AARE Conference, Surfer's Paradise, November 1991

RURAL COMMUNITY TECHNOLOGY CENTRES - A PILOT PROGRAM

Graham MacKay, Dan Riley, Tony Brown # 150
University of New England - Armidale, Armidale 2351

Introduction

Centralisation of the Australian population is a fundamental problem confronting rural communities. For individuals and groups in sparsely populated rural areas the opportunities for successful participation and involvement in activities readily available in the region is limited. This is most obvious in the area of education and training which must now be perceived as being part of a life long process. This factor is brought about by two main reasons, both of which are related to the high rate of technological process. In the first instance, it will be increasingly necessary for employees to undergo frequent training so as to function effectively in their current employment. In the second case, it will be necessary for employees to completely retrain for new employment due to the changing nature of the workplace. In addition, it is necessary for people currently out of the workforce to undertake retraining before re-entering it. Others need to make up for a lack of basic education, whereas, some need the extension and enrichment activities available in urban Australia. It was to satisfy the demands for education and training opportunities of rural Australia that this project was proposed, with the researchers initially unaware of overseas developments in this area.

Overseas Experience

What is proposed for rural Australia is called "Telecottage" in overseas countries such as, Sweden, Norway, Denmark, Finland, United Kingdom and Ireland, Continental Europe, and North America. Telecottages aim to provide decentralised services to remote communities by presenting a human and integrated approach to the use of technology. The primary functions of a telecottage is to "ensure that all members of the community have easy access to the external sources of information irrespective of income, and to integrate existing services into a unified facility" (Horner & Reeve,1991: 57). At least one aim of most telecottages is to become exporters of services at some stage. This is incorporated in the concept of a 'community business' that are;

"trading organizations which are community owned and controlled. They aim to create ultimately, self-supporting viable jobs, provide goods and services and create wealth for the benefit of the community" (Linking Up)

While this area of operation is most theorised about, it will require large amounts of organisation, product development and market research.

No telecottages offer exactly the same range of services and equipment, but it is possible to identify typical services. On the one hand are "tele-based services" which implies that the application are

technology driven and may become 'solutions in search of problems'. On the other hand are "tele-assisted services" which are intended to streamline existing functions. Overseas experience reveal a number of functions of a telecottage:

- Services for local business and local government
- Distance working
- Distributed production
- Job training
- Distance education
- Video conferencing

The most popular services have been found to be facsimile transmission, computer consultancy services, introductory computer courses and business-related workshops on topics such as agricultural data processing.

In order to contribute to the successful operation of a telecottage there needs to be local organisational autonomy since this stimulates community support and higher levels of usage. In addition, the new technology needs to be an integral part of the community's social structure through the established infrastructure of educational institutions, local government bodies and private organisation.

New South Wales Experience

The research team; initially unaware of overseas experience with telecottages, focussed upon the delivery of educational and training opportunities to rural communities. It was hypothesised that computers provided a cost-effective means for the initial introduction of such communities to the possibility of telecottages. The major objective of the program is to assist in providing rural Australians improved access to all areas of education and training. This will be achieved through this program by:

- introducing innovative programs and improved arrangements for the delivery of education and training for rural people which include facilitating access to specialised vocational training not available at the local level

- encouraging post-compulsory education institutions in regional areas to work closely with industry

- increasing the range of courses available by developing short course modules which can be given credit in longer, more formal courses and which are relevant to the specific needs of regional industries.

The advantages of using computers compared with more traditional means of delivery include

- They can be used by individuals at a time suitable to them thus eliminating the need to schedule formal sessions.

- Because they can be used at any time, people who have family or business commitments should be able to undertake courses with a minimum of inconvenience.

- As the computers will be available on a permanent basis, participants will be able to maintain their skill and knowledge base.

- As teachers are not required, the over-heads involved in conducting these courses can be kept to a minimum.

- Information can be presented in a variety of ways including text, graphics and sound thus catering for individuals with different learning styles.

- Courses can be conducted in a non-threatening environment which is seen as being very important for people who have been out of the education system for some time.

- The computer programs can be interactive and so provide the users with immediate feedback.

- Users can proceed at their own pace and explore the information in a way and to a depth suitable to them.

- The computer is a very suitable medium for the delivery of such subjects as adult literacy.

- Subject matter can be prepared by people who are experts within their field.

In the initial proposal, to the Department of Employment, Education and Training and the Department of Primary Industries and Energy it was suggested that from four to six sites should be used. It was anticipated that the centres would be based on schools and that they would be under the control of a paid facilitator, however, events proved this to be inappropiate during the initial phase of development.

The process of site selection proved to be very difficult. Possible sites were listed and a survey conducted to find details of the community - the size of population, the types of farming and business and the available resources (schools, TAFE Colleges, Hospital, etc.). It was difficult, however, to make a selection from this data and other people and organisations consulted could not provide any clear cut guidelines about this process. To overcome this problem, arbitrary conditions were placed on the selection, the two main ones being that (a) the sites should not be more than 3 hours drive from Armidale and (b) where possible, they should be on the same route. Using these criteria, six possible sites were selected.

Initial visits to the proposed communities indicated that the centres could not be based on schools. The two main reasons for this are that (a) under the new method of funding schools in New South Wales, individual schools are now responsible for the payment of their own electricity bills, and opening the schools out of hours would increase these costs and (b) many schools are now equipped with security systems which are switched on at the end of the school day and remain in force until the following morning. Schools were not prepared to overcome these problems for the comparatively little that they could be offered by the project in material terms.

As it proved to be a very time consuming process to select communities, only two have been asked to participate in this project, but in one of them, two centres have been established. While this is fewer than was originally intended, it means that each centre will be now be provided with more equipment and better support than had been anticipated. The two communities selected, Walcha and Moree, are very different to each another.

WALCHA

Walcha is a township on the Northern Tablelands with a population of 1700. It is the centre of a mixed grazing economy with special emphasis on find wool. It has a proud and proven tradition in innovation and showed instant interest in the technology project through the Walcha Adult Learning Association (WALA Inc). A Public meeting was organised and through press releases and personal invitations ten to twelve people were attracted to the meeting. A presentation and demonstration of the Macintosh system was provided with discussions during question time. A committee was formed to gauge the level of interest and to explore what ideas and plans could be generated. This committee found it difficult to define its directions due to lack of confidence, computer skills and attitudes to Macintosh computers. No other organisations were directly involved in the initial stages. The major successes of this committee included:

1. a mailed survey of the township and district on attitudes to computer use, access to equipment and the desire for training Of the 1300 questionnaires distributed, 60 were returned with 48 people stating that they were willing to be on a mailing list. This survey clearly showed that most wanted courses organised for about 6 weeks, one night per week. They wanted training in word processing, record keeping and in financial options. For over half of the respondents this was to help improve their present work and out of personal interest. A third wanted to be able to keep up with their kids. Many were considering buying a computer in the future and were looking for advice from such a Technology Centre.

2. a display using 6 Macintosh computers was organised for the local Walcha Show with limited results.

3. a submission was made by the secretary for external funding from the Adult Education authorities for projects in adult literacy. This was

successful and $2,600 was granted to use computers in the process of helping selected adults to improve their general literacy skills.

4. the organisation of the Centre in the old primary school for a nominal rent of $2 per hour of use that included heat and lighting. Four computers and a printer were installed and the site was names the "Walcha Technology Centre".

5. the first training course was organised through WALA Inc. for 5 weeks at a cost of $60. Fifteen people enrolled and two evenings were required to cope with the demand. Self training materials using Hypercard were developed for the word processing segment and resources developed for databases and spreadsheets. This proved a very valuable experience and developed a new level of confidence not previously present.

The next phase was the formation of a new committee to overview the access to the centre and supervision and support. This occurred a week after the completion of the first training course and drew those who had gained new skills and confidence. There was obviously an evolution in the process of identity and ownership that will determine the viability of the Centre. Issues raised in this meeting included:

1. how to organise the opening house and payment for use

2. the planning of a training weekend to learn how to use Hypercard

3. what projects could generate funds

4. how to develop and implement priorities

5. how to contact community groups to help in meeting priorities

6. how the Centre can help local community groups with computer based training and general computer literacy

7. working constructively with other educational groups such as TAFE, the High School etc.

8. providing advisory help to the community on computer use and purchase

9. how some simple computer maintenance service could be started

10. how and what computer equipment should be purchased in the future

11. what communication services should be developed using modems

12. what other equipment, other than computers, would be appropriate for the Centre

13. what other sources of outside funding are available

14. how should such a Centre be managed - what incentives should be available for participants and its relation with WALA Inc.

15. how should the finances be controlled

This provided a list that reflected the growing confidence and initiatives that come from understanding of basic concepts and having some useful skills. Also some very good leadership emerged in the training sessions that will ensure the Centre can develop independence from staff at the University of New England.

At this point there was a new initiative from TELECOM Australia who saw the potential of Telecottages and offered to run a "Future Search" Conference to see where the community was in relation to the concept and where they could take it. A facilitator was employed and a representative group of 18 people from the community were gathered for an intensive two day seminar. This produced a business plan for a telecottage based on the strengths and weaknesses of the community which stressed the need for a coordinator and looking for outside work if the project was to be viable in 2 to 3 years. The budget was set at $40 000. This exercise helped in the preparation of a RAP(Rural Access Program) submission to compliment funds from TELECOM. The "Future Search" strategy was a great success and provides a convenient way of checking whether a community is ready for a telecottage. The exercise itself cost approximately $5 000 and could only be used "sparingly" in rural communities. It also does not ensure funding of the telecottage but provides an excellent document to help prioritise towns if there is a limited Government budget. The Seminar has helped to raise public awareness, particularly of the Shire Council. It has provided a clearer vision of why the Centre needs a good telecommunication network to attract outside work and be able to link to educational institutions. This Centre has shown a possible development pattern that can be partly summarised as:

Contact
Concern
Commitment
Committee
Courses
Confidence
Committee reformed
Conference ("Future Search")
Community Involvement/Support

Communications

Commercial ventures

In other towns then the "Future Search" Seminar would come much earlier in the process. The committee is presently grappling with structures and are trying to develop a constitution for approval by the State Government to become a Co-operative.
The financial gain and opportunities for individuals has now been raised during these incorporation discussions. Various incentives will be needed to get projects underway but it is early days and much more structure is needed to be put in place. This project has been underway for approximately fifteen months and highlights the need for external support during, at least, the first three years of operation in providing direction, training and ideas and a focus as local talent is found, encouraged and developed. Putting computer equipment into a centre without appropriate human support structures will be irresponsible particularly if taxpayers money is involved.

MOREE

From the experience gained at Walcha, it became apparent that there are two necessary ingredients for the successful introduction of the project into the community. The first is a suitable building which is available to all members of the community, and the second is a person who has very good community connections who is willing to organise the project at a community level. Initially, it appeared difficult to fulfil these criteria at Moree, one of the most productive shires in Australia covering an area of 17,795 sq K. The town has a population of approximately 10,500 people and services an additional 7,900 people within the shire boundary. Located on the Western slopes of northern New South Wales, it has experienced the recent rural recession and associated hardships. The community appeared divided into two sectors along racial grounds: Aboriginal (20%) and non-Aboriginal (80%), but it is suggested the Aboriginal people are part of the larger disadvantaged community.

The Shire Council is very supportive of the project and offered the use of the library as a centre. In addition, the librarian was identified as a very suitable organiser within the community. However, it was not certain whether or not the library would attract the disadvantaged groups within Moree. Advice about the Aboriginal people in the community, indicated that there were certain places within the town which were not deemed to be 'friendly'. In view of this, the Pious X Aboriginal Co-operative was considered, but it could not be ascertained as to whether equipment placed there would receive sufficient use to warrant this. However, the local Skill Share organisation has approximately seventy percent of Aboriginal clients and the organisers were found to be extremely enthusiastic about the project, and so it was decided to base two machines there. The Moree Regional Library because of the excellent facilities, location and staff support was selected as an a second site for four additional machines.

An initial visit to introduce the project at a public meeting was successful with a follow-up meeting being attended by twelve people. These

meetings and subsequent visits to install and maintain the machines identified the need for short courses in computer use for enthusiasts supportive of the project. By training people at Moree it was envisaged that local expertise, confidence and enthusiasm would be engendered. A need for more sophisticated knowledge and skill in the use of Hypercard became evident. Both these computer skills when achieved by sufficient numbers of locals would alleviate the need for regular visits by the research team.

During the implementation phase of the project and number of challenges have been confronted.

- Financial cost of frequently servicing the computers has been high.

- Computer abuse or misuse has reduced by several weeks the time the 6 computers have been operational.

- Distance and costs have reduced the frequency of visits by the team.

- Skill development in computer usage has been slow.

- Because of unforeseen problems the project is progressing at a slower then expected rate.

- Computer program development is enormously time consuming and ill defined.

- Community expectations are being identified and serviced.

Achievement to date have not met the expectations of team members. The realities experienced are similar to those identified in overseas telecottages. Development of local community skill base is time consuming and expensive. In order to stimulate the rate of implementation, all external students of this institution within the Moree shire have been contacted and informed of the facilities available. Through increased awareness at the individual and community level it was expected that greater interest and involvement would assist the rate of implementation.

In recent months community ownership of the project has not been forthcoming, due inpart to the absence of a confident and coherent management committee. It appears that enthusiastic and formal support by the Moree Shire Council needed to be supplemented with informal community identification and ownership. Possession of technical skills need to be combined with the realization of the potential benefits that can accrue to the community. A "Future Search" Seminar has been planned on two occasions in Moree but it has not taken place due to misunderstandings and lack of participants. It highlights the need for a committed team of people to undertake the contact of individuals and organizations to get people to attend and give up two days of their valuable time This marketing strategy has not been in place at Moree and the the future of the Centre is

therefore in doubt. The Shire Council has big plans in this area and it will be interesting how these are developed in the near future.

Conclusions

This project has generated considerable interest and enthusiasm but converting this energy into a workable and viable telecottage requires a considerable range of skills as well as finance. Some issues for consideration include;

a. How telecottages are initially funded is critical for their success. If they only receive a proportion of their finance to commence operation then only larger centres will be able to "afford" them. If on the other hand there is adequate finance to establish the equipment and coordination for a set period of time and this outside funding was progressively phased out over three or four years then more communities would be interested and capable of developing viable centres with community support and central support. Considerable accountability would be required and not all Centres would be expected to succeed but may need "restructuring" over time.

b. Our findings indicate that overall coordination will be required to establish each Centre and make most use of Government and local funding. This coordination will help with issues such as:

1. how to establish a centre
2. develop training strategies
3. implement training programs
4. provide ideas and initiatives
5. how to involve the community
6. how to raise funds and manage finance
7. working outside that community
8. the purchase of software
9. coordinating joint submissions
10. providing technical assistance
11. what equipment to buy and how to be serviced.

c. Considerable thought and consultation will also be needed in how to set up telecottages in Aboriginal communities. The arguments will centre on whether to select a Koori group within a larger township or establish in an exclusively Koori community. It may require both approaches to be tried and careful monitoring and support to be provided to develop initiatives, training and decide on ownership.

d. There are going to be a variety of models in setting up telecottages as illustrated in this project;

"Community based" "Local Organization based"
eg through Adult Learning Assoc. eg through Shire Council

Advantages

1. "ownership" with local individuals	1. good support structures	
2. responsive to local needs and initiatives	2. financial support	
	3. wide range of contacts	

Disadvantages

1. has few resources initially	1. more difficult to develop 'grass-roots' involvement and ownership by the community	
2. requires more outside support	2. not clear how individual involved with their ideas and projects	

Although there are a range of models, there comes a point when a group of committed people need to be identified who can take the concept and "run" with it. This has happened in Walcha but not as yet in Moree. In certain overseas centres there has been a tendency where the community based telecottage is having difficulties for certain individuals to take over the project as a private company. This then has important implications for community support. Whichever is adopted then the human developmental aspects need addressing before the technological issues. Unless a group of local residents who are interested enough to be trained in various skills and have the confidence and commitment then it will be difficult to get a Centre running effectively.

e. The coordinator's role remains central to the success of these ventures. Where funding is short then individuals have been encouraged overseas to run their own businesses from the telecottage and be paid less as they supervise the telecottage. There is already a tendency from the Walcha Centre to look for someone outside the town for this important position. However, overseas studies indicate that a local is still the preferred option. The training of these individuals is a special challenge. In Denmark, a new University based program has been launched that deals with communication skills, marketing strategies as well as the technical aspects of an advanced telecommunications centre that coordinators will need. Every telecottage will require a coordinator for at least half time which is a commitment of $12 000 -15 000 per year.

f. getting commercially viable telecottages is a particular challenge for Rural Australia. There are issues that need urgent attention including;

i. Training Programs - it has been easy to run introductory courses for a few evenings but how can it be developed? Overseas, the approach is either to train local residents in the use of particular packages (e.g. EXCEL, WORD etc) or to undertake Diploma courses of one year duration in "Information Technology" or link in with accounting awards. This provides participants with an award that can gain employment beyond the telecottage as well as training a local team that can tender for outside work .

One problem concerning telecottages in the UK is standards. How can the quality of "graduates" be maintained in such programs? It will influence the granting of outside work and the general acceptance of telecottages in the business and government communities. Training is an important source of finance but requires a minimum number of computers to be cost effective.

ii. Marketing - the marketing of services both locally and beyond is essential for the long term viability of the telecottage movement. The local market will not support a telecottage in Australia - the population base is not sufficient. Overseas, many Centres maybe isolated but within 30km there is a population of over 50 000. This provides a viable base for a variety of services and training courses.

Work must be sought from beyond the region and there will be some limit to what Government and business can offer. It will require high level negotiation and skill in achieving contracts for some Centres.

iii. Technical Support - some Centres will require upgrading of lines to ISDN standards for reliable transmission of data. Using different machines, modems, software etc., will provide challenges to interface to other host computers. Few overseas telecottages have faced this issue. Outside work usually involves receiving documents in the mail which are put onto disk and sent back in the mail. Many opportunities exist here for innovation but close liaison with service providers is essential.

iv. Education and associated services - are a growth area if links can be established with appropriate institutions. The Open Learning Centres in Queensland provide a possible model but it is a commercial environment that will require a range of services to be available that will generate income. There is the opportunity to export as well as import knowledge. A recent 'Hypercard' training day for the Walcha showed that there were ideas that could be developed and generate interest in the wider agricultural community.

g. some classification of services are needed and possibly a star classification used for accommodation could be adapted for telecottages. The Horner and Reeve report suggested government funding from $50 000 to $250 000 to establish telecottages with various degrees of sophistication of services. Our view would be that Centres commence on the base level and prove their viability before applying for additional funds to develop extended services.

Various Federal Government Departments see the potential in this venture at a time of rural recession - and growing unemployment. It is hoped that they will be willing to take the risks and provide parts of Rural Australia with an opportunity to show their initiative and expertise beyond primary production and associated services while increasing their productivity and competitiveness.

Acknowledgements
This project was made possible by a grant from the Department of Employment, Education and Training and the Department of Primary Industries and Energy under the "Innovative Rural Education and Training Program". An additional grant for the Future Search Conferences was made by the Strategic Planning Unit of TELECOM Australia

References

Horner.I. & Reeve.D. (1991) Telecottage; Potential for Rural Australia. Canberra, Australian Govt., Publishing Service.

How to Set Up a Community Business, Linking Up, 27 Blackfriars Rd., Manchester, M3 7AQ, UK