WEB KIOSKS IN AQUACULTURE: A STUDY OF AQUACHOUPAL MODEL IN PRAKASAM DISTRICT OF ANDHRA PRADESH

P.Mahalakshmi, D.Deboral Vimala and M.Krishnan
Central Institute of Brackishwater Aquaculture, (I.C.A.R),
Chennai – 600 028.

Introduction

Information Technology (IT) has the potential to address the unmet needs of Indian villagers, from education to market access, from telecom to healthcare, from financial intermediation to entertainment. Computer kiosks are the building blocks of this bridge. These kiosks represent a paradigm shift in the delivery of services to rural India by serving villagers directly instead of via intermediaries [1]. The Aquachoupal network, launched in February 2001 in the state of Andhra Pradesh, includes 55 kiosks reaching 10,000 shrimp farmers in over 300 villages [2]. Aquachoupal was started in Prakasam district in 2002.

The present study has been carried out to understand the ongoing activities of the aquachoupal in Prakasam district, Andhra Pradesh. The study also aims to understand the drawbacks and success factors of aquachoupal in Prakasam district and also offers suggestion to improve the aquachoupal system in Prakasam district.

Methodology

A field trip was undertaken in Prakasam district of Andhra Pradesh during July 2006 to study the existing activities of ITC's e-Choupal model in aquaculture. The investigation was carried out in four mandals namely Vetapalem, Tangatur, Chinnaganjam and Ongole where ITC has set up aquachoupals centers. At each center information was generated through questionnaire from two groups: center operator and user community members (farmers). These groups can overlap for example, in Vetapalem center, operators were also users. A total of 28 questionnaires (10

operators and 18 farmers) were completed. Information was also generated covering various aspects such as, history, center facilities, services and content, center usage and drawbacks.

Findings

Aquachoupal Model Specification

The model is centered on a network of aquachoupals, information centers equipped with a computer connected to the Internet, located in rural farming villages. Aquachoupals serve both as a social gathering place for exchange of information (choupal means traditional village gathering place in Hindi) and an ecommerce hub. A local farmer acting as a sanchalak (Prathinithi or operator) runs the village aquachoupal, and the computer usually is located in the sanchalak's home. ITC also incorporate a local commission agent, known as the samyojak (collaborator), into the system as the provider of logistical support. They play an specially important role in the initial stages of setting up the aquachoupals, because they know which farmer is educated, the composition of families their financial situation, and who is seen as acceptable in the villages and might thus make a good sanchalak.

The critical element of the aquachoupal system, and the key to managing the geographical and cultural breadth of ITC's network, is the sanchalak. ITC channels virtually manage all its communication through the local sanchalak. Recruiting a local farmer from the community for this role serves several purposes:

- ITC need not invest in building and securing a physical infrastructure such as a kiosk for housing the aquachoupal computer.
- The sanchalak is trained in computer operation and can act as a familiar and approachable human interface for the often illiterate farmers and other villagers.

Sanchalaks indicate three equally-weighted motivations for assuming their role: a means to help their community, a profitable business for themselves, and a means of getting access to a functional computer. The sanchalaks receive a commission for every transaction processed through the aquachoupal and also benefit from increased social status. Sanchalaks are usually of median wealth and status in their communities, and able to read and write.

The farmers can use the computer to access daily closing prices on local mandis, as well as to track global price trends-either directly or indirectly via the sanchalak since farmers are illiterate (regarding computer aspects).

The IT infrastructure can be comprehensively understood in the following layers.

Layer 1: Technical Architecture
An Aquachoupal center consists of the following hardware and software facilities.

Hardware	
Power	0.5 KVA UPS
Connectivity Dial-up	Dial-up modem
Computer Hardware	PC with Intel Celeron processor (HCL : 128 or 256 RAM / 40 GB HD)
Printer:	Dot matrix
Software	
Operating System	Windows
Word processor	Telugu word processor
Multi media applications	Choupal aquaculture (CD-Show)
Video clips	AQUA LAB (ITC aqua lab activities like soil testing, water testing, PCR testing etc) Kakinada, Andhra Pradesh.

Layer 2: Application Architecture

The application architecture gives us a view of the functions enhanced by information technology and also illustrates how business processes may be adapted to deal with constraints upon the IT infrastructure. The web site www.aquachoupal.com is the gateway for the farmer. The web site is protected and requires a user ID and password to login. As of now sanchalaks are the only registered users. Immediately after recruitment, an account is created for the sanchalak and he is given a user ID and password to access the system. In absence of sanchalak either their family members or some of the farmers who are already trained in computer can facilitate the web site.

Layer 3: Organizational Architecture

The hardware and software infrastructure captured in the first two layers cannot exist in isolation. They need people, processes, and services to setup, maintain and run them. At the time of installation, a sanchalak usually accompanies the vendor who installs the system. Immediately after the installation of the computer, they are invited to the nearest ITC plant for one-day training program. They receive education on basic computer usage, the functions of the aquachoupal Web site, basic business skills, as well as quality inspection of crops (Table 1).

System Support

ITC has engineers provide field infrastructure support to the aquachoupals. Each aquachoupal is visited once in a month for the purpose of physical verification and checking up of the system. Support for hardware failures is provided by the vendor.

Aquachoupal Operations

The supply chain for the aquchoupal system shows that the previous day's mandi closing price is used to determine the benchmark price at the aquachoupal. The benchmark price is static for a given day. This information and the previous day mandi prices are communicated to the sanchalak through the

aquachoupal portal. The commission agents at the mandi are responsible for entering daily mandi prices into the aquachoupal. If and when the Internet connection fails, the sanchalak calls an ITC field representative.

To initiate a sale, the sanchalak inspects the produce and based on his assessment of the quality makes appropriate deductions (if any) to the benchmark price and gives the farmer a conditional quote. The benchmark price represents the upper limit on the price a sanchalak can quote. If the farmer chooses to sell his crop to ITC, the sanchalak gives him a note capturing his name, his village, particulars about the quality tests, approximate quantity and conditional price. The farmer takes the note from the sanchalak and proceeds with his crop to the nearest ITC procurement hub (processing center) in Nellore or Kakinada, Andhra Pradesh.

At the ITC procurement hub, a sample of the farmer's produce is taken and set aside for laboratory tests. After the inspection of quality, the farmer's cart is weighed on an electronic weighbridge, first with the produce and then without. The difference is used to determine the weight of his produce.

After the inspection and weighing are complete, the farmer then collects his payment in full at the payment counter. The farmer is also reimbursed for transporting his crop to the procurement hub. Every stage of the process is accompanied by appropriate documentation. The farmer is given a copy of lab reports, agreed rates, and receipts for his records.

Benefits

Farmer gain

Prior to the introduction of aquachoupal, farmers access to aquacultural information was incomplete or inconsistent. The only sources of information were word of mouth within the village and the commission agent. Aquachoupal allows farmers

daily access to prices on a daily basis at their nearby centers. Moreover, through aquachoupal, farmers have access to prices and make the critical decision of when and where to sell his crop. Under ITC's system, farmers no longer bear the cost of transporting their crops to the mandi and are instead reimbursed for transport to the procurement hub. Moreover, ITC's electronic weighing scales are accurate and not susceptible to sleight of hand like the manual weighing system at the mandi. Finally, the ITC procurement center is a professionally run operation where the farmer is treated with respect and served as a customer. Farmers also can make use of the information available to them through aquachoupal to improve yields. Moreover, the seed, fertilizer, and consumer products offered to them through aquachoupal cost substantially less than through other local sources such as village traders. Thus there are meaningful net economic benefits to farmers.

ITC gain

While retaining commissions paid for the sanchalaks services, the 0.5% commission paid to them is significantly less than the costs associated with the mandi system. Direct reimbursement of transport costs to the farmer is estimated to be half of what ITC used to pay the commission agents for transport of the produce to their factory.

Drawbacks

- The workers in the mandis who were employed to bag and weigh products have lost their jobs because of use of machines for these purposes.
- Villages are stratified and not everyone can access the aquachoupal at the sanchalaks home. Income level differentials are large and the females do not have access to the computer. The gender barrier has thus not yet been broken.

- If there is a sudden disease outbreak, the farmers take spontaneous decision to harvest the produce immediately. In such situations marketing is not possible through aquachoupals, since, aquachoupals collect only the standard and quality products from the farmers.

- Ignorance of the farmers about Internet based information system and online marketing.

- Lack of awareness about the available services in aquachoupal.

- Medium and big farmers are benefitted through aquachoual than small farmers.

Success

- Use of the Internet as a carrier of information services.

- The availability of aquachoupal content in local language adds value; this is generally recognized by operators and farmers.
- At sites where the infrastructure often failed, either due to power shortages or poorly maintained computers, users were less willing to use ICT. By contrast, aquachoupal manage infrastructure well with correspondingly higher usage.

Usagepattern of Aquachoupal

The services provided through aquachoupal are utilized by the operator and farmer is highlighted in Table 2. Among the surveyed operators and farmers, 100% of the operators made use of all the aquachoupal facilities frequently except best practices and chat whereas 100% of the farmers made use of the pricing facility frequently. About 10% of the farmers made use of the FAQ facility.

Introducing IT into a rural setting, which could be markedl disruptive, has happened smoothly at every center. Though each cent has benefited some user groups, none is significant enough to have had general socioeconomic impact at its location, and none offers a replicabl catalytic model toward achieving such impact. Usage is disappointingl low, with some centers averaging five users per day, and most havin fewer than twenty-five. Although it is difficult to measure self-sufficienc it appears that self-supporting sustainability has not been achieved at eve the centers with the highest revenue generation. The lack of sustainabili means that the future goals of existing initiatives are likely to be sharpl curtailed in the absence of new frameworks that can increase viability.

Conclusion

The effectiveness of e-Choupal has to be optimally exploite for aquacultural activities. Each shrimp farmers association can take t the initiative of installing an aquachoupal in their mandal which wi ensure information exchange among the fellow farmers and chec communication and time lag. Efforts should be made to empower fema population through aquachoupal.

Acknowledgement

The authors are thankful to Dr.A.G.Ponniah, Director, Centr Institute of Brackishwater Aquculture, Chennai, Tamil Nadu, for h guidance, encouragement, critical review and suggestions.

References

1 John. L Village Kiosks Bridge India's Digital Divide. Tl Washington Post Foreign Service. Sunday October 12, 2003. p A01. Available at: http:/ www.washingtonpost.com

2 Digital Dividend Quick Look Case Study: Backward Integration a Forward-Looking Strategy for India's Rural Markets. Digi Dividend, World Resources Institute. December, 2002. Availat at : http://www.digitaldividend.org/pubs

Table 1. Training given to the aquachoupal sanchalaks

S.No	Type	Subjects trained.
1.	The fundamentals	What is a computer? What is its purpose and practical applications?
2.	Basic equipment training	Turning the computer or printer on and off, using the mouse and keyboard.
3.	Word processing	Operational features of word processing
4.	AquaChoupal applications	How to use the aquachoupal Web site? What information is available on the Web siteand how can it be accessed?
5.	Quality Inspection	Quality assessment by symptoms

Table 2. Usage pattern of services of aquachoupal

S.No	Services	Usage pattern			
		Operator		Farmer	
		Use	Frequency of use	Use	Frequency of use
1.	Weather	***	F	—	N
2.	Pricing	***	F	***	F
3.	Customized quality solution	***	F	***	N
4.	Best Practices	***	O	—	N
5.	FAQs	***	F	***	O
6.	E- mail	***	F	—	N
7.	Chat	***	O	—	N

*** Use; — Not use; F – Frequently; O – Occasionally; N- Never.

DAIRY TECHNOLOGY TRANSFER SYSTEM IN PUNJAB FOR FOSTERING KNOWLEDGE EMPOWERMENT

Rajinder Kaur Kalra* and B.S.Hansra**
*Professor, Dept. of Extension Education, PAU, Ludhiana
** Director, School of Agriculture, IGNOU, New Delhi.

Introduction

After the green revolution rapid strides have been continuously made in the Punjab State to make true the most cherished dream of white revolution. The dairy farming has a lot of potential to become a commercially viable business enterprise.There are 6.17 million buffaloes and 2.64 million cattle which include 1.83 million crossbred and 0.81 million indigenous cattle in Punjab. Out of which, 3.75 million buffaloes, 0.97 million cross bred and 0.33 million indigenous cows are of breedable age. Out of the total milk production of 7.4 million metric tones per annum, the major share of 70% is contributed by buffaloes and the remaining 30% from the cows. The state is contributing about 10% towards the milk grid of the country with about 3% breedable population of cows and buffaloes. Utilization pattern of milk in the households indicates that 50% milk is sold as raw and out of the remaining milk 30% consumed as liquid and 20% is kept for conversion to indigenous milk products. In the rural areas of Punjab, the average milk yield of desi cows, crossbred cows and buffaloes are reported to be 850, 2750 and 1800 litres, per lactation, respectively which are comparatively very high as compared to national average, but very low as compared to exotic breeds of cows (8000-10000 litres). Punjab is the only state in the country which has produced largest number of crossbred cattle and about 70% of the total cattle population is of crossbred type in comparison to about 10-15% at the national level. Consumption of milk in Punjab is the highest in the country i.e. 856 grams/day/head in comparison to the national average of 210 grams per day/head. Dairy can compete favourably with the main crop enterprises provided, prudent management practices are adopted.