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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 Coutts 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.

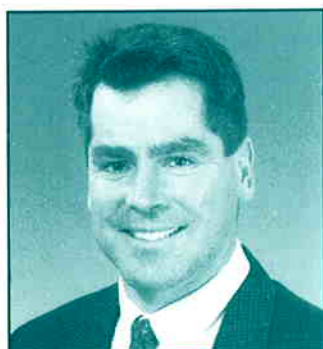
Chris Sounness has been involved in developing policy and working hard to get our website up to date.

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

THE AUTHOR

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

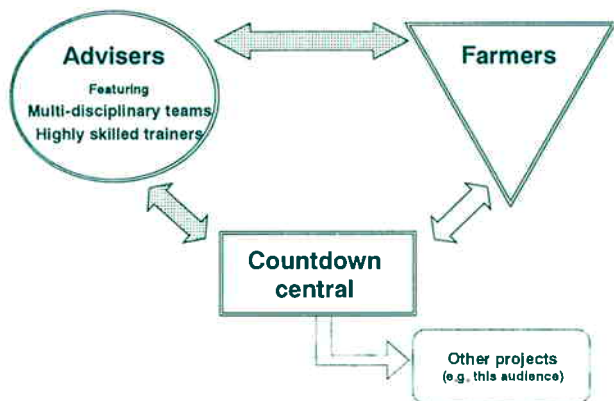


Diagram 1

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

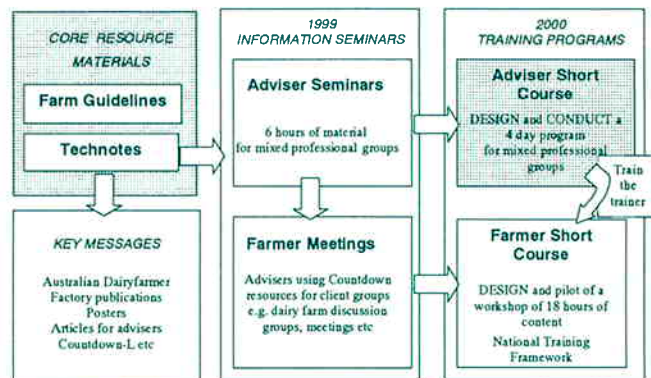


Diagram 2

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.