

Research  
Paper

## Preliminary findings on the use of cell phone mediated audio conferencing among livestock rearing Women Self Help Groups (WSHGs) in Kerala

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### ABSTRACT

Cell phone mediated audio communication and conferencing system (COMBACCS) is an ICT tool developed in November 2008, by the College of Veterinary and Animal Sciences, Kerala, India, under a research project Development Partnership in Higher Education (DeIPHE) a scheme of the British Council. This tool was designed to be used among the WSHG members in their normal meetings to improve their knowledge in livestock rearing. Since COMBACCS was new and had to be tested among WSHGs, a pilot study was conducted to study the use of this cell phone based audio conferencing among livestock rearing women self help groups. This study helped in identifying the conditions for the use of COMBACCS and in laying down the sequence of activities to be followed for the testing of this ICT. The role COMBACCS played in disseminating knowledge to remotely placed WSHGs and its role in clearing doubts were studied by working with selected WSHGs. It was also seen that COMBACCS plays a role in disseminating knowledge at doorstep wherein often the women are committed to household works and thus cannot attend formal trainings.

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**Key words :** Cell phone, Women self help groups, Livestock rearing ICT

### INTRODUCTION

In India, livestock sector plays a vital role in socio-economic development of rural households. The contribution of livestock and fisheries to the total gross domestic product (GDP) in India, during 2006-07 was 5.26 per cent (GOI, 2008). Livestock rearing supplements family income and generates gainful employment in the rural sector, particularly among the landless labourers, small and marginal farmers and women. Several studies have supported the claim, that livestock rearing has significant positive impact on equity in terms of income, employment and poverty reduction in rural areas (Singh and Hazell, 1993; Thornton *et al.*, 2002; Birthal and Ali, 2005). The estimate of employment in this sector was 11.44 million in principal status and 11.01 million in subsidiary status, which is 5.5 per cent of the total working population of India (NSSO, 2005), and over 70 per cent of the rural households depend on livestock for income (Chawla *et al.*, 2005).

The rural women play a significant role in livestock rearing and are involved in operations like feeding, breeding, management and health care. The average contribution of women in farm production is estimated to be 55-65 per cent with higher percentage in certain regions and farming systems (GOI, 2008). Out of the 22.45 million people engaged in animal husbandry sector, 16.84 million are females (NSSO, 2005). A study conducted by Kacker (2006) in India, also indicated that about 85 per cent of persons engaged in dairy production were women. In the state of Kerala, where 94 per cent of the livestock population were concentrated in rural areas, and 80 per cent of livestock farmers were marginal farmers and agricultural labourers, women constituted 60 per cent of the workforce in livestock sector (Government of Kerala, 2003).

After the Ninth Five Year Plan, women have been organized into small homogenous Self Help Groups as a powerful instrument for the socio-economic transformation of rural women. The concept of women self help groups (WSHGs) in addressing empowerment

of women and its credibility as a viable unit to introduce income generating activities (IGAs) among the poor for sustainable livelihood has again raised the importance of livestock rearing. Livestock rearing enables women to be self-employed, with flexible working hours and helps maintain better health, thus livestock rearing is one of the most preferred IGAs of many WSHGs (Ramkumar *et al.*, 2004). The objective of IGA to supplement income on a regular basis among WSHGs will fail if IGA is not sustainable. Health of the animals and production from them are important to make livestock rearing a sustainable IGA. Any production and health infirmity of the animals directly leads to economic deprivation (Madan, 2009). Often the women owning the livestock do not have the opportunities in understanding the scientific methods of rearing the superior breed of animals they own. Lack of knowledge is, therefore, an impediment that prevents the members of livestock-dependent WSHGs in getting more production from the livestock.

Knowledge dissemination to, and among farmers has been one of the most important functions of extension; appropriate methods are being selected and used by extension workers to reach the farmers. The evolution of information communication technology (ICTs) in the last few decades has seen its advent in delivering information related to agriculture and livestock development among farmers. ICT applications provide new tools for improving access to information (Garforth, 2003; Heffernen, 2003; Mansell and When, 1998) and disseminating knowledge widely at low cost (World Bank Report, 1999). Among the ICTs, telecommunications is considered as a link in the chain of development process itself, in addition to its ability to connect people. Telecommunication services can promote economic development by serving as a medium that facilitates the acquisition and transportation of information in cost effective ways, by lowering the fixed and variable costs of information acquisition while minimizing the obstacle of distance and time (Nandi, 2002). India is a country where the telephone was regarded as a luxury, before 1996, when Indian telecommunications policy was enacted. After the enactment of that policy, and subsequent policies, telecommunications in India is now provided to all the previously unserved areas (Chibber, 2002).

The tumbling down of prices in the wireless arena, has now brought mobile telephony in the forefront. Mobile telephony can have a quantitative impact on the society by increasing the speed of communication (*i.e.* information flow) and by reducing the cost of communication (Norton, 1992); it can have a qualitative impact by increasing the quality of information that is communicated for decision

making (Bedi, 1999). Likewise, there is some evidence that mobile phones substitute for travel as conversations and discussions can be made through the phone itself (Duncombe and Heek, 2001) but other research suggests a mixed picture in which some journeys are substituted but others are not (Souter *et al.*, 2005; Overå, 2006). It also facilitates emergency medical assistance, long distance consultation, and quality assurance to remote locations.

With more number of people even in rural areas using cell phones, an opportunity to apply its potentials in disseminating information that would help in improving the socio-economic conditions of the rural poor is noticed. And thus there is a scope to study the use of mobile phone based technologies among women self help groups rearing livestock to improve their knowledge. Though there are various ICT initiatives aimed at development, only very few have been evaluated systematically for its uses and constraints as knowledge dissemination tool. This study has been initiated as a preliminary study to arrive at the sequence of events to study the effectiveness of the equipment COMBACCS.

#### **Background to the Study:**

A project was initiated by Development Partnerships in Higher Education, (DPHE), under the leadership of Rajiv Gandhi College of Veterinary and Animal Sciences (RAGACOVAS), Pondicherry, funded by DFID, UK in 2006. This project looked into the "Livelihood security of livestock dependent Women Self Help Groups (WSHGs) in South India" in an attempt to identify the role of knowledge as an input to alleviate poverty. Further the project envisaged to develop and test knowledge kits at appropriate levels of intervention that would benefit the WSHGs.

As one of the activities of the project, the research partners of the five partner institutions from the southern states of India, were involved in designing knowledge dissemination methods (which include ICT and non ICTs) that could be used among and by the self help groups' in transfer of knowledge. Of the various methods developed one was the 'cell phone operated mobile audio communication and conferencing system (COMBACCS) developed by College of Veterinary and Animal Sciences (COVAS), Thrissur, Kerala, India in November 2008.

COMBACCS is a cell phone/ mobile phone based audio communication tool, through which a group can have direct interaction with an expert at any time and anywhere (Fig.1). This tool was designed to apply the mobile telephony in knowledge dissemination among 'women self help groups'. Being a new tool, it was to be tested among

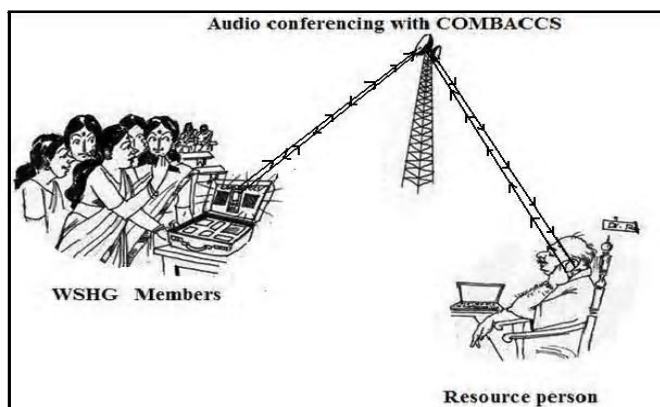


Fig. 1: Representation of audio conferencing with COMBACCS

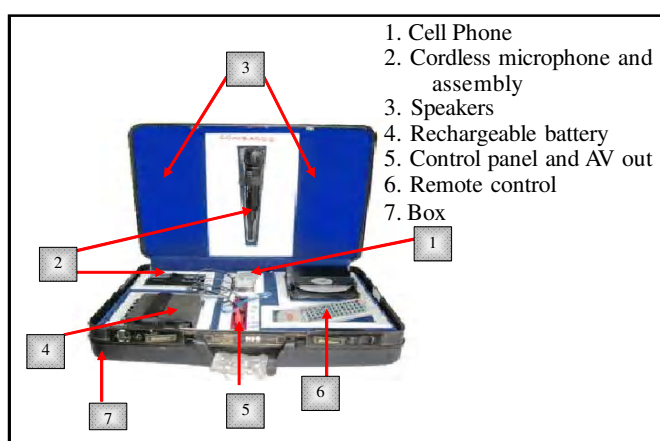


Fig. 2: Essential components of COMBACCS

the WSHGs in a systematic manner to study its effect in knowledge dissemination. This paper looks into the process of streamlining the sequence of activities essential to test COMBACCS among the WSHGs (a detailed study was carried out later which is not discussed in this paper) COMBACCS is essentially made up of a cell phone which is used to connect to the resource person, a pair of inbuilt speakers to amplify the sound from the cell phone so that the whole group can hear, a cordless microphone which is used by the group members (in place of a phone) to interact to the resource person, a set of rechargeable batteries so as to carry out the audio conferencing without the need of direct electricity and a control panel with AV in and AV out and ON/OFF switch. The objectives are as follows: to test the conditions for the use of COMBACCS, to arrive at the sequence of activities to be adhered to with the testing of COMBACCS and to make observations and arrive at individual case studies, while carrying out the sequence of activities for testing COMBACCS.

## RESEARCH METHODOLOGY

### Selection of locale:

The study was carried out in the district of Thrissur in Kerala state of India. This district is almost at the centre of the state with an area of 3032 sq.km. According to the 2001 census the population of the district was 29,75,440. This locale was selected mainly because COMBACCS was developed by the Department of Veterinary Extension and Education, College of Veterinary and Animal Sciences, Thrissur, Kerala, India and was yet to be tested. This district also represents the three typical geographical zones of Kerala- coastal, midland and mountains.

### Sampling:

Most of the 'self help groups' in Kerala are part of the 'Kudumbashree'. This is a women oriented community based poverty alleviation programme which is being implemented in Kerala by the State Government, with the active support of Government of India, National Bank of Agriculture and Rural Development (NABARD). There are 16,000 Kudumbashree NHGs (Neighbourhood Groups) in the district of Thrissur. Out of which 5,000 NHGs are registered with the Kudumbashree district office at Thrissur for starting income generating activities (IGAs). Out of the 5,000, approximately 50 per cent (2,500) are rearing cattle as their livelihood. Resorting to purposive sampling, 3 groups were selected based on the remoteness of the location from Thrissur town centre and constraints on accessibility to services. This was done in a systematic manner in consultation with District Mission Co-ordinator of Kudumbashree (Thrissur district), DeLPHE Research Partner in Kerala, and the Veterinary Assistant Surgeons (VAS) in Thrissur.

## RESULTS AND DISCUSSION

The results obtained from the present studies have been presented in the following sub heads:

### Conditions for the use of COMBACCS:

Effective use of COMBACCS requires a resource person, the equipment /COMBACCS and group/ WSHG members (Fig. 3). A facilitator is needed to link these three elements by identifying a topic and fixing the date and time of audio conferencing. To ensure effective interaction between these three elements there is a need for cell phone connectivity of resource person, a good cell phone network coverage and basic knowledge of the WSHG members in operating cell phones. Any lacunae in the cell phone network would affect the audio conferencing by interfering

with the clarity and audibility of the talk. Technical problems with the equipment/ COMBACCS like loose connections would hamper the effectiveness of the audio conferencing. Further any kind of external noises like rain or noisy surrounding would also interfere with the effectiveness.

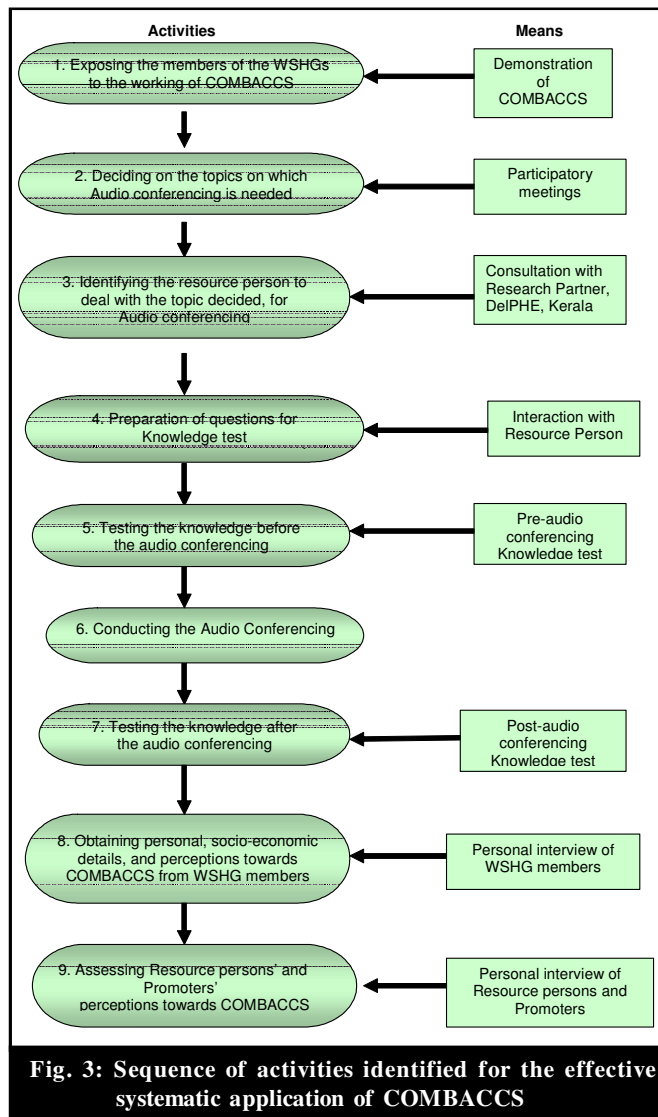
### Sequence of activities for the testing of COMBACCS:

The sequence of activities starts with the demonstration of COMBACCS in order to expose the members to the working of COMBACCS. This was done by taking the equipment to the location of the WSHG and demonstrating to the group on the working of the equipment. During the demonstration the members of the WSHGs used to operate the equipment making it familiar to them. A participatory meeting was then conducted with the WSHG members, which helped in deciding the topics for

the audio conferencing. The topics that the members felt that was important to them was taken down and one such need based topic was identified for audio conferencing. After selection of the topics, a suitable resource person to handle the topic was identified from the Veterinary College, Thrissur. A set of 10 questions related to the topic, which will enable to test the knowledge of the respondents, was prepared in consultation with the resource persons. A suitable date and time for the audio conferencing was then fixed and the same was intimated to resource person and WSHG members. On the day of the audio conferencing, a pre-audio conferencing knowledge test was conducted for individual members of WSHGs. Then the resource person was connected to the group through COMBACCS and the audio conferencing was conducted. After the audio conferencing, a post-audio conferencing knowledge test was conducted, to assess the change in knowledge if any, among the WSHG members. The WSHG members, resource persons who conducted the class with COMBACCS and the promoters of Kudumbashree were then personally interviewed to assess their perceptions on COMBACCS.

### Case studies:

Chinnamma, is a 50 year old lady from the hilly picturesque area of Chottuparra ( 25 km from town centre) in Thrissur district and belongs to the WSHG named Haritha. She is engaged in livestock rearing as her primary occupation and her husband works as a labourer in the stone quarries. She considers travelling to town a big ordeal; the bus stop is 2 km away from her house and the frequency of the buses is very irregular. Like most of the women of the area, she complains of joint pain and swelling which was making her movements very painful and difficult. She thus prefers to stay indoors or at the most visit the neighbouring houses. She finds it even difficult to take her cattle for grazing, and wishes there was an alternative. She is eager to learn new things and always wanted to visit the veterinary college, Thrissur and attend the trainings held there, but could never do so due to the problems with travelling. When COMBACCS was demonstrated to her, she was very enthusiastic to know more about the working and even came forward to dial the number of a resource person. She also voluntarily asked for the mike and started asking a series of doubts to the resource person about the repeat breeding problem in her cattle. At the end of the audio conferencing she personally came to thank the investigator for providing her an opportunity to solve her personal doubts on cattle rearing without to travel.



Shantha is a 40 year old women, who is a member of the WSHG Newstar, in Peechi. She is educated upto 10<sup>th</sup> std and wishes that she could have pursued her higher education. She is engaged in tailoring as a primary source of income and in cattle rearing as secondary source of income. She says she encounters many doubts about cattle rearing during her day to day activities. She has been to one training programme in the Veterinary College years back, but could never attend more of them. The major constraint in attending training according to her is the household activities. She says that she cannot be away from her house even for a day since it adds on to her workload. When COMBACCS was demonstrated to her group she did not show much interest, but when the audio conferencing was conducted, she was very much excited and said that she could save time and money spent on travelling by using COMBACCS to solve her doubts.

Mini is the secretary of the WSHG "Sneha"; she is a 35 year old women from Mattampuram which is also a hilly mountainous area in Thrissur district. Buses to this area are very rare, and most of the people in this area, depend on autos which again to hire is very costly. She said walking up hill to her house is not much of a problem now since she has been used to it from her childhood. She is educated upto graduation level, and likes to attend meetings and trainings. She has attended trainings in the Veterinary College along with few other members of the group. In those occasions they have travelled by an auto and have shared the cost or got travelling allowance from the college. She says after most of the trainings she has got doubts and never got the chance to clear them as she would have to meet the concerned doctor or would have to make personnel call. When COMBACCS was introduced to her group, she was one of the most interested members and came forward to learn more. She said that this equipment was very useful for situation such as that of her area, and also because it gave her the opportunity to solve her post training doubts. She said that audio conferencing was more advantageous than making a personnel call, as it gave her more courage to speak as the other members supported her, and also there was a possibility to interact between the group members.

### Conclusion:

The testing of COMBACCS requires three main elements – the resource person, the equipment / COMBACCS and the WSHG members. A facilitator is required to link the three elements effectively, in the field situation grass root level Government, employees of Kudumbashree or leaders of WSHGs can be the potential facilitators. Proper cell phone network, absence of any

technical problems with the equipment and the absence of any external noises are the main criteria for the effective conduct of the audio conferencing. Nine main steps were arrived at as the sequence of events to be followed for the testing of the equipment, which included demonstration of COMBACCS to the WSHG members, arriving at the topic of audio conferencing through participatory meeting with the WSHG members, deciding on the resource person to conduct the audio conferencing , conducting a pre and post audio conferencing and personally interviewing the WSHG members, resource person s and promoters to collect relevant data with the help of a semi structured interview schedule. It is learnt from the case studies that COMBACCS is effective in remote areas and often helps to avoid travel, thus saving time and money . COMBACCS is also advantageous to solve post training doubts and gives more confidence to the WSHG members in interacting with the resource person. COMBACCS also helps women who are otherwise committed to household work and could not attend formal trainings at institutions. Since the knowledge transfer with COMBACCS is carried out during the usual meetings of the WSHGs, it adds to the effective usage of the meetings.

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## LITERATURE CITED

- Bedi, A.S. (1999). The role of information and communication technologies in economic development: A partial survey", ZEF Discussion Papers on Development Policy no. 7. Bonn: Centre for Development Research (ZEF).
- Birthal, P.S. and Ali, J. (2005). Potential of livestock sector in rural transformation", *Rural transformation in India: The role of non-farm sector*, Manohar Publishers and Distributors, New Delhi.
- Chawla, N. K., Kurup, M.P. G. and Sharma, V.P. (2005). *State of Indian farmer, A millennium study*, Section-12 , Animal Husbandry, Academic Foundation ,New Delhi-110002.

- Chibber, N. K. (2002). Overcoming rural-urban digital divide in South Asian developing countries. International Telecommunications Society (ITS) 14th Biennial Conference Paper, Seoul.
- Duncombe, R. and Heeks, R. (2001). Information and communication technologies (ICTs) and small enterprise in Africa. Manchester: Development Informatics Group, University of Manchester.
- Garforth, C. (2003). Management of knowledge and Information for Improved animal health. Cattle health issues in the per-urban regions: potentials of information in coping with poverty, Proceedings of the workshop held on 20<sup>th</sup> and 21<sup>st</sup> March 2003 at Rajiv Gandhi College of Veterinary and Animal Sciences, Pondicherry.
- GOI [Government of India ] 2008, *Annual report, 2007-08*. Department of Animal Husbandry, Dairying & Fisheries, Ministry of Agriculture, Government of India, New Delhi.
- Government of Kerala, *Kerala livestock population, 2003*. ([www.livestockkerala.org/livescen.htm](http://www.livestockkerala.org/livescen.htm)). Assessed on 12.11.09.
- Hefferman, C. (2003). The delivery of veterinary services to the Poor: Findings from Pondicherry, Paper presented at the workshop held on 20<sup>th</sup> and 21<sup>st</sup> March, 2003 at Rajiv Gandhi College of Veterinary and Animal Sciences, Pondicherry.
- Kacker, L. (2006). SHGs and Women, *Yojana*, **50**:73-74.
- Madan, M. L. (2009). Economic ,social, health, and environmental perspectives, Survey of Indian agriculture 2009” , *The Hindu*, pp. 71-75
- Mansell, R. and When, U. (1998). The potential uses of ICT’s for Sustainable Development, *Knowledge societies: Information Technology for Sustainable Development*, United Nations Commission on Science and Technology for development, Oxford: the united Nations/ Oxford University Press, pp. 82-97
- Nandi, B. (2002). Role of telecommunications in developing countries in the 21st century. International Telecommunications Society (ITS) 14th Biennial Conference Paper.
- Norton, S. (1992). Transaction costs, telecommunications, and the microeconomics of macroeconomic growth”. *Economic Development and Cultural Change*, **41**(1): 175-196.
- NSSO [National Statistical Sample Organisation] NSS, 61<sup>st</sup> round (2004-05)
- Overå, R. (2006). Networks, distance, and trust: telecommunications development and changing trading practices in Ghana. *World Development*, **34**(7):1301-1315.
- Ramkumar, S., Rao, S.V.N. and Waldie, K. (2004). Dairy cattle rearing by landless rural women in Pondicherry: A path to empowerment. *Indian J. Gender Studies*, **11**(2): 205-220.
- Singh, R.P. and Hazell, P.B.R. (1993). Rural poverty in the semi-arid tropics of India: Identification, *determinants and policy interventions, economic and political weekly*, **28**(12 & 13): A9-A15.
- Singh, N. (2001). Content analysis of farm broadcast programme, Imphal. *Indian J. Extn. Edu.*, **37**(3&4):172-178.
- Souter, D., Garforth, C., Jain, R., Mascarenhas, O., McKemey, K. and Scott, N. (2005). The economic impact of telecommunications on rural livelihoods an poverty reduction. Reading, UK: Gamos.
- Thornton, P.K., Kruska, R.L., Henninger, N., Kristjanson, P.M., Reid, R.S., Atieno, F., Otero, A.N. and Ndegwa, T. (2002). Mapping poverty and livestock in the developing world, ILRI, Nairobi, Kenya. (<http://www.ilri.cgiar.org/InfoServ/Webpub/Fulldocs/Mappoverty/index.htm>). Accessed on 13.9.09
- World Bank Report (1999). *Knowledge for Development*. The World Bank, Washington. D.C. pp.56

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