmer field school', this method is designed to encourage growers to study ecological processes favouring crop production, and adapt sustainable production practices into their everyday work.

Growers make their own observations and experiments about pests and diseases and cultural practices, and how preserving an ecological balance can benefit agricultural production.

"Growers need to have knowledge of ecological processes and skills and be able to make informed decisions if sustainable agriculture is to be effective," Dr. van de Fliert explained. "This knowledge gives them the ability to analyse a situation and decide what changes could be made to improve their production."



Elske van de Fliert at the Forum Dinner at "Albert by the Lake"

"Another aspect of the farmer field school involves collective learning, this facilitates 'collective action'," she explained.

The collective and group learning approaches are increasingly becoming a focus of extension in Australia.

"Training programs being developed in Victoria, such as the Government's Grapecheque program, brings growers together for regular meetings. Through farm visits and discussion, growers have first hand evidence of how a change in practice can lead to a more sustainable business," said Grapecheque facilitator Jane Fisher.

Australia has a strong emphasis on providing policy support for sustainable production, but Dr. van de Fliert said there is a requirement for institutional and policy frameworks to support training programs in developing countries.

"Indonesia has been pro-active in this area. In 1986 the then Minister for Agriculture passed a law that farmers weren't allowed to use 57 broad-spectrum insecticides on rice. The decree, which included declaration of integrated pest management (IPM) as a national policy and the ban of 57 pesticides, provided the political climate for the government to later organise large-scale IPM training," she said.

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FROM THE CHAIR

Jane Fisher

APEN President

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Best Attended APEN Annual Forum

The 2000 APEN Forum "Creating a Climate for Change" appears to have been a resounding success. With approximately 170 registrants, it was the best attended annual forum that APEN has organised. We have more than 510 members, an all time high, which is fabulous.

The theme of the forum "Creating a Climate for Change" sprang from a growing awareness that while APEN has been fulfilling its stated purpose of improving the practice and profession of extension through forums and ExtensionNet, we have not been lobbying government, industry organisations and universities as well as we might. The time has come to grasp the nettle of policy. By listening to and participating in discussion with people about approaches to extension, and how or if research is planned with extension in mind, we developed a clear understanding of where the profession is headed. I recommend that you reflect on this information, ask yourself if you like what you heard, and are content to be going in that direction. If you want to make changes, get involved with APEN Policy. Jeff Coultts of the Rural Extension Centre is going to set up a policy list server, where discussion can take place amongst interested parties. You will be able to nominate to be part of this.

The breakfast meeting of the Annual General Meeting was well attended. We farewelled Horrie Poussard (Treasurer), Sally Marsh (WA), Chris Sounness (Western Vic)

and Emma Robinson (Qld) and welcomed Amanda Miller (WA), Paul Ainsworth (Western Vic) and Terry Reid (Qld) to the Committee of Management.

I would like to thank Horrie for all the work that he has done in the four years that he has been Treasurer. In the last year, Horrie coordinated the APEN submission to the RIRDC extension review, participated in the revamp of ExtensionNet, personned the APEN booth at the International Landcare Conference, and wrote a submission to ACIAR for funding to establish APEN chapters in both the Phillipines and Vietnam.

Sally has been very involved in APEN at both the Chapter level, and in the Committee of Management (CoM). She worked with me on asking chapters what they were doing, and what support they want from the CoM, and gave editorial assistance to Mark Paine on ExtensionNet.

Both Sally and Horrie will be working in Vietnam.

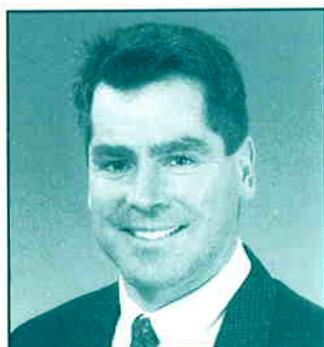
Chris Sounness has been involved in developing policy and working hard to get our website up to date.

The next year will be an exciting one. Tasks that the CoM will tackle are continuing to pursue ways to provide support to the chapters and policy - putting extension on the national agri-industries' agenda.

FROM THE EDITOR

Mark Paine

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The Editorial Committee is seeking feedback and suggestions for improvement, so please send me any comments, no matter how brief, and indicate whether you want your comments published. If you have any articles for publishing please contact me.

Research and Development for Practice

Research and development for practice is the theme for this issue of ExtensionNet. The recent Extension Forum in Melbourne (26 to 27 Oct) was a venue where this theme received considerable airing. **Sally Marsh** provides a personal perspective on the forum which I am sure you will enjoy.

Anne Hope discusses the experiences of a team developing training materials for advisors. Providing advisors with adequate resources to perform their extension and consulting functions is often a neglected area in the literature on learning and change. Anne draws heavily on her evaluation work to identify what worked well and where improvements in the program could occur in future. Several levels of learning have emerged in this program where a considerable investment has been made in evaluation to discover ways of learning as you go.

Guy Penny's article is about a research project that used new technology to work with groups of farmers dealing with learning in the context of supply chains. Farmers could work with Guy to map their ideas and then discuss the implications of their maps towards constructing an overall approach that im-

proved relationships between processors and farmers.

John Stantiall challenges extension agents to focus on what it means to operate in an increasingly accountable funding environment. He suggests the extension profession has been preoccupied with input considerations when the investing agencies are demanding an outcomes focus to programs and projects.

Finally **John Pethram** provides a very interesting history to work in the area of farming systems. This personal and honest profile of work in a developing country context makes for interesting reading for all people concerned about how to improve their support processes for others.

Thank you to all those people who offered to provide assistance with editorial work. I was amazed at the extent of goodwill and generosity that was so spontaneously forthcoming in response to my request in the last editorial - particularly as I thought most people skipped over the editorial to get into the juicy articles inside!

Releasing Resonant Power

Resonance

For every object there exists a particular note that can cause it to start to vibrate, resonate and release energy. This physical phenomenon is my analogy for what Countdown Downunder is trying to achieve with the Adviser Short Courses.

Adilemma

The knowledge and skills to improve animal health and milk quality performance on farms already exist in the industry. Although veterinarians, factory field officers, milking machine technicians and consultants have professional competencies and local knowledge to deal with performance issues, farmers are concerned that the advice they receive from different advisers is often inconsistent and appears contradictory. The conflict of professions having individual competencies but limited capacity to work together to solve complex, multi-factorial problems hinders Australia's ability to capture global opportunities and was one of the catalysts for the Countdown Downunder project.

The big picture

Countdown Downunder is a national extension program aiming to improve mastitis control and milk quality in Australia's dairy industry. Between January 1999 and July 2001 it is delivering a series of training programs, seminars and resources to farmers and their advisers (see Diagram 1). These elements are based on extension messages embedded in the project's core resource, a manual for farmers titled the *Countdown Downunder Farm Guidelines for Mastitis Control*. Countdown has heavily invested in processes that enable the scientific support and extension of its key recommendations to farmers using existing advisory networks. This allows vets, machine technicians and other dairy advisers to deliver clear, consistent messages at a time when they will have maximum impact (for example when troubleshooting problems one-on-one with farmers) as well as building skills that will endure beyond the funding of the project (see Diagram 2).

Experiences
with the
Countdown
Downunder



Adviser Short Courses



A
DAIRY RESEARCH AND
DEVELOPMENT CORPORATION
Farmer Funded Project

The Adviser Short Course is a critical component of Countdown. It provides an interface where different disciplines can develop team skills as a first step toward harnessing their collective power for improved performance in the industry. In particular, applying the theory of Engel and Solomon (1997), a shared sense of purpose among different advisory professionals and their joint commitment to a solution will promote the development of realistic and robust mastitis strategies for farmers.

Course design

More than 20 experts were involved with the development of the Adviser Short Course, including representatives from the peak bodies of the professional groups. The course was designed to have technical content that appealed to trained practitioners, be of a duration that was effective without taking them away from their businesses for too long, and be sufficiently valued by participants to enable cost recovery for its delivery.

The end result was a "short" four day course that had positions for a maximum of 10 veterinarians, 10 milking machine technicians, and 10 dairy advisers. Each discipline had separate sessions on the first day and joint sessions for the remaining days. Most learning was interactive and was based on paper exercises and video clips, with 'hands on' activities limited to the machine technicians. Technical messages were embedded in case studies of recent mastitis

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Anne Hope

Scientific Officer, Countdown Downunder



investigations on real farms as requested by advisers at seminars and focus groups held in 1999.

Distinct team building exercises were included to provide a space to focus on the strengths of working in teams, understand people's expectations of other professions, and develop creative solutions in teams. Although the exercises competed with the time spent on technical issues they were considered worthwhile as successful performance depends as much on communication, negotiation and management as it does on knowledge. How an audience eager to explore the 'nuts and bolts' of mastitis investigations would receive them was not known.

During a 4-6 week break after the third day, participants were required to investigate a mastitis problem on a client's farm in a multi-disciplinary team and present their findings to the whole group on the fourth day of the course.

Feedback from trainers and participants was actively sought during the first course. The mechanisms for this were detailed observations and reflections made by an education researcher, written comments from participants about the content and delivery made at the end of every topic, H-form questioning of groups at the end of each session (Guy and Inglis 1999), and appraisal of the farm assignments.

“the technical information was very good”, and participants “benefited from the discussion and interaction”

Most of the learning from the evaluation was derived from reflections on observations rigorously sought throughout the pilot.

“pitching to the varying experience within one professional group is a large challenge for the trainer”.

The outcome

So did the course strike a chord with participants? And how close did it come to helping practitioners form teams capable of energizing the industry?

By the end of the third day during the H-form questioning, participants agreed they had well satisfied their goals for attending the course. Given that individuals had listed these as increasing their technical knowledge (sometimes very specific aspects), building networks and strengthening their approach to solving mastitis and milk quality problems, it was rewarding to hear that participants thought “*the technical information was very good*”, and had benefited from the “*discussion and interaction*” and found it “*thought provoking to work as a team and get the priorities right*”.

The fourth day of the course was highly valued by all involved. For participants, it was the first time that the quality of the topics relied solely on their input and outputs. For trainers, the farm assignments gave an insight into how the processes and techniques learned during the first three days had been applied in the workplace.

Learnings from the pilot

The first course was run as a pilot and was deemed a success by the Countdown central team. The evaluation provided meaningful feedback to improve future courses and the ‘team teaching’ succeeded on several levels. Not only had the course satisfied a very demanding group of trained and experienced practitioners, but the capacity of the dairy industry had been enhanced by developing the training skills of a team of highly respected advisers that will extend to, and benefit, other programs.

Most of the learning from the evaluation was derived from reflections on observations rigorously sought throughout the pilot. This brought into focus aspects of the course that fell short of the desired outcome for reasons of content, instructional style, learning process or delivery. It also identified opportunities within topics to promote synergy between the professions. The following cases and examples in Table 1 (see page 6) demonstrate the process that Countdown used to develop and improve the course.

Max’s burning

At the end of the first team exercise based on a bushfire scenario, Max wrote

“I led my group to failure. Because I have no firefighting training or experience, I have no credibility in my group although I have a great deal of

milk quality investigation experience...”

The exercise had an immediate and negative impact for Max and ultimately he believed it prevented him attaining one of his original goals for attending the course,

“to pass on my training and experiences to the group”.

His whole team adopted an identity as the *poor performing team* and the plenary group reinforced this vibe at subsequent sessions by an occasional joke made at their expense. This was a potent lesson for Countdown – that team-building exercises are powerful tools and need careful handling as not all outcomes are automatically positive. Our reflections on this experience resulted in changes in the facilitation and debriefing of several topics.

Brendan’s frustration

After an hour spent discussing teat-cup liners Brendan, a veterinary graduate, said he found the subject of

“Limited usefulness. All I learnt was that the choice of liners is complex.”

In fact this was one of the major technical messages anticipated to come out of the liner session. On reflection, this type of message is destined to frustrate practitioners unless they are concurrently given clear guides about their role and sphere of influence, such as assessing the adequacy of liners through milking-time tests in this instance. A key learning experience for future course participants from this topic should be a realization that technology is increasingly about interpreting change and less about giving categorical answers – even for devices as basic (or complex) as teat-cup liners!

Strategies from the Murray

The most common complaint about the first course was that topics were too rushed and there was not enough time spent sharing knowledge with the group. Some suggestions made during an H-form discussion by practitioners from the Murray region were to “work on one case study over the whole course”, do “longer days”, and work in “smaller group sizes”.

Interestingly these solutions were independently derived by the Countdown team

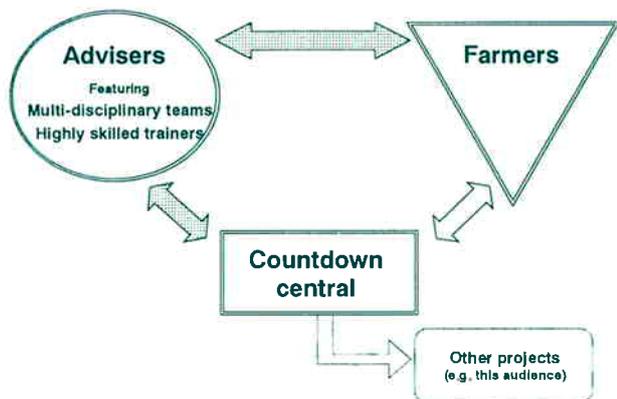


Diagram 1

during a course debrief, and were incorporated to various extents into the design of the next course. A decision was also made to reduce the content in most topics, sacrificing technical coverage to allocate time to develop processes that would encourage self-learning and increase confidence.

Sam's challenge

Sam, a trainer at the first course, observed that

"pitching to the varying experience within one professional group is a large challenge for the trainer".

This situation reflects the range of adviser expertise in the industry. As Countdown is primarily interested in professional development through team building, this issue was dealt with by changes in process and instructional style rather than streaming topics according to experience. Ideas for bridging the knowledge gap included encouraging group members to use each other as a resource to fill in the missing pieces, and pairing some people with more experienced colleagues.

A mentoring approach was also used to introduce trainers to the style and objectives of each topic, with each trainer 'sitting in' on at least one session before taking a lead role. This approach had additional benefits of providing consistency of training standard across courses while capitalizing on the unique experience and competence that each trainer brought to the program.

Sam's comment also foreshadowed the general responsibility that this course places on individual trainers. Trainers were asked to help the groups 'discover' key outcomes by capturing significant princi-

ples through group discussion. At times they were required to close discussions traveling down a divergent path in a way that did not frustrate the group, and to deal with queries and points of contention that arose during the session. Trainers needed an ability to anticipate directions and formulate alternative pathways for the group while it was on the move! Consequently our profile of a successful trainer is an adviser who is highly respected by the professions, technically competent, and preferably interested in developing techniques to promote adult learning.

Impact on industry

The Adviser Short Course is Countdown's commitment to help transform a variety of people and organizations into a group with a shared perspective, whose members have agreed upon a number of tasks and responsibilities. This transformation focuses on making the most of the diversity of competence only available in a team. Countdown provides a common interface and language for teams to interact in problem-solving tasks while avoiding the pitfall of reducing innovation by standardizing services that is typical of recipe driven approaches.

Although practitioners in the first Adviser Short Course were uncertain whether the team approach would be financially sustainable in their businesses, they enjoyed the opportunity to discuss its potential for service development. A final assessment of the overall success of this approach will emerge over the next 12-24 months as the project determines whether the quality of interactions between advisers is fostering

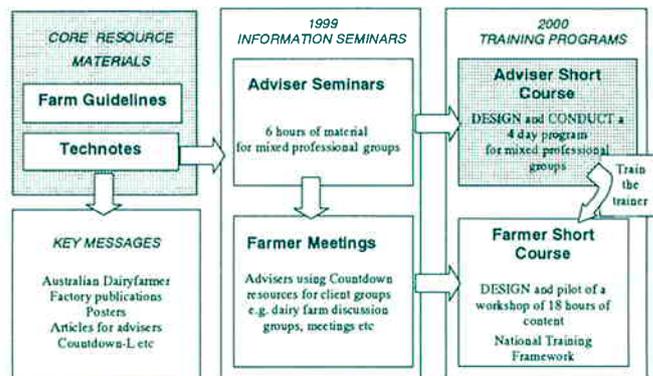


Diagram 2

sound and innovative solutions to mastitis problems for farmers.

Summary

If the course strikes the right note and attunes to the needs of dairy farm advisers it could be the external force that enables multi-disciplinary teams to resonant with social competency, releasing a power and capacity that does not exist in a system of individual professions working in parallel.

References

Engel PGH (1997). The social organization of innovation. A focus on stakeholder interaction. Royal Tropical Institute, KIT

Coverage to Date

(4 courses Feb - Jul 2000):

- * 109 practitioners from 4 Australian states
- * 39 teams working on mastitis problems
- * 10 trainers involved in delivery
- * H-form score averaging 4.2 (on a scale of 0 to 5, where 5 is "extremely satisfied")

A learning organisation is one that is continually expanding its capacity to create its future

- Peter Senge (1990)

ACKNOWLEDGEMENTS

Countdown would like to thank all participants at the first course for their valuable comments and suggestions. To maintain anonymity, pseudonyms have been used for the examples described in this paper.

Table 1 from Anne Hope's article, Releasing Resonant Power, pages 3,4 & 5. Examples of learnings that emerged from the pilot Adviser Short Course.

Observation	Reflection	Strategy for learning	Examples of what changed for future courses
Core concepts were introduced at the end of some sessions	Useful concepts were not 'discovered' or reinforced during group learning	Use opportunities to explore the basic themes throughout the course	The themes were made explicit to trainers and cues for their discussion positioned in many exercises
Trainers had to move rapidly through sessions to cover the technical material	Participants did not have sufficient time to internalize information and compare it with their own experiences	Allocate at least one-third of the available time for interpreting information	Technical material was removed from many topics
Participants were sometimes uncertain about where the information was leading	People needed to know what they were working toward in each topic	Clearly state learning outcomes and express them at the level of information seeking	Key outcomes are now shown on overhead at the beginning of each topic
There were many missed opportunities to encourage team building	A major course objective was not fully achieved as content tended to out-compete process development in the time available	Help teams to negotiate conclusions to problems and use opportunities to promote inter-professional advocacy	An exercise where professionals discussed their expectation of others was included in the course
Some teams were tagged as 'winners' and 'losers' in group exercises	A sense of failure interfered with learning	Facilitate exercises so all contributions are regarded as positive	Changes were made to the debriefing of group exercises
Conclusions were often not drawn from the group	This hindered skill development and risked undermining group confidence	Draw solutions from the group and compare them with "what really happened"	The format of trainers' guide was changed to questions for the group rather than instructions for the trainer
Advisers were sharing knowledge but not committing to a change in behaviour	A desire to apply the learning was not created	Throughout the course personalise the lessons and discuss the 'traps' of applying them in the field	Each participant was asked to commit to 3 things they would change after the course

FROM THE CHAPTERS

Neels Botha has recently arrived in the **New Zealand Chapter** from South Africa. He worked as an extension officer in Namibia for seven years until he was offered a position at the University of Pretoria. Neels completed his PhD in extension systems analysis and design during 1992. At the beginning of 2000 he was promoted to full Professor, specialising in extension and rural development. Neels has published substantially in a variety of peer-reviewed publications and has been a member of APEN since 1993. He has found the contact with APEN stimulating and worthwhile and has attended two of its conferences, including the 2000 Forum. Currently, he is putting his energy into the Social Systems Research team of AgResearch, Hamilton, New Zealand, where he leads the team.

A few snippets from the **Melbourne Chapter** – **Jessica Dart** has completed her PhD and is now working with

the evaluation unit in the Department of Natural Resources and Environment (DNRE).

Dave Beckingsale has recently returned from long service leave and is feeling refreshed after his excellent work as convenor of the International Landcare Conference held in March 2000.

Bron McDonald, former APEN member, now has a leadership role in the Agriculture Division of DNRE.

News from the **Queensland Chapters** – **Peter Van Beek** has put his Brisbane unit on the market and is clearing the decks to move to Gin Gin. He has bought a block of land in an eco-village there and as he says "I will be able to live what I preach and believe in, and be part of a community of people with ideals again". Peter is interested to help shape the way the village is going to be managed and looks forwards to learning new things and sharing that with others.

Samantha Bray is now **Samantha Heritage** as a result of her recent marriage to Karl. They spent a "glorious time" on Fraser Island for their honeymoon. Sam continues to work with RDE Connections and is currently involved in a large industry development project with the QFVG.

Terry Reid is now a father after the arrival of young Emily. Terry works in the FutureProfit program and recently helped coordinate the very successful FutureProfit state forum. He is also a recent recruit on the APEN Committee of Management.

Christine King is now a Doctor, following the successful defence of her PhD in Sweden recently. If anyone is interested, copies of her thesis will be made available for lending through the Rural Extension Centre library. Her thesis title is "Systemic Processes for Facilitating Social Learning". You can also e-mail Chrissy (kingc@dpi.qld.gov.au) for a copy of the contents pages and abstract.

Improving the Performance of Supply Chains through Interface Management

Largely overlooked in agricultural science and extension research but central to supply chain management is the management of processes *between* enterprises that together constitute a network of supply chain actors. This is known as *interface management* and is of particular importance when systemic drivers (such as product specifications, regulations and costs) change.

Recently, staff from AgResearch (CRI) and the University of Auckland's Geography Department collaborated in a participatory action research project examining the supply relationship between farmers and processing companies in New Zealand's sheep meat and dairy industries. The objective was to improve our (i.e. farmers', processors' and researchers') understanding of farmer learning processes, the role and character of farmer networks and identify tensions or inconsistencies in the farmer-processor supply relation. This work was motivated by the increasing level of uncertainty within agricultural supply chains stemming from changing regulatory environment, consumer preferences and market access, and the speed of these changes. The supplier-processor relationship has been identified as one in which there is a need for increased cooperation and coordination, especially for domestic industries. This is because it is at this nexus that consumers concerns for environmental quality, efficacy in resource use, animal welfare and food health, safety and availability are most concentrated and it is here that value-added opportunities exist.

In two-hour workshops with four separate groups, each consisting of about 20 farmers, the computer software package Decision Explorer (DE), a cognitive mapping tool, was used to co-construct farmers' knowledge sets concerned with the problem of supplying to precise specification.

For the two sheep meat groups 'precise specification' was framed around the issue of managing carcass traits. For the two dairy groups the issue was managing mastitis and

somatic cell counts. These quality-related issues were agreed relevant to supply management by both the group participants and processing companies. The group workshops were tape recorded and transcribed.

For those not familiar with cognitive mapping or Decision Explorer, the work of Colin Eden and Fran Ackerman, among others, is recommended.

In short, cognitive mapping in a group situation portrays ideas, beliefs and values as a shared map of the problem situation. Concepts provided by group members can be organised into sets or joined by links, representing causal (cause and effect), connotative (implied) or temporal (sequential) relationships which enables the identification of critical activities or measures, clusters of competencies and feedback. In the mapping process, individuals in the group give, question and/or challenge statements to achieve a consensus for concepts shown on the map. The result is a 'model' of the problem consisting of many ideas that can then be employed as a negotiative or mediating device. Decision Explorer overcomes many of the problems of cognitive mapping using white boards, sticky labels and flip charts. Sequentially numbered ideas or concepts are entered directly onto a single computer work-station and linked using the computer mouse and, via a projection unit, displayed on to a screen or wall (2m x 1.5m approx.) so that all group members can clearly see the maps being constructed.

In any group-work, informed facilitation, clear structure and agenda, role and task definition are the keys to success. In the group workshops, participants quickly warmed to the workshop task which was structured around four supply issue questions. They had no problem working with Decision Explorer because it is unobtrusive and was clearly demonstrated. Maps quickly became layered with key ideas and links and the majority of individuals contributed freely while several were drawn into the discussion by the experienced

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facilitator. The resulting cognitive maps (or DE diagrams) were the outcome of unrestrained discussion (managed by the facilitator) and were consensus products, where consensus was based on the absence of fundamental public disagreement. They represent the activities, strategies, goals and relationships for supplying to precise specification, from farmer perspectives. In other words, they provide a diagrammatic model of the way things are done, with whom, why, and where farmers believe information gaps exist. The DE diagrams were then used in interviews with farmers and processing company representatives as a conceptual tool (or mediating device) to start reflecting on practice and the supply relationship.

In semi-structured interviews with farmers, the response to the workshops was varied. Some saw it as a valuable networking situation and a rare chance to discuss supply issues with a group of farmers. It allowed them to evaluate their own situation with respect to others. Some felt the exercise and the DE medium was useful in terms of conceptualising and connecting the different aspects of farming. Others saw it as a rather meaningless exercise because it was a largely descriptive exercise and they felt they hadn't learnt anything new.

When asked about the DE diagrams, farmers tended to agree that they represented a comprehensive picture of farming practice and management in their region in relation to supplying to specification. Most farmers stated that although everything in the DE diagrams was relevant to supply management, their own management was narrower in scope than the DE diagrams.

Continued on page 10

"Creating a Climate for Change - Extension"

Melbourne APEN Forum

2000

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It's very appropriate to come to Melbourne to talk about "creating a climate for change". After all, it's renowned for having four seasons in a day. So where have we been over the last two days? On a roller-coaster ride through issues facing contemporary extension.

We've dealt with the unexpected. Here on the 2nd floor of the Melbourne Convention Centre you need to go up first before you can go down to ground level.

We've adapted to local technology – trams proved an ideal transport to the dinner.

We've seen the problems that can arise with "inclusivity" – 8 speakers on the first morning (and still GRDC and MLA, two of the biggest players, were missing) and 11 on the second!

We kept getting stopped just when we were really getting into it.

We've learnt from individuals in our profession who have shared with us the work they have been doing both overseas and in Australia – thanks Elske, Alice, Kathryn and all the workshop and poster presenters for your contributions.

We've been called a "basket case".

We've retaliated – and images of RDC helicopters dashing around in each other's air space will be hard to eradicate.

We've been fabulously gender-balanced.

There's been too much information to take on board.

We've got a real buzz out of the networking.

Basically, it's been a great Forum – but what will I be taking away?

1. Extension is right there on the agenda of the RDCs and the state agencies. The words (and I believe the knowledge) and the desire to recognise the value of and need for good extension as an integral part of R & D are there. If practice is lagging behind the rhetoric, then as Peter van Beek says, "This is normal." This is our challenge – we need to be more subversive (like Amabel's paper - pointing out the discrepancies between rhetoric and practice), more questioning, more challenging, and above



all more constructive. We need to be actively building the processes that will help institutional practices change. As individuals and as an organisation we can take some credit for the fact that extension is so obviously right there on the agenda. But extension professionals are clearly still not seen as professionals in the same vein as scientists. The talks by representatives of the RDCs and the parliamentarian indicate this. This is a situation that APEN needs to actively continue to address. While we remain an organisation with only few private sector members we will be, like Ruth's one-winged bird of agriculture, a one-winged organisation.

2. There needs to be more dialogue - more listening, more talking, more "creating a shared meaning" rather than "getting a message across" (as Dale Williams suggested to me). There needs to be more respect for other positions, and this only comes from having time to share experiences and perspectives. A real need for this exists between RDCs and extension professionals, and between those working in the public and private sectors.

3. I want to think more about some of the challenges about achieving behaviour change presented in Anton's talk. The challenge of the DOs – do be shocking, do be emotional. Science-based people like me are challenged by the idea of deliberately using emotion and shock to achieve

Extension in Australasia" - Forum 2000 Report



change. I also think that Anton's presentation suggests that we should be thinking more about reaching and working with young children if we are interested in achieving some of the major cultural changes that are needed in natural resource management.

4. We need to think more about the roles and responsibilities of extension. Jeff's "domains" have been helpful for me in thinking about this. This could be a useful approach to help sort out just where we are operating in this many-faceted activity generally known as "extension" and what this implies in terms of role and responsibility. Along with this there also needs to be some thinking about the language we use to

describe the work we do.

In the country-side in WA in March-April every year there is a lot of preparation going on. Fertiliser and chemicals bought, tractors and machinery being overhauled – some serious time being spent in sheds. Farmers are getting ready for a climate change, and they don't fail to recognise it when it comes. When the season breaks they're out there working round the clock.

APEN and extension science in Australia have been doing a lot of preparatory work over a number of years. I think that this Forum has presented us with ample evidence that we have been successful in "creating a climate for change". It's happening. We've got to rush out and put the crop in!

We don't have to create a crisis. Extension is back where the TAC were in 1989 with over 800 road deaths a year in Victoria. We've got a triple-bottom-line crisis – rural communities through-out Australia are facing severe economic, environmental and social difficulties.

At this Forum, as extension professionals and as an organisation, we've been clearly begged to get in there. As individuals - to actively seek funding, to challenge institutional responses. As an organisation APEN should be writing policy briefs, and working on a strategy to play a major role in these challenging times.

I've had a great time! Thanks to the APEN Victorian Chapters for putting it on.

THANK YOU

The Forum 2000 organising committee have done a wonderful job. I would like to thank them individually and collectively for contributing to an extremely successful and well run forum, and specifically (in no particular order).

Julie Brookman (brochure design, posters, Workshop "Are groups defunct")

Kellyanne Semple (sponsorship and evaluation),

Tegan Rennick (accommodation, venue, the Merri Creek Tour),

Ruth Beilin (speakers, papers, posters and discussant, the Merri Creek Tour),

Chris Sounness and Chris Bell (Papers, Workshop on Technology in Extension and Evaluation),

Aimee Johnson (sponsorship),

Alison Medhurst (Collating the Proceedings),

Helen Quinn (publicity),

Rosemary Currie (registrations and general administration).

All contributed to putting the folders together, registration and timekeeping.

Well done, it has been a pleasure to work with you.

Jane Fisher, Convenor

See page 15 for Awards Presented at the APEN 2000 Forum and the Organising Committee's Perspective on the Forum

Continued from page 7

This was due to the heterogeneity in farm systems between group members.

DE diagrams were then transferred across the supply relationship. Four to six representatives from each of the processing companies, occupying a range of positions (from field officers to senior managers), were interviewed individually. Throughout the interviews the DE diagrams referred to regularly, with the interviewer elaborating on their content (i.e. what was emphasised in the workshops but not obvious in the DE diagrams) and common issues that came out of farmer interviews. Processors were asked to reflect on the farmers' knowledge sets, represented by the DE diagrams and the

interviewers comments, and to consider how consistent they were with their own perceptions of suppliers, and company goals. They were also asked what they saw as their role in working with farmers to support their information and management needs and what they expected from the supply relationship. Although the processors' responses to the DE diagrams was varied within and between companies, from analysis of the highly detailed transcripts we were able to identify general features of a processors' perspective on the supply relationship.

Both the process of cognitive mapping, which was greatly enhanced by DE, and the process of reflecting on the DE diagrams provided empirical data about learning processes, infor-

mation use, competencies, networks and expectations, and highlighted where information gaps exist across the supply relationship which are creating tensions. Although too detailed to report here, we can say that we are now in a better position to collectively design tailored interventions (eg. adult learning programmes, information management systems, network facilitation) that will eliminate (or at least reduce) inconsistencies across the supply relationship and therefore enhance the performance of both parties. Both parties agree there is room to improve the supply relationship and communication. Networking and collective learning are essential components of change and management at the supplier-processor interface.

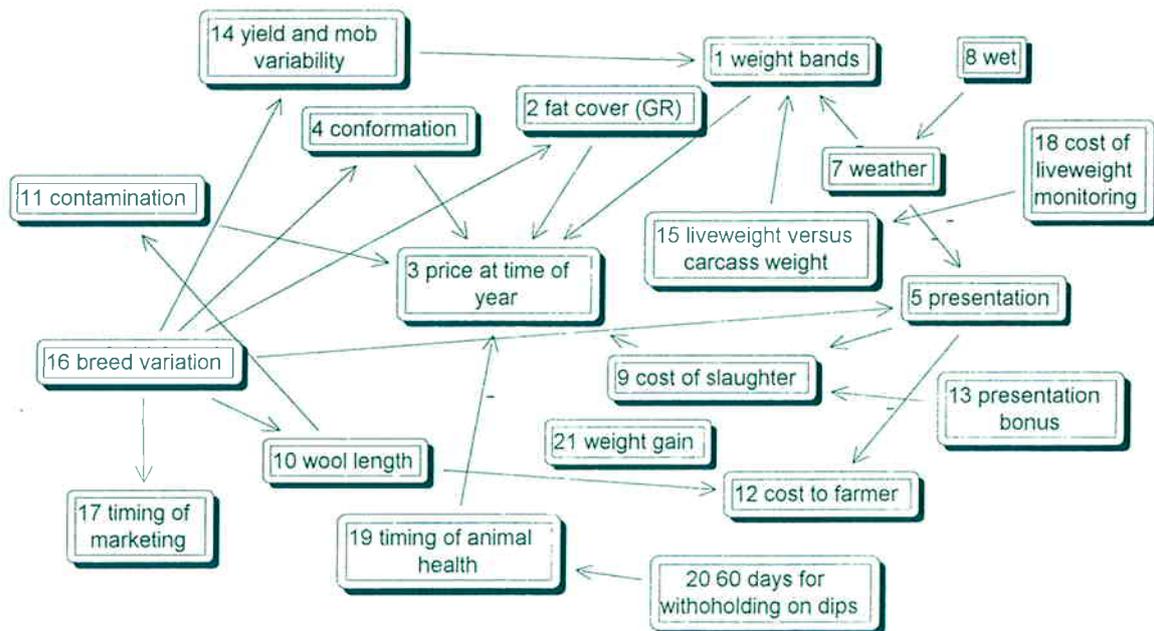


Figure 1: Managing to precise specification

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The Context of Agricultural Extension

Introduction

In the absence of clearly articulated and negotiated goals, extension organisations have been left to define their own roles (Steps 3 & 4 in Figure 1) in recent decades. This has resulted in much confusion about the role of extension as evidenced in many papers presented at APEN forums and conferences. Up until the mid 1980s governments, primary producers, research organisations and extension agents all focused on increased production. Since then the alignment has not necessarily been the same, but the funding organisations have failed to clearly articulate their goals. If stated at all, they have often been very vague and unrealistic, or sometimes have contained meaningless performance indicators. If organisational goals have been clearly stated, then extension agents have generally failed to link their projects to them.

Who is the client?

Definitions of agricultural extension in recent decades have tended to focus on what can be achieved for the target group or "clients" rather than what can be achieved for the funder (*THE* client). (If you find this difficult to accept, then what will extension agents be doing if their funder stops funding extension?) Focusing on 'empowerment' of the target group is fine where their goals are in line with those of the funder (eg. increased productivity), or where the development of human capacity is a key strategy being used to achieve the funder's goal, but this will not necessarily be applicable where goals are not closely aligned - as with natural resource management or having auditable quality systems in place, for example.

Although the New Zealand government ceased funding agricultural extension, several industry sector organisations (eg dairy, meat, wool, arable) currently do fund extension. Within recent months the New Zealand Dairy Board has set a goal of 4% productivity increase annually across the industry. Similarly, a 5% increase has been suggested for the meat and wool sector. Increased productivity (more output per unit input) is also likely to be a goal of many producers, hence 'empowerment' of stakeholders may well be a valid strategy - but with a clearly defined purpose and goal in mind

(ie. that of the funding organisation).

A clear extension goal implies that the funding organisation needs to meet its goal by achieving change through a target stakeholder group. (If this is not the case, then there is no need for extension as a policy instrument!) The funder may choose to employ its own extension staff or to contract and fund private organisations (or a combination of the two) in order to achieve its goals.

Extension expertise

Extension agents provide expertise in facilitating change through others in order to help meet their funder's goals. They have a combination of technical knowledge and skills relating to the biophysical area in which they are working plus skills to facilitate change using a wide range of methods and tools.

These methods and tools used will vary depending on the circumstances and complexity of the changes to be made. For example, changes may require extension agents to:

1. facilitate learning - provide formal or non-formal education and/or action learning opportunities;
2. facilitate communication and participation of stakeholders in user-driven R&D projects;
3. facilitate community participation, planning and management of projects;
4. design and include monitoring and assessment as an integral part of change projects;
5. provide technical &/or administrative support, or supervise programme implementation (project management); and
6. disseminate information or facilitate information flows.

Extension methods may use group activities or one-on-one advice or a combination of these. It should be noted, however, that the methods used should not replace the role of a consultant chosen and employed by an individual producer, but are chosen because members of the target group are unlikely to make the required changes without this intervention.

Other tasks which are often bundled with extension activities include:

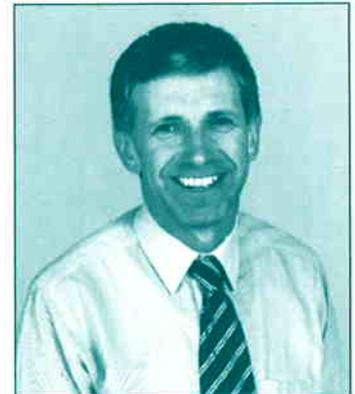
- collection of data from producers to inform policy makers (sector organisations, government)
- co-ordination and communication role in disaster responses such as natural or climatic disasters, disease outbreaks, introduced pests; and
- auditing or regulatory roles.

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A clear extension goal implies that the funding organisation needs to meet its goal by achieving change through a target stakeholder group.

When an organisation is threatening to stop funding, then extension agents need to be very clear about what they are can offer their funder

A clear focus

The bundling of tasks has helped generate confusion about the role of extension. When an organisation is threatening to stop funding, then extension agents need to be

very clear about what they are can offer their funder - not what they can do for the target group (whom they may soon approach to become clients in a different role - that of a consultant!). Offering expertise in

facilitating change through others, in order to help meet a funder's goals, would be a good starting point.

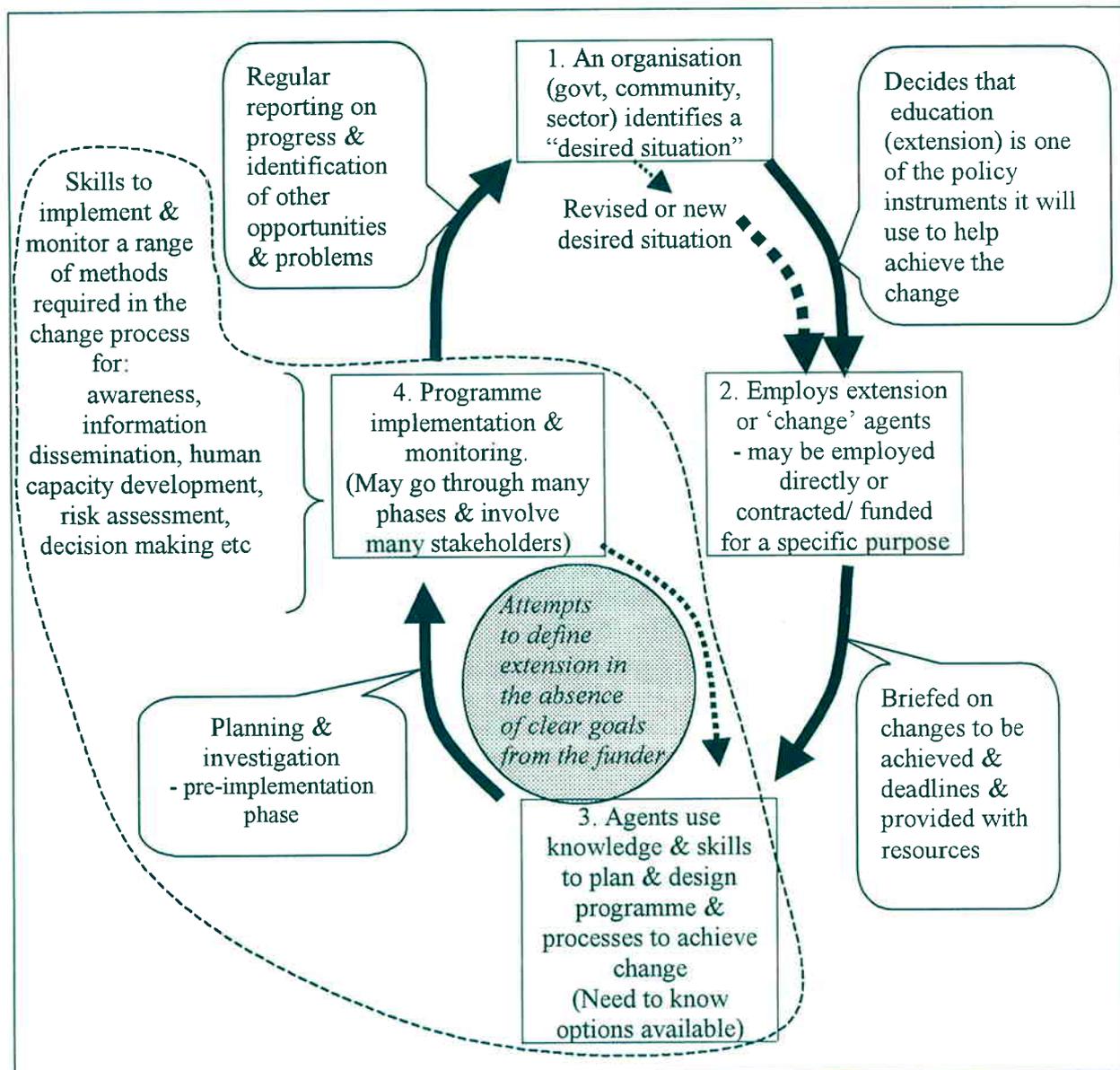


Figure 1. The context of agricultural extension as a policy instrument used by an organisation to help reach its goals.

APEN reaches out to the Philippines

APEN has just been awarded a grant of \$18 500 by AusAID to help establish a similar professional association in the Philippines for extension practitioners (PEN ?). The grant is for 2001 and we will be working with the Institute for Community Education (ICE) at the University of the Philippines, Los Banos. Further information on the project in the next issue of ExtensionNet.

Horrie Poussard. poussard@thereef.com.au

Farming Systems Research – a linking paradigm

Extension was a noble way to start a career. One was paid to help people solve their problems – a sort of fully funded disciple dispensing services and limited wisdom to the people. One worked mainly with the most responsive farmers one could find, and sometimes with innovative groups. I was encouraged to take further degrees in adult learning. In-service training was excellent and specialists were available when one got out of depth. A nice model – except that not much diffusion happened, and we often worked on the wrong problems.

Research was another part of my early career – another great profession, for those who prefer rigour and numbers to interacting with people. Disillusionment came when I found that most of our research direction was determined by funding and the scientific journals, rather than by local farmers' needs. I moved to training, where I tried to impart the things learned from extension, farmers and research – but motivating full-time ag. students can be stressful and even demeaning at times. I needed a new paradigm, or mode of operation.

Farming systems research came along in the early 1980s when I took a research job with CSIRO at a huge aid project in Indonesia – a laboratory set amongst villages on the volcanic slopes of Mt Gunung Gede near Bogor. The need for an R&D model that could bridge the gap between this sophisticated laboratory and the surrounding subsistence farmers could not have been starker. Despite CSIRO's preference for hard science, there were individuals who helped develop a new program of farming systems research – based on the rapidly expanding international literature on that topic. This literature was a revelation to me – as it provided the link between research and extension that we so badly needed – to convince both the local and international scientists to become involved in work on farms in villages.

It helped that some of the most inspiring international authors on FSR of the time were Australians. Papers by John Dillon (1976),

Anderson and Dillon (1981) and Byerlee et al (1981) were widely accepted by the international research centres and led to a massive swing towards FSR at those (CGIAR) centres. This all gave backing to develop a FSR program at Bogor; it provided both a philosophy and a process to justify the involvement of research scientists with farmers, and a literature in which we could publish and read the work of our peers.

FSR sets out to improve situations from the point of view of the farmers. It involves firstly description of existing "systems" in a multi-disciplinary way, then diagnosis of constraints and opportunities, design and farm testing of ideas for improvement, followed by wider dissemination and reinforcement of tested ideas. It brought researchers together with farmers and extension agencies, and forced linkages with policy makers too – because interventions invariably need support of some kind. Most of the scientists had never worked outside a laboratory, and FSR helped them to understand farmers' viewpoints and to develop trials on farms, within a few years.

Types of FSR

All FSR involved rapid appraisal methods for system description, but some programs tended to get stuck at that system analysis stage. Others tended to be rather top-down, with scientists calling the tune and designing all the trials. Through the 1980s the need for strong farmer participation throughout the FSR process became increasingly obvious. Farmers helped to describe their systems, design farm trials and other interventions and interpret the results. Other approaches and names emerged, such as FRS&E, FSR&D, on farm adaptive research (OFAR), farmer participatory research (FPR) and participatory action research or PAR (see Okali et al 1994; Whyte 1991).

In Australia some FSR programs are still of the New System Design type – a model abandoned years ago in most countries when it was realised that farmers could not take on

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FSR sets out to improve situations from the point of view of the farmers.

Farming Systems Research involves:

- description of existing "systems" in a multi-disciplinary way
- diagnosis of constraints and opportunities
- design and farm testing of ideas for improvement
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Farming Systems Research brings researchers together with farmers and extension agencies, and forces linkages with policy makers too because interventions invariably need support of some kind.

Millions of inhabitants of our closest neighbour countries depend on sweet potatoes for 90% of their diet, yet the farming systems that produce this food are unknown to most Australians.

whole new systems – no matter how good they appeared to scientists. Other Australian FSR programs embraced the need for real participation and co-learning by scientists, farmers and extension agencies. In modern FSR the research-extension distinction is almost gone and R&D models incorporate soft and hard systems approaches, older concepts of technology transfer, and modern ones of participatory learning and action (see Foale et al. 1996; Petheram and Clark 1998).

Recent involvement in FSR

In the 1980s it was impossible to obtain support for proposals for FSR in Australia, so most of my FSR&E involvement was overseas where the concepts are more widely accepted, and funding easier to secure. Recent trends in Australia have seen some R&D corporations devote significant funding to FSR and to PIRDs (producer initiated research and development) – a welcome development.

In the overseas development context, FSR still offers a valuable framework for projects of many different types. Rural professionals looking for a practical and flexible paradigm for work in lower income countries are encouraged to look at some early FSR literature for guidance. A few examples of some interesting FSR projects in which we have been involved recently from ILFR, University of Melbourne, are outlined below.

Farming Systems of Khirthar National Park

Khirthar in Pakistan was declared a park to preserve its flocks of Ibex (wild goats) and Urial (wild sheep) and herds of Chankara gazelle, living in near desert mountains. The future survival of these populations is intertwined with the lives of 20 000 farming families that share the park. This study is unique in that FSR analysis is part of a greater multidisciplinary effort, involving hydrologists, geomorphologists, zoologists, botanists, archaeologists and sociologists. It remains to be seen whether the funders, Shell Pakistan, will support a more complete FSR process, in which farmers would work with park authorities to test ideas for improving farming and enterprises related to wildlife and its management.

Draught Animal Power (DAP) Systems in South-East Asia

Farming systems in which draught power is important were the focus of this project. The first aim was to understand the role of animals relative to other sources of power and tillage in farming, at 10 village sites across Indonesia. Description of DAP systems was followed by intensive studies of the physiology of work of buffalo and cattle on treadmills and in the field. Then research moved to trials on farmers' fields, on forages, feeding, animal training and implements. The project involved scientists and economists from JCU and Melbourne University, CSIRO and three Indonesian institutions and was funded by ACIAR for seven years.

Sweet Potato/Pig Systems of West Papua and PNG

Millions of inhabitants of our closest neighbour countries depend on sweet potatoes for 90% of their diet, yet the farming systems that produce this food are unknown to most Australians. An initial study involving agronomists and livestock specialists revealed strong potential for a participatory approach with Papuan anthropologists and farmers. The project, to be jointly funded by ACIAR, International Potato Centre and the Indonesian government, is on hold.

References

- Anderson, F.M. and Dillon, J.L. (1985). Farming systems research at the IARCs and other international groups. In 'Agricultural Systems Research for Developing Countries'. (Ed. J.V. Remenyi). ACIAR Proceedings 11, Canberra, 141-147.
- Byerlee, D., Harrington, L. and Winkelmann, D.L. (1982). Farming systems research; issues in research strategy and technology design, Annual Meeting of American Agricultural Economics, Logan, Utah, August 1982.
- Dillon, J.L. (1976). The economics of systems research. *Agricultural Systems* 1, 5-20.
- Foale, M.A., Carberry, R.I., Probert, M.E., Dimes, J.P., Dagleish, N.P. and Lack, D. (1996). Farmers, advisers and researchers learning together about better management of crops and croplands. In 'Proceedings of the 8th Australian Agronomy Conference', University of Southern Queensland, 30 January - 2 February 1996, Toowoomba. pp. 258-262.
- Okali, C., Sumberg, J. and Farrington, J. (1994). Farmer Participatory Research. Rhetoric or Reality. Overseas Development Institute, London, U.K..
- Petheram, R.J. and Clarke, R.A. (1998) A Review. Farming systems research: relevance to Australia. *Australian Journal of experimental agriculture* 38, 101-115.
- Whyte, W.F. (1991). *Social Theory for Action: How Individuals and Organisations Learn to Change*. Sage, California.

Awards Presented at the APEN 2000 Forum

At the recent forum in Melbourne, awards were presented by the APEN CoM and the forum committee.

Dr Kathryn Egerton-Warburton, Agriculture Western Australia, was awarded the *2000 APEN Award for Excellence in Extension*, this year awarded to a young extension professional. Kathryn received her award from Dr Roslyn Prinsley of RIRDC, who was part of the selection committee, at the Forum Dinner. Information about Kathryn's demonstrated excellence in extension will be included in the next ExtensionNet.

Poster awards were an innovation by the forum committee, with the objective of increasing the professionalism of extension scientists, as well as giving participants the opportunity to see what their peers are doing as in past forums.

Poster Awards

Open Entrants

1st: Ian Tarbotton, Mark Paine, Allen Heath, "Participatory Interdisciplinary Research – a Case Study on Endoparasite Management"

Contact: Neels Botha ←
bothan@agresearch.cri.nz→

2nd: Anne Leith and Allan Dale "Sustainability Through a Better System of Regional Planning – The CHRRUPP Project"

Contact: Anne ←anne.leith@tag.csiro.au→

3rd: Abigail Jenkins, "Acid Sulphur Soils: A Bottom Up Technique"

Contact:
Abigail ←abigail.jenkins@agric.nsw.gov.au→

Student Entrants

1st: Tim Tabart, Amabel Fulton and Rob Clark, "Communities Taking the Future in Their Hands – The Valley Vision Story"

Contact: Amabel
←Amabel.Fulton@utas.edu.au→

2nd: Tran Thanh Be, "Agriculture Extension in Vietnam – In need of Better Institutional Arrangements"

Contact: Tran ←t.be@agsec.usyd.edu.au→

3rd: Stephanie Andreatta, "Focusing Change – Utilising Facilitated Farmer Groups as Learning Vehicles"

Contact: Stephanie ←jarrama@nex.net.au→

"Creating a Climate for Change" - the Organising Committee's Perspective

The energetic committee thoroughly enjoyed the Forum. When asked to identify the highlights and low lights, they made the following comments

Julie Brookman "The posters. I got such a lot out of participating in this section. I read all the abstracts, and was impressed that such a broad range of topics of such a high calibre were presented. I was disappointed that we only able to give three people from each section an award, as I thought that every participant deserved a prize".

Alison Medhurst "I enjoyed the Technology section (afternoon Day 1). I came out of it feeling really good, and there was some really good discussion. My lowlight was not being able to participate fully because I was helping organise things".

Chris Sounness "The dinner. I enjoyed the venue, the speaker, the chance to catch up with a range of people, and networking with some new people".

Kellyanne Semple "Doing the evaluation. It was a challenge. I learned the importance of using program logic in planning the evaluation, and the importance of the outcomes from the evaluation in planning future forums - a part of the APEN continuous improvement process".

Tegan Rennick "The number of people who came from different parts of the country and different sectors of work. I enjoyed Anton Standls presentation and that everything went pretty smoothly. Not enough interaction between presenters and audience".

Helen Quinn "Elske van de Fliert - a totally different view to the concepts of agriculture and farming networking at the dinner, participatory extension

workshop run by Elske. Maybe too many people in the panels and not enough time for discussion"

Ruth Beilin "The highlight was meeting everyone and having an opportunity to talk informally with people from across extension spectrum. I thought the Forum presented an up date on the 'where' and the 'what' very effectively in the two days. The least successful part of it was the lack of time for formal questioning and discussion with the panels."

Chris Bell "I guess for me the highlight was the way in which the representatives of the research councils and corporations could come and genuinely discuss their bodies' needs in a friendly atmosphere. I have been to other meetings where the scientists get very defensive of their own turf and no actual dialog takes place because each is coming from a very different perspective. It reinforced for me that extension people do have an important role in the scheme of things, but that this role is misunderstood by the State departments as exemplified by the discussion in the second panel session. They seem to think that scientists do their own extension (or should), but this overestimates most scientists' abilities and devalues that of the extension people. It seems to me that both groups do not truly understand the processes of research, development and adoption. While they deliberately fund the first, they actually want the last and are then disappointed when they do not get it. And, of course, the other point is that neither group has any idea of the role of the education sector in all this!"

Jane Fisher "My highlight was hearing the perspectives of the research and development corporations and the states on extension. My lowlight was people disappearing before the presentations were made on the Friday afternoon".

EXTENSION EVENTS

27-29 Nov 2000, SANTIAGO

16th Symposium of the International Farming Systems Association and 4th Latin American Farming systems Research and Extension Symposia: **Globalisation and Local Development: Challenges to Small Scale Production**, Santiago, Chile

Contact: http://www.rimrsp.cl/ifsa_iesa2000.html

14-15 Dec 2000, ROCKHAMPTON

Using Community Informatics for Regional Transformation: **Get Smart 2000**. See program at <<http://getsmart.cqu.edu.au>>, registration on line.

Contact: cascott@rocket.net.au

3-5 Oct 2001, TOOWOOMBA

3rd International APEN conference: **Contemporary extension as a powerful vehicle for regional change**, University of Southern Queensland, Toowoomba, Queensland, Australia. Papers welcome.

Contact: John
James.jamesj@dpi.qld.gov.au

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314 are Financial

121 owe for 2000/2001

78 owe for 1999/2000 & 2000/2001

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Wednesday 3rd to Friday 5th October 2001



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Guidelines and deadlines

Submissions should be made in Word with minimal formatting. A portrait photograph is required. All photographs, figures and/or tables ought to be provided as separate files (preferably TIF, GRIF or JPEG). Feature articles ought to be 1500 words and minor articles 750 words. Letters to the editor or general items of news of interest to the network are welcome. Articles should be submitted to the committee four weeks prior to publication. Preference is given to articles that are grounded in some form of project or event.

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