



**E-Government for Women's Empowerment  
in Asia and the Pacific**

# **Mobile Learning among Rural Women in Farming Communities**

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**A Case Study from Sri Lanka**



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## 1. Introduction: Rationale for Selecting the Case Study

According to the labour force surveys of Sri Lanka's Department of Census and Statistics, in 2015, 28.7 percent of the labour force worked in the agriculture sector, which includes farming as well as forestry, fishing and livestock farming. However, the share of the agricultural sector in the GDP is 7.9 percent, compared to the 56.6 percent share of the services sector and 26.2 percent of the industry sector<sup>1</sup>, indicating that rural farmers are in a productivity trap. Declining farm incomes, in real terms over the years<sup>2</sup>, have been bringing pressure on farmers to leave agriculture or find alternative income sources. But so far, such exit has mainly been by large scale farmers. The informal farm sector comprising own account workers and contributing family members, mainly women, record a lower rate of exit<sup>3</sup> – highlighting the importance of efforts for improving their overall profitability.

The agricultural sector accounts for 33.9 percent of employed females.<sup>4</sup> A recent study by Goonetilake<sup>5</sup> found that women are more likely to be poorer than men if they reside in rural areas, although the many state interventions that have been made, since the 1980s, have resulted in a decline in poverty incidence as well as in absolute numbers of those in poverty. But still, incidence of poverty is higher among women.<sup>6</sup>

Poverty alleviation programmes that have been implemented by successive governments have produced some benefits for women in agriculture, as many of the interventions, especially their credit components, target women, though the programmes themselves are designed in gender-neutral terms. However, women in the farm sector require access to more inputs than just credit. For example, agriculture is subject to various external shocks, mainly brought about by fluctuating weather patterns. In the absence of coping mechanisms such as insurance, individuals are required to withstand such shocks in terms of efficient management of their enterprise as well as finances, whether farm or non-farm.

Despite the involvement of women in farming activities and the role they play in household food security, they are still regarded as “housewives” dependent on male earnings, or “economically inactive”, or categorized as unpaid family labour.

1 [http://www.statistics.gov.lk/samplesurvey/LFS\\_Annual%20Report\\_2016.pdf](http://www.statistics.gov.lk/samplesurvey/LFS_Annual%20Report_2016.pdf); Central Bank of Sri Lanka Annual Report 2015 [http://www.cbsl.gov.lk/pics\\_n\\_docs/10\\_pub/\\_docs/efr/annual\\_report/AR2015/English/5\\_Chapter\\_01.pdf](http://www.cbsl.gov.lk/pics_n_docs/10_pub/_docs/efr/annual_report/AR2015/English/5_Chapter_01.pdf)  
2 Daily Mirror 2015. Economic reforms cannot ignore Sri Lanka's farmers. A study by Verite Research. Retrieved from <http://www.dailymirror.lk/77373/economic-reforms-cannot-ignore-sri-lanka-s-farmers>. 3rd February 2016.  
3 Ibid. Between 2011 and 2014 formal sector employment declined by 24% as compared with 6% in the informal sector for the same period.

4 Department of Census and Statistics 2015.  
5 Goonetilake, Ramani 2014. A. Women and poverty In Review of the Implementation of Beijing Platform for Action – Sri Lanka 1995-2014. Colombo, Centre for Women's Research, pp. 17-47.  
6 Ibid



Consequently, government agricultural extension services, by and large, tend to bypass women. When women are provided training, it is frequently on home economics and other subjects unrelated to their agricultural roles. Further, the mechanisms used by extension services may not be suitable for women, who in addition to subsistence or market production, have to cope with care responsibilities, and have little time to attend formal training.

The Department of Agriculture has introduced a Women's Agricultural Extension Service to provide technical information on family, nutrition and household food security; develop the capabilities of farm women on resource management; establish viable farm women's organizations; and to further the empowerment of women and develop their entrepreneurial capabilities. However, these activities still appear to be based on traditional stereotypes.

The Lifelong Learning for Farmers pilot project, which commenced in 2007 in four villages, has attempted to break away from the traditional mould through the use of technology. It had the participation of the following institutional partners: the Open University of Sri Lanka, the University of Colombo and the Eastern University, the Export Development Board, and the Irrigation Department. All the organizations involved in the partnership brought together their expertise in disciplines related to agriculture, to build information services for farmers. The facilities that were provided included: information and communications technology kiosks, (such as Vidhatha Resource Centres, which

were equipped with computers), Internet connectivity and other facilities to link the farmers to this consortium and provide useful information. The Cooperative Rural Bank provided loans to farmers who have increased their knowledge, capacity, and productivity.

This current initiative, which is a follow-up to this project, is built on the need to enhance the financial literacy of women farmers.

Sri Lanka's financial sector is characterized by a large number of commercial banks, development banks, and financial institutions including cooperative banks and micro finance institutions, while all major poverty alleviation programmes of the government include a credit component that has benefitted women. In addition, there are informal sector savings and credit schemes which are outside the formal banking sector but provide a useful service to vulnerable groups of people. The majority of the people live within a kilometre of a banking facility. Rural financial institutions have provided easy access to credit. However, the approach of the banks and the procedures involved, the red-tape and general bureaucratic cultures, and denial of access to efficient and safe payment systems, result in financial exclusion.<sup>7</sup>

While the emphasis has been on providing credit for entrepreneurial activities and to a lesser extent on mobilization of savings, the focus on financial literacy, defined as having the knowledge, skills, and confidence to make responsible financial decisions, has been minimal. The importance of farming as an



income source contrasts sharply with poor record keeping of the financial aspects of farming. For example, expenditure on the farming enterprise becomes indistinguishable from household expenditure, making it difficult to assess the profitability or otherwise of farming operations.

While training in financial literacy for women could add to their knowledge and skill base, time constraints due to the multiple role burdens of women act as a barrier to the acquisition of such skills. Since Sri Lanka has experience in technology-enhanced learning, and mobile phone penetration is high, in March 2013, the Open University of Sri Lanka (OUSL) initiated the "Mobile Learning among Rural Women in Farming Communities in Sri Lanka" programme, which has since continued without a break.

## 2. Overview of Mobile Learning among Rural Women in Farming Communities

The programme is a collaboration between the Open University of Sri Lanka (OUSL) (state institution), the national mobile service provider Sri Lanka Telecom Mobitel and the Commonwealth of Learning (COL). It offers training in financial services and management in the form of audio lessons disseminated through an interactive voice response system and mobile technology. The following are its main objectives:

1. Provide financial literacy to rural women in the farming community to make them independent and stabilize their financial and social status.
2. Promote mobile learning among women in the farming community to enhance their information and knowledge in the areas of agricultural practices and livelihoods.
3. Study the effectiveness of mobile learning among the women.

In developing the programme, the programme designers chose an innovative, non-traditional training methodology. The course content of the programme was presented in the form of audio modules delivered through a basic mobile device. Such a method was chosen to cater to the specific needs of the women who were targeted for the programme.



One phase of the programme spans one year and is implemented in three stages: (1) Three months for content development and mobilization; (2) Six months for delivery; and (3) Three months for evaluation.

1. **Content development and mobilization:** OUSL designs and produces audio lessons in the two official languages of Sinhala and Tamil on various financial topics relevant to farmers. The lessons are then uploaded to a platform facilitated by Mobitel, and can be accessed through a specific calling number. A per person payment to Mobitel of Rs.1000 is borne by the Commonwealth of Learning.
2. **Delivery:** One audio lesson is made available every day during the week (1 lesson per day, 5 days per week for a total of 24 weeks = 120 lessons). The farmers are required to access each daily audio lesson by calling 8815 from their mobile phones at a time of their convenience during the day.

Every Friday, the participants are required to answer a question (through their mobile phones) based on the lessons of that particular week. While all farmers who actively participate in the programme receive certificates of participation, those who score 50% or higher by correctly answering the weekly questions, receive certificates of merit.

In the first phase of the programme, from March 2013 to March 2014, the organizers focused on two locations - Hambantota (in the south) and Jaffna (in the north), to cater to both Sinhala-

speaking and Tamil-speaking farmers. A total of 474 women farmers were registered. This first phase, however, was not deemed a success as only 12 participants completed the course in Hambantota, and only two completed it in Jaffna. Despite the failure, the exercise revealed several important aspects that were subsequently used to improve the programme:

The participant group had turned out to be too large. Smaller groups were deemed more likely to be effective.

During the first phase, the programme had tasked two local organisations - Women Development Foundation in Hambantota and Women Development Association in Jaffna to recruit the female participants from the regions. However, this arrangement was not effective because there was very little direct involvement of the programme partners in the recruiting process. Thus, the participants that were recruited were not the most suitable for the programme.

The majority of the participants in Phase 1 was older women and expressed the view that they did not have much use for the acquired knowledge, or the certificate, since the amount of time remaining for them to be engaged in farming activities was minimal, when compared to younger female farmers.

In March 2015, the second phase of the programme was initiated in three villages in the town of Yatinuwera in the Central Province. A smaller group of 75 younger (aged between 20-30 years) female farmers were selected for participation. Unlike in



In the first phase, the organizers had liaised directly with a local farming group, to identify the participants – thus becoming more directly involved in the recruiting process. The results were much more successful than in the first phase. All participants actively engaged in, and completed, the course, and 15 received merit certificates. From the 120 lessons that were made available as part of the training course, the participants had accessed more than 60 lessons.

The design of the programme and mode of delivery, which were the same as in the earlier phase, proved to be more effective during the second phase as the direct involvement of the organisers in selection processes had led to more effective targeting. In a follow-up survey, 77% indicated that it was easy to access the content with an equal number reporting no problems with connectivity, and 74% liking the learning experience through mobile phones “very much”.

In 2016, the programme is being implemented in 20 more villages<sup>8</sup> in Yatinuwera with 20 participants from each village, covering a total of 400 farmers. In a further enhancement to the programme, the organizers have partnered with the Regional Development Bank (RDB).

In the previous phase, there had been an indication that the certificate alone was not a sufficient incentive to attract users to the programme and that there needed to be a more tangible

incentive. Therefore, a new incentive has been introduced in the form of prioritising RDB loan applications of farmers who have certificates from this course. The post-training survey of 39 participants of the second phase revealed that while nearly 60% of them were responsible for maintaining records of household income and expenditure, about 70% had never obtained a loan from any financial institution. More than 50% said they obtained new knowledge on finance after the programme. So, it could be reasonably assumed that the programme may encourage participants to explore new financial opportunities and tools. The programme hopes to provide this training to 600 participants during 2017, and another 600 in 2018.

<sup>8</sup> Which means, in total, the program is being implemented in 25 villages (two from Phase 1, three from Phase 2 and the 20 more villages that have been added in 2016)



### 3. Institutional Analysis: Norms, Rules and Practices Underpinning the Initiative

#### 3.1 Norms

##### 3.1.1. Shift in Room for Human Mediation

The programme provides a level of financial empowerment to the participants, enabling them to attend to their own financial matters, and perhaps reducing their reliance on others (family members or government officials) for assistance. In the actual implementation of the programme, there seemed to be a lesser degree of human mediation, as compared with more traditional training mechanisms, as the training material was made available on a platform accessed via mobile phones. While the organizers have contact with the participants in the initial registration period, and to a lesser extent during the post-survey period, they have no direct contact with participants during the training period. The participants access the material on their own at their own convenience. This is a shift from the traditional training methods typically employed for similar target groups.

##### 3.1.2 New Frameworks of Mediation / New Intermediaries

During the first phase of the programme, the participants were recruited through two local women's organisations. However, a less-structured coordination process between the organizers

and these field intermediaries resulted in only a fraction of the participants completing the course. Furthermore, the organizers of the programme had little to no direct contact with the participants. Starting with the second phase, organizers worked more directly with the farming community by working directly with the local farmers' group to identify and register female participants from the community. The involvement of OUSL, a state higher educational institution, was also novel for this type of programme and ensured that the training material was being developed by credible personnel.

Traditional training programmes of this nature, whether implemented by a government institution, the private sector, or civil society organisation, often take place in the form of physical face-to-face (F2F) sessions. Since it is impractical to conduct long courses for groups such as farmers, F2F trainings are typically single-day sessions where a large amount of information is disseminated in a very short period of time. This traditional method runs the risk of participants not being able to retain the knowledge or making use of it. The non-traditional method utilized by this mobile learning programme, in contrast, had several benefits:

- The training programme is conducted over a long period of time with flexibility integrated into its design, making it easily accessible to the participants.
- The ability to access the information multiple times at the participants' own convenience increases the chances of the information being retained.



- The use of audio modules delivered through mobile phones enables participants to learn at their own pace and convenience.

### 3.1.3 New Norms in Partnerships

The collaborators in this programme are: Open University of Sri Lanka (state institution), Sri Lanka Telecom Mobitel (national mobile service provider) and Commonwealth of Learning<sup>9</sup>. Even though there are many PPP initiatives in Sri Lanka, including those that focus on women's issues, this study has revealed that there aren't many government-initiated projects related to ICTs and women, either in the form of public-public or public-private partnerships. This programme is particularly noteworthy for the unique partnership between a government educational institution, state telecommunications company, and an international non-profit organisation that in this case added to both credibility and accountability of the programme.

### 3.1.4 Convergence in Service Delivery

While the primary objective of the programme was the enhancement of financial literacy of female farmers, the programme evolved to incorporate mechanisms by which there would be a longer-term impact on the families of these farmers in terms of improvement in their livelihoods. The recognition of the programme certificate by the Regional Development Bank and its agreement to prioritize services to the participants has incentivized female farmers to take part in the training. Further,

the knowledge they obtain from the training enables them to seek out new financial tools with greater confidence.

Open University of Sri Lanka and Sri Lanka Telecom Mobile have launched another convergent service for daughters of women farmers participating in the financial literacy training. This initiative, launched through the Connect to Learn project of The Earth Institute of Columbia University in New York, works towards ensuring that the next generation of girls will have better ICT skills, thus potentially opening up new opportunities for them in the years to come.

### 3.1.5 Shifts in Norms of Citizen Use/Access to Services

The programme has addressed a key gap in support services for women farmers, and also used context-appropriate incentive mechanisms. It was launched with the objective of providing rural female farmers an opportunity to strengthen their financial skills, an area which has traditionally been the domain of male members of households. Initially, the benefit of participating in, and completing, the programme was limited to obtaining certificates of participation or certificates of merit upon successful completion of the training. However, feedback obtained from participants on the effectiveness of the programme through a post-training survey revealed that a certificate alone was not enough of an incentive. It was at this point that organizers explored the opportunity to collaborate with the Regional Development Bank, which agreed to offer priority services to those who had successfully completed the course.

<sup>9</sup> An intergovernmental organisation created by Commonwealth Heads of Government to promote the development and sharing of open learning and distance education, knowledge, resources, and technologies.



### 3.1.6 Assumptions about ICT Access and Connectivity

In 2016, the number of mobile subscribers in Sri Lanka stood at 25,797,199 with mobile cellular phone density (number of mobile subscriptions per 100 persons) having increased from 103.16 in 2014 to 118.49 in 2016<sup>10</sup>. Given that the number of mobile phone connections in Sri Lanka exceeds the actual population, it could be assumed that almost every family has access to a mobile phone. Underlying assumptions were thus that rural areas, from where the course participants came, had good mobile coverage and good access to mobile devices, but households did not have adequate access to computers or Internet connectivity. Similarly, even though Sri Lanka boasts of high literacy in general, the programme operated under the assumption that the female farmers would not have adequate ICT literacy. The use of an audio-based learning technique delivered through a basic mobile device (basic or smart mobile phone) made it possible to cater to a group that may not have ICT literacy (or even be literate in general) or access to computers or the Internet.

## 3.2 Rules

### 3.2.1 Transparency

Measures were taken to ensure transparency of information being provided to participants. For example, at registration, participants were briefed on access to mobile phones being a prerequisite for participation. In the 2016 phase, participants

were informed about preferential access to loans, through the Regional Development Bank, for those successfully completing the course.

### 3.2.2 Mechanisms for Responsiveness to Citizens' Concerns in Entitlements Processing

The programme assessed citizens' responsiveness to the services being offered through a post-training questionnaire, which was conducted by distributing a hard-copy survey following the completion of the training. The survey conducted at the conclusion of the second phase of the programme had a response rate of 52%.

### 3.2.3 Data Security Law/Policy

Copyright of course-content and all information and data, including personal information obtained during the registration process as well as individual phone numbers of participants, is stored with the Open University and the Commonwealth of Learning. However, prior approval of the participants must be obtained by both organisations, for the use of personal data for any other purpose.

### 3.2.4 Technical Openness

The interactive voice response system provided by Sri Lanka Telecom Mobitel was not developed using open source technology. While Mobitel retains the proprietary rights to the platform, the right to information and data pertaining to the programme, including participant information, is retained by OUSL and COL.

<sup>10</sup> ITU Statistical Database <http://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx> accessed 25 September 2017



### 3.2.5 Policies for Universal and Affordable Access

Principles of ease of access and affordability were at the core of the design of the programme. Payment to the service provider of Rs. 1,000 per participant was provided by the Commonwealth of Learning. This subsidy helped cover the costs to access the audio lessons that would otherwise have been borne by the participant.

## 3.3 Practices

### 3.3.1 Practices to Promote Equity Considerations in Service Implementation

The type of technology used and the involvement of local community intermediaries were the two aspects that contributed towards equity in service implementation. When there was direct and active coordination between the organizers and the field intermediaries, the selection of the participants was not only more inclusive but targeted, resulting in a higher success rate. As discussed, the use of very basic technologies ensured that women with low levels of ICT literacy were not discriminated against.

### 3.3.2 Offline Mechanisms to Strengthen Online Uptake

The Connect to Learn programme that was initiated together with Ericsson was an additional offline mechanism that was used to strengthen the uptake of ICTs among the female teenage children of the participating female farmers. The physical training sessions are conducted at OUSL's centre in Hulugolla in the

Kandy District. The primary aim of this programme is to leverage ICT for a 21st century education in developing countries by giving students and teachers access to the latest educational tools and resources. It also promotes collaborative learning, cross-cultural understanding and global awareness by connecting to other schools around the world.

The Connect to Learn programme focuses on delivering laptop computers, access to broadband Internet, online educational resources, and the relevant training. Ericsson was responsible for providing the hardware (ICT equipment) required for the programme along with project management systems, integration, and remote support capabilities. Meanwhile, Sri Lanka Telecom Mobitel offered to provide mobile connectivity at the physical location to facilitate the programme. The Open University of Sri Lanka took on the task of developing the content related to ICTs which would be used by the teachers.

The primary focus of the mobile-learning programme was to impart financial literacy to female farmers. It did not focus on promoting knowledge of ICTs among the women participants. However, this second initiative, by focusing on female children of the participants, helped to initiate a process by which daughters of the women farmers would gain skills in ICTs, thereby opening up new opportunities for them to renegotiate their economic and social status.



### 3.3.3 Use of Techno-platforms for Wider and Gender-inclusive Reach

The use of mobile phones as the training delivery mechanism helped to make the programme more inclusive. It was found that most of the participants had basic knowledge of mobile phones, sufficient to be able to participate in the programme without difficulty.

## 4. Conclusion

While a one-off, face-to-face training may have been easier to organise, the “Mobile Learning among Rural Women in Farming Communities in Sri Lanka” adopted a non-traditional pedagogic approach using mobile applications in order to cater to the specific needs of the target group. The underlying assumptions in designing the programme were that the female farmers will not be IT literate or even literate, that Internet connectivity in rural, under-served areas may be insufficient, that they will not have access to technology (computers) but would have access to a basic mobile phone given the high penetration of mobile phone technology in the country. The programme, through a targeted design, provided an opportunity to women farmers who would otherwise have been excluded from access to financial skills. The Commonwealth of Learning bore the cost of connectivity in the form of per-participant payments to the service provider for the calls the participants would have to make to access the training content. This is likely to have been an additional incentive to participate in the programme, particularly for women from low-income households who may have otherwise found the connectivity cost difficult to bear.

The impact of the programme on women's empowerment has been mapped through the Gender at Work framework in Figure 1, followed by a discussion.



**Figure 1**  
**Analysis of empowerment outcomes of the Mobile Learning initiative through the Gender at Work framework.**

Axis	Informal	Formal
Individual	<ul style="list-style-type: none"><li>• Increase in women's self-reliance at the household level.</li></ul>	<ul style="list-style-type: none"><li>• Increase in financial literacy levels of participating women farmers.</li><li>• Increase in ICT knowledge of adolescent daughters of participants.</li></ul>
Systemic	<ul style="list-style-type: none"><li>• Enhancement of women's status in the local community because of their financial skills</li><li>• Enhancement of the status of adolescent daughters of women farmers due to their ICT skills.</li></ul>	<ul style="list-style-type: none"><li>• Preferential access to bank credit for women farmers participating in the course.</li></ul>

The primary aim of the programme was to enhance the financial literacy of female farmers. Information on financial services is usually obtained from male members of households or informal sources and networks, a practice that reinforces the gender gap in access to finance-related information and finance management skills. The program was able to change this situation for the better, by building the financial literacy of women farmers.

Increasing skill-levels also enabled participating women farmers to become more self-reliant in managing their finances at the

household level. The knowledge acquired was also helpful in enabling them to become more self-reliant in providing for themselves and their families. This also contributed to their higher status within the community.

Another key empowering outcome of the initiative is the preferential treatment provided to participants who successfully complete the course, in obtaining credit from the Regional Development Bank. Women's access to credit from the formal sector for productive purposes is often limited by their inability to provide collateral either in the form of property, guarantors or any other security acceptable to banks. Poverty alleviation schemes with a credit component often target the household and the head of household, usually a male. Low levels of literacy and confidence in entering into transactions with banks that may also be reluctant to lend to women disadvantage them in accessing credit. As a result, women are often compelled to borrow from informal money markets at high rates of interest. The preferential treatment given to the participants to access credit in recognition of their enhanced skills and productive activities shows a change in the attitude of banks and a policy shift towards small scale women producers.

Finally, the programme component of providing offline training on ICTs to teenage daughters of the participating farmers has built their skills in effectively leveraging technological affordances for their own empowerment and also contributed to an enhancement of their status in the community.



## Annex 1: Sources

Stakeholder Group	Number
Academic	2
Government	3
<b>Total</b>	<b>5</b>