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From Learning to Empowerment: A Study of Smallholder Farmers in South West Uganda

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Abstract: The relationship between education and empowerment has been widely debated in development literature. In recent times, social capital and community-centric learning have been increasingly recognized as important variables in the empowerment process. This paper outlines the development of a 'Three-dimensional Empowerment Framework', and looks at the relationship between a community-centric learning process and empowerment in selected villages in Uganda. Based on a study of two villages, the paper evaluates the role of the *Lifelong Learning for Farmers (L3F)* programme, developed and supported by the Commonwealth of Learning (COL), in empowering farming communities. The purpose of the study was to gain a better understanding of empowerment in the selected farming communities and to identify factors that may contribute to empowerment, including the L3F programme. Two sample villages with similar demographics were used for comparison, one L3F village and one non-L3F village, with 62 respondents from the L3F village and 78 from the non-L3F village, selected randomly. A survey, which included demographic questions as well as an empowerment scale, was administered to respondents from both groups. The responses were analysed and a regression model showing the factors that influenced empowerment was developed. The study shows that the integration of human capital (viewed purely from learning, knowledge acquisition, reflective practices, skills and competencies), social capital and financial capital, has a positive impact on development outcomes such as empowerment.

Keywords: Lifelong Learning for Farmers, L3F, Empowerment, Measurement of empowerment, Farmers, Uganda

Introduction

The relationship between education and empowerment has been widely debated in development literature, to the extent of raising doubts about the universality of the theory that education leads to empowerment (Jayaweera, 1999). The attempts to perceive education as a proxy for empowerment have been challenged and arguments have been put forward to view it as an "enabling factor" (Malhotra, Schuler, & Boender, 2002; Mason, 1998). One study equating education with years of schooling or literacy found that there is no positive linear relationship between education and the economic, social and political empowerment of women in Asia (Jayaweera, 1997). This study used literacy and enrolment in primary, secondary and tertiary education as the indicators for education.

While looking at the role of education in empowerment, Murphy-Graham (2008) argued that "when the intervention involves education, once again we rarely see an examination of the content of the educational intervention, or the process by which it triggers changes in women's lives. Education is

treated as a 'black box'" (p. 33). Paulo Freire was critical of conventional education and argued for "mutually supported learning for empowerment" (Heaney, 1995). According to Stacki and Monkman (2003), "education usually reproduces the status quo, perpetuating social and gender relations as they exist in society. Yet, education focused on social justice and equity attempts to change institutions and the distribution of power, promoting new behaviours, relations, and ways of viewing the world" (p. 173). They pointed out that formal education has limitations in addressing changes at a societal level. Quoting Friedmann (1992), Stacki and Monkman (2003) argued that,

> to effect social and cultural change, a programme must look beyond transmission of knowledge to individuals and incorporate social action that challenges social and cultural norms and transforms institutions' social relations. Thus, networking, organising and social mobilisation are central to goals of political, psychological and social empowerment (p. 182).

While elaborating on Freire's notion of education for empowerment, McLaren (2005) emphasised that empowerment is distinct from building skills and competencies, which are derived from formal education. He pointed out that "education for empowerment further differs from schooling both in its emphasis on groups (rather than individuals) and in its focus on cultural transformation (rather than social adaptation)" (McLaren, 2005, p. 26).

While conflict theorists have emphasised the issues of collectivities and groups, in recent times, functionalists and modern economists have started looking at the role of social capital in education. The empowerment of students of lower socio-economic statuses while transitioning from high school to higher education has been viewed from the social capital theory by Martinez (2007). The need for developing social capital among students for better educational outcomes and empowerment has been stressed by Daily, Eugene and Prewitt (2007). Educational theory has started looking beyond the conventional pedagogy, focusing on andragogy (self-directed learning) and heutagogy (self-determined learning) in strengthening empowerment. Canning and Callan (2010) have looked into students taking control of their own learning and engaging in reflective practice through heutagogy, resulting in "competency and capability through self-awareness, articulation of feelings, experiences, and ideas, engagement in group discussion, self-directed investigation in developing independent ideas, and self-confidence" (Blaschke, 2012, p. 64).

The non-formal learning and the informal learning promoted by agricultural and health extension systems for farming, rural and poorer communities used to follow didactic pedagogies. Roling (1988) challenged this perspective and provided a three-dimensional model to take agricultural extension beyond the conventional top-down, jug and mug, one-way flow of 'educating the farmers' approaches. In Roling's model, structure, institutions and the process are the three dimensions that form the basic premise for extension, which can lead to empowerment.

The structure consists of two systems: an agricultural knowledge system, and an agricultural information system. According to Roling (1998), an agricultural knowledge system is "a system of beliefs, cognition, models, theories, concepts, and other products of the mind in which the (vicarious) experience of a person or group with respect to agricultural production is accumulated" (p. 33). He defines an agricultural information system as "a system in which agricultural information is generated, transformed, transferred, consolidated, received, and fed back in such a manner that these processes function synergically to underpin knowledge utilization by agricultural producers" (Roling, 1988, p. 33).

Roling (1998) defines the process in terms of five crucial elements; Mobilisation, Organisation, Training, Technical support and Systems Management. Additionally, he stresses the need for an institution to have an 'active utiliser constituency' which "makes demands upon the system and can exert leverage" (p. 146). Such an active constituency can force the knowledge and information system to serve the needs of the members of the constituency. With such a structure, institution and process, the transformation of information into farmers' behaviours or behavioural objects is possible through horizontal transfer of knowledge (between and within the farming communities) and vertical flow of information (between experts and farmers). Thus, he perceived community-based collective and interactive learning and farmer-centric knowledge management as the core of agricultural extension, which empowers farming communities.

This paper looks at the relationship between such a community-centric learning process and empowerment in selected villages in Uganda. Based on a study of two villages, an effort has been made to look at the role of a programme called *Lifelong Learning for Farmers (L3F)* developed and supported by the Commonwealth of Learning (COL) in empowering farming communities. The study shows that the integration of human capital (viewed purely from learning, knowledge acquisition, reflective practices, skills and competencies) social capital and financial capital, has a positive impact on development outcomes such as empowerment.

Empowerment and Its Measurement

The enigmatic relationship between education and empowerment is in part due to the diversities and contradictions in defining empowerment. This study uses the definition of empowerment by Kabeer (1999), which puts empowerment as "the expansion in people's ability to make strategic life choices in a context where this ability was previously denied to them" (p. 437). This definition provides a logical, concise and comprehensive iteration of empowerment that fits in with the authors' understanding of the concept based both on a review of the salient literature as well as field experience. Kabeer's definition of empowerment focuses on the ability to make choices as the central concept. In preparing to undertake this study, it was decided that a framework for measuring empowerment (Three-Dimensional Empowerment Framework) should be developed, based on Kabeer's definition, in order to guide the survey creation, and the data analysis.

Other similar frameworks such as the Women's Empowerment in Agriculture Index (IFPRI, 2012), the Women's Empowerment Matrix (Charmes, & Wieringa, 2010) and the Women Empowerment Index of CARE International (Njuki, Kruger, & Starr, 2013) helped in developing this three-dimensional framework. However, as this study looks at the empowerment process among women as well as men, the Three-Dimensional Empowerment Framework is not specifically designed to assess female empowerment, as is the case for the other examples given. As Silberschmidt (2001) argued, "patriarchal structures and stereotyped notions of gender hide the increasing disempowerment of many men in rural and urban East Africa" (p. 657). She further pointed out that the discontent and powerlessness they feel, as a result of their subordinate economic status, heightens their disempowerment. Thus, it was important to develop the framework and study to assess both male and female empowerment.

The Three-Dimensional Empowerment Framework (Figure 1) takes into consideration *Degrees*, *Realms* and *Aspects* of empowerment. The mechanism of choice is captured in the *Degrees* which include: *Knowledge, Resources, Desire* and *Action*. It is important to note that the *Degrees* do not reflect a linear process or a hierarchical ranking. *Knowledge* and *Resources* represent the existence of the pre-requisites for choice, while *Desire* and *Action* represent the nature and mechanism of choice. *Knowledge* is often

seen as a resource akin to human capital: however, in this framework it is conceptualised as the awareness of options. It is an important part of choice, as alternative ways of being or doing must be within one's realm of perceived possibilities before they can be pursued. *Desire* captures the nature of choice, and whether it is freely made or coerced. *Means* encompasses the resources and conditions that enable or facilitate choice. Finally, *Action* captures the act of making a choice.

Further parsing Kabeer's definition of empowerment, it captures other nuances of the "ability to choose" including the significance of choices. Kabeer (1999) cautions that "evidence that women played a role in making decisions which were of little consequence … tell us far less about their power to choose than evidence on decisions that relate to strategic life choices" (p. 447). The framework uses the dimension of *Aspects* to guide researchers in choosing indicators of significance. The *Aspect* categories include: *Psychological/ Emotional*, *Social/ Cultural*, *Economic/ Entrepreneurial* and *Political/ Legal*. These categories were chosen because they encompass areas that would likely have a significant impact on the lives of respondents and are generally accepted in the literature on empowerment.

Additionally, the role of opportunity structures and other actors is highlighted in Kabeer's definition of empowerment. The idea of choices being "denied" to an individual suggests the role of external forces in impeding or facilitating empowerment; as such, empowerment is not only a measure of increased individual agency, but the increased acceptance of this agency within the realms in which the individual exists and functions. The pilot framework includes the *Realms* of *Household, Enterprise* and *Community*. These *Realms* are appropriate for the nature, scope and scale of the initiative in question, but could be expanded by other users to include additional meso- or macro-level realms, if desired.

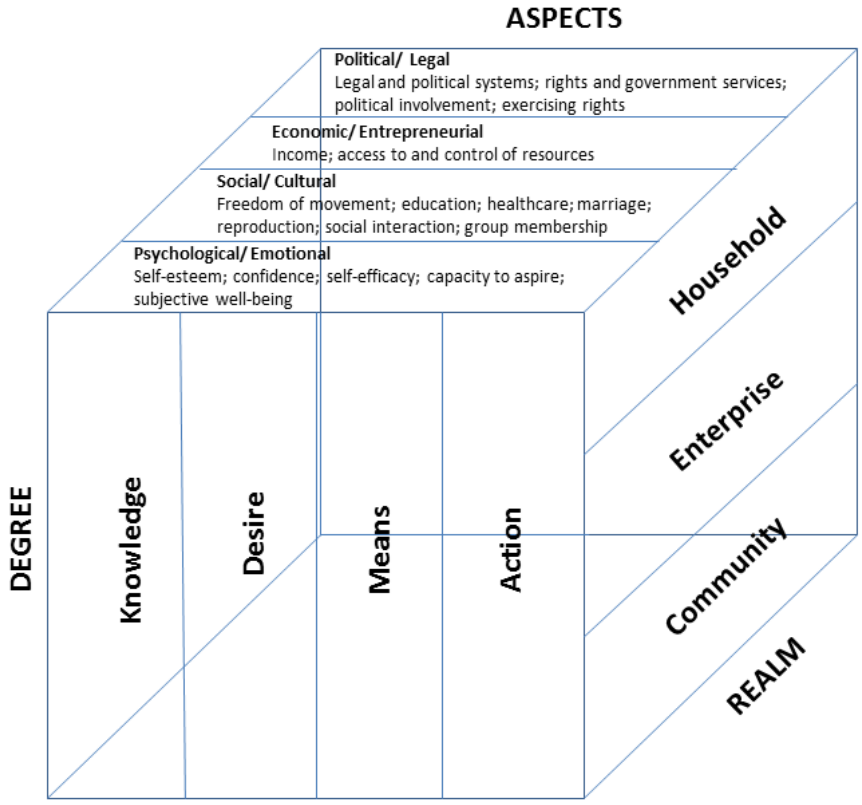

Figure 1: Three-Dimensional Empowerment Framework

Thus, the Three-Dimensional Empowerment Framework consists of *Realm* (at Household, Community and Enterprise levels), *Aspect* (addressing Psychological/ Emotional, Social/ Cultural, Economic/ Entrepreneurial and Political Legal aspects) and *Degree* (acquiring knowledge, having the desire, accessing the means and translating into action).

Using 7-point Likert items, an attitudinal questionnaire was developed based on the framework. The 7-point scale was chosen as it offers a more reliable measure for items used to calculate a cumulative scale, and also offers the opportunity for a more nuanced assessment of empowerment. The items were selected from previously tested empowerment survey instruments and adjusted or refined where necessary. A neutral option was included so as not to compel respondents to express an opinion. The Cronbach's Coefficient Alpha for the overall 100 item empowerment scale was .915, confirming the scale's very high reliability. The survey resulted in an index which helped to assess empowerment in this study.

Lifelong Learning for Farmers (L3F) programme

The L3F approach is based on Roling's (1988) framework with the following premises:

1. Extension is a facilitation process through which a community is empowered to manage agricultural knowledge systems and agricultural information systems.
2. Extension takes place in the context of already established social capital, such as cooperatives, Self-help Groups, associations, etc., which form a strong active utiliser constituency. Cognitive social capital is a precondition for lifelong learning.
3. The community is not a mere consumer of information but a partner in knowledge management and dissemination.
4. Facilitating Self-Directed Learning (SDL) and horizontal transfer of knowledge using Open and Distance Learning (ODL) methodologies among the active utiliser constituency is an important dimension of L3F.

L3F focuses on linking three types of capital; social capital, human capital and financial capital. An effective linkage of these three capitals will help in accelerating the development process. L3F is based on the belief that:

(i) Unexploitative, mutually reinforcing contractual relationships between rural producers and the formal public and private sector will promote rural entrepreneurship and the development process.

(ii) Learning and extension can be a self-sustaining process with secondary stakeholders supporting L3F within a win-win framework. For instance, by blending it with appropriate capacity building, rural credit can perform much better in terms of productivity, returns and non-performing assets (NPA) levels. These gains would lead the financial institutions to support L3F.

(iii) Capacity building will also enlarge the market for bank credit among small and marginal farmers and among other marginalised sections of the rural poor, particularly women. ODL will be able to strengthen the capacity building process by reaching a large number of people at a reduced cost. It will also help to reduce the opportunity costs of the farmers, particularly women, in learning.

(iv) Modern Information and Communication Technologies (ICTs) such as rural internet kiosks, rural tele-centres, mobile phones, community radio, etc. can facilitate the capacity building process in a spatial-temporal context which is financially viable, economically feasible and socially acceptable.

The secondary stakeholders like financial institutions, ICT companies and markets, as well as the rural poor as the primary stakeholder, stand to gain with the above premises, which are based on a win-win framework. These stakeholders can use this strategy to enhance their business. A win-win framework for secondary stakeholders can help to build a process of self-sustainability and self-replicability. The initiative is based on a participatory approach in which everyone is a "learner" and interactive learning is the crucial aspect of the programme. The initiative integrates the concepts of andragogy and heutagogy in a blended learning format. Such blended learning takes place in the context of vertical flow of knowledge (from universities, research institutions, secondary stakeholders to the primary stakeholders) and horizontal flow of knowledge (between the primary stakeholders in the context of community knowledge management). The horizontal flow of knowledge is encouraged through group and community based learning to strengthen self-directed and self-determined learning among the learners. Semi-structured asynchronous learning is given emphasis in the context of the vertical flow of knowledge, whereas, structured group-based learning as well informal learning are encouraged in the horizontal flow of knowledge.

Learning materials are developed at the local level with the participating community playing a major role. The process of developing, using, reusing (and, in some cases, abandoning) learning materials is highly dynamic and spatial-temporal in nature. However, the quality of the learning is under constant monitoring both by the community as well as by the experts.

Most L3F participants are illiterate or semi-literate, and, therefore, the learning takes place in a multi-media context using audio-visual interaction. Hence, ICTs play a vital role in L3F. However, the technology is placed in the socio-cultural context keeping in view the financial feasibility, infrastructural viability and social acceptability. Since mobile phones have penetrated the rural areas, they are used in strengthening learning wherever it is relevant. Other self-learning technologies such as CDs/DVDs and mass media, such as community radios, are also exploited to strengthen learning.

L3F in Uganda

COL and Makerere University Agricultural Research Institute, Kabanyolo (MUARIK) came together as partners and launched a programme during 2009-2010 to test the efficacy of the L3F model in the Kabale district of Uganda. It focused on sorghum and potato growers belonging to *Bakiga* communities in selected villages and on the *Batwa* community, whose predominant economic activity is honey collection from the wild forest.

Following the framework of Roling (1988), MUARIK went through the phases of mobilisation, organisation, capacity building, technical support and systems management. The communities and the various stakeholders came together for 'mutual conscientisation' so that the agenda of each stakeholder was well understood by others. Once the communities understood that the L3F programme fit with their felt needs, MUARIK facilitated the communities to organise themselves into Self-Help Groups (SHGs) and associations. Initially, men played the main role in these groups. However, MUARIK encouraged women to join the programme and currently, after a period of five years, more than 50% of the participants are women. One of the major challenges in agriculture in this region is low capital formation and inaccessibility to agricultural credit. MUARIK introduced "table

banking" as a form of community banking, in which the SHGs come together and participate in saving as well as intra-group and inter-group lending. Over a period of time, the SHGs were federated into two Savings and Credit Cooperatives (SACCOs) with more than 1,200 members.

A blended learning format promoting vertical and horizontal learning helped to strengthen the capacity building process. The community and experts identified the normative needs as well as the felt needs vis-à-vis learning. Financial literacy, SHG and SACCO management, agricultural productivity in crops like potato, sorghum and maize, seed management, pests and disease management, post-harvest handling and marketing were identified as the key areas of learning by both women and men. Courses were developed in consultation with experts in MUARIK, marketing agencies, the government extension system and the communities. The process of developing, using, reusing learning materials was highly dynamic and spatial-temporal in nature.

Since most of the participants were illiterate or semi-literate, it was felt that the courses should be simple and precise. Using the principles of ODL, modules were deconstructed into chunks and granules in audio and multi-media format in the local languages and dialects with specific learning outcomes. The granules and chunks were received by the participants through radios and mobile phones. Content was also sent in "Short Message Services" (SMS) for the literate farmers through a SMS question and answer platform established by the initiative. The platform enables them to ask questions and receive feedback from extension officers and researchers in the farmers' own local languages. Text messages are sent three times a week and audio messages once a week in two different local languages — Runyakitara and Luganda. For illiterate participants, the questions and feedback are collected on phone memory cards and sent to MUARIK for review and response. MUARIK and the other extension agencies conducted face-to-face training programmes for the resource persons from the communities who, in turn, trained the members in their respective SHGs and SACCOs during their weekly/monthly meetings. These meetings also became the platform for horizontal learning through which the participants shared their experiences vis-à-vis their learning.

The Methodology

A study was conducted during 2015 to assess levels of empowerment and the role of L3F in the empowerment process. The study addressed the following questions:

- How do the empowerment scores of L3F and Non-L3F participants compare? Are there differences in scores between men and women within and between these two groups?
- How does empowerment vary across different realms? Are there differences in empowerment levels between the two groups within these different realms? Are there certain realms in which either group has particularly high or low levels of empowerment?
- How does empowerment vary across different degrees? Are there differences between the two groups across these different degrees? Are there certain degrees in which either group has particularly high or low levels of empowerment?
- Does L3F effect empowerment?

Due to the paucity of data on empowerment before the intervention of L3F, time-series analysis was not taken. Hence it was decided to conduct a cross-sectional study to get a picture of the role of L3F in empowerment.

A survey was conducted to address the research questions. Demographic questions covered topics like education, household composition, income, crops, etc., whereas empowerment was addressed

through attitudinal questions, covering the areas of the Three-Dimensional Empowerment Framework.

Two villages were randomly selected; one with the L3F programme (Kadarama) and the other without any L3F intervention (Nyambugu). Both the villages had more or less similar agro-ecological and socio-economic characteristics. They are located in the highlands of south western Uganda with characteristics such as smallholder farming, land degradation, inadequate market access and poor road infrastructure. The villages also share similar cultural traits in terms of ethnicity and language.

The "farmer" includes both male and females in the two villages. Women are actively involved in food crop production in this region with a substantial number of female-headed households; hence, the survey respondents were stratified in terms of gender. The stratification in the sample was mainly to get a differential perspective on empowerment from females and males.

In the L3F village, all the households were involved in L3F and, hence, an attempt was made to cover all the households. Out of 65 L3F households, 62 households responded to the questionnaire. In the non-L3F village, all of the 78 households were covered during the survey. The questionnaires were canvassed by trained investigators.

Results

Household Characteristics

The L3F and Non-L3F villages exhibit more or less similar characteristics in terms of age, gender, household size and cropping patterns. Both the villages have similar access to government extension services, except that the L3F village has access to additional learning opportunities through the programme. However, in terms of formal education and access to credit, some differences exist between the two villages. The L3F village has a larger proportion of respondents with at least secondary level education completed. While the two villages differ in obtaining credit, a very high standard deviation indicates inequality in accessing credit across both groups.

L3F, Empowerment Scores and Gender

A CARE International study of four African countries and two South Asian countries has estimated the country-level Women Empowerment Index (WEI) scores on a 0 to 1 range and has argued that "a woman who achieves an empowerment score of 0.80 or greater on this index is considered to be 'empowered'" (Njuki et al. 2013, p. 10). Its study found that the four African countries had an average WEI score between 0.32 and 0.66. An IFPRI study assessed the baseline empowerment conditions of multiple countries for the initiative 'Feed the Future' and the baseline score for Uganda on the Women's empowerment in Agriculture Index was 0.86. The 'Feed the Future' study considered a score above 0.85 as highly empowered (IFPRI, 2014).

Unlike the CARE International method and the 'Feed the Future' approach, the present study has assessed the empowerment of both women and men and it has not made any effort to adjust the indicator thresholds or 'normalise' the scores; hence, mean scores range from 0.69 to 0.79. The study also did not attempt to fix a threshold score for defining empowerment. Its emphasis is on the relative status of men and women in L3F and Non-L3F.

Table 1: Household Characteristics in L3F and Non-L3F Villages

	L3F Village		Non-L3F Village	
Sample size (N)	**62**		**78**	
	Average or Percent	***Standard Deviation***	***Average or Percent***	***Standard Deviation***
Women (percent)	48.0%	-	45.0%	-
Average Age in Years	45.5	12.3	43.0	13.7
Household Size	6.4	2.3	5.9	2.8
Gross Cropped Area in acres	2.6	1.8	1.8	1.7
Years of Experience in Farming	24.8	13.1	21.1	13.6
Respondents with more than primary education (percent)	41.9 %	-	20.5%	-
Total credit accessed during 2012-14 (1000 Ugandan Shillings)	761.7	1277.3	329.7	1099.6

Empowerment by Degree and Realm in L3F and Non-L3F Villages

An analysis of the empowerment scores by *Degree* and *Realm* reveals some interesting insights about the process of empowerment in both the villages (Table 2). The *Degree* has been analysed in terms of *Knowledge, Desire, Means* and *Action,* whereas, *Realm* looks into the context in which empowerment operates; *Household*, *Community* and *Enterprise*. The difference in the empowerment scores of the L3F and Non-L3F groups at the *Enterprise* level is much larger than the difference in scores at *Community* and *Household* levels, indicating that L3F is providing more opportunities to gain knowledge, identify choices, access resources and translate this into action at the *Enterprise* level than at the *Household* or *Community* levels. It also shows that L3F has not made significant differences in the *Desire* and *Means* at the *Community* and *Household* levels.

Table 2: Empowerment Score by Degree and Realm

Degree / **Realm**	**Knowledge**			**Desire**			**Means**			**Action**			**Total**		
	L3F	Non-L3F	% Differ-ence	L3F	Non-L3F	% Differ-ence	L3F	Non-L3F	% Differ-ence	L3F	Non-L3F	% Differ-ence	L3F	Non-L3F	% Differ-ence
Household	0.63	0.60	3%	0.82	0.79	3%*	0.75	0.72	3%*	0.74	0.71	3%	0.73	**0.70**	**3%**
Community	0.82	0.72	10%	0.81	0.78	3%*	0.64	0.64	0%*	0.79	0.70	9%	0.77	**0.71**	**6%**
Enterprise	0.84	0.70	14%	0.87	0.82	5%	0.75	0.60	15%	0.81	0.67	14%	0.82	**0.69**	**13%**
Total	0.75	0.67	8%	0.83	0.79	4%	0.71	0.65	6%	0.78	0.69	9%			

*not statistically significant; $p > 0.05$

L3F's Role in Empowerment

The differences in the levels of empowerment between the L3F and Non-L3F villages are emerging very clearly. However, it is difficult to argue that L3F has influenced the empowerment process without appropriate statistical evidence. For this purpose, a series of regression analyses were run in order to assess the role of various independent variables, including the dummy variable of programme participation (L3F), on the dependent variable of Empowerment Index Score. Variables such as Sex, Age, Education, involvement in agriculture (Years in Farming), and ratio of adult women to children in the household (Reproductive Role) were included as independent variables. Age, level of formal education and years of involvement in agriculture have been previously hypothesised to play a role in empowerment as well as in disempowerment, and were thus included in the model (Beales, 2012; Burgess, 2014). Similarly, it has been suggested that the reproductive role of women influences and is affected by empowerment (D'Souza, Karkada, Somayaji, & Venkatesaperumal, 2013). The ratio of children to adult women indicates the reproductive role, which has bearing on the ability to earn income, mobility, social network participation, etc., thereby influencing or affecting the empowerment of not only women but also that of men. Three multiple regression models were run to identify the determining variables that influence empowerment (Table 3).

As evident in Table 3, the independent variables in the first two models are able to explain 28.4% to 28.6% of the variation in the empowerment scores, while 30.8% of the variation in empowerment scores can be explained when assessed by the third model in terms of L3F, Sex and the interaction variable of SexL3F. The Full Model, which includes all hypothesised explanatory variables, shows that only L3F and Sex are statistically significant predictors at the $p <. 05$ level. In the Reduced Model both these variables emerged again as highly significant. The Interaction Model consists of the Reduced Model plus an interaction between sex and programme participation (SexL3F). Based on exploratory descriptive statistics, it was hypothesised that an interaction would exist as the disparity in empowerment scores between L3F males and females was less than within the Non-L3F group. The Interaction Model is statistically significant at $p < .001$ ($F = 21.577_{3, 136}$).This regression model shows that L3F and Sex, as well as the SexL3F interaction are statistically significant at $p < .05$. The low VIF values (< 10) rule out the problem of multicollinearity in the Interaction Model and supports the relationship between the explanatory and dependent variables. The negative β value (-0.044) for the interaction term indicates that L3F participation reduces the difference between men's and women's empowerment scores.

The relatively low r^2 of the regressions requires an explanation. Generally, a high r^2 reflects the goodness of model fit, and a low r^2 implies that there is high variability affecting the accuracy of predictions. However, as Newman and Newman (2000) suggest, the social sciences tend to produce studies with lower r^2 values, as the predictor variables are likely to have smaller effects, and because it can be very difficult to fully measure complex social constructs. Since the objective of this study is to reveal whether relationships exist rather than accurately predicting the extent of the relationship, a low r^2 is acceptable.

Table 3: Empowerment Score Regression Models

	Full Model				Reduced Model				Interaction Model*			
	N = 102, adjusted R squared = .286, error of estimate = .05980				N = 102, adjusted R squared = .284, error of estimate = .05989				N = 102, adjusted R squared = .308, error of estimate = .06430			
	Coefficient	Standard Error	*t*-statistic	*p*-value	Coefficient	Standard Error	*t*-statistic	*p*-value	Coefficient	Standard Error	*t*-statistic	*p*-value
(Constant)	0.673	0.024	28.16	0.000	0.698	0.011	63.304	0.000	0.675	0.011	62.118	0.000
Age	0.001	0.001	1.249	0.215								
Years in Farming	-0.001	0.001	-0.845	0.400								
L3F Village	0.067	0.013	5.266	0.000	0.071	0.012	5.921	0.000	0.096	0.016	6.029	0.000
Sex	0.032	0.013	2.57	0.012	0.036	0.012	3.004	0.003	0.065	0.015	4.471	0.000
Education	0.02	0.013	1.496	0.138								
Reproductive Role	-0.004	0.011	-0.378	0.706								
Sex/L3F Interaction	-	-	-	-	-	-	-	-	-0.044	0.022	-1.984	0.049

* The collinearity statistics for the Interaction Model- VIF : L3F = 2.138; Sex = 1.805 and Sex/L3F Interaction = 2.874

In all the regressions, programme participation (L3F) emerges as the most significant factor influencing empowerment scores ($p < .05$). The dummy variable gender (Sex) also appears to contribute significantly in strengthening empowerment as being male appears to have a positive effect on empowerment. Moreover, the interaction between gender and programme participation (SexL3F) also contributes to empowerment. The other variables entered in the initial model including Years in Farming, Age and Reproductive Role were not significant. The dummy variable of Education (secondary and above and below secondary) did not come out as a significant variable compared to L3F participation and Sex. The L3F village has more secondary educated respondents compared to the non-L3F village; however, education has not emerged as an influential variable in empowerment according to our regression analysis, which combines the data from both the villages.

A comparison of means supports the regression analyses. Table 4 indicates that men have significantly higher empowerment scores than women in both the groups. However, an interesting finding is that the women in L3F have a significantly higher average score than women in Non-L3F, and L3F men also have a significantly higher average score than their Non-L3F counterparts. Another significant finding is that L3F women have a higher average empowerment score than Non-L3F men.

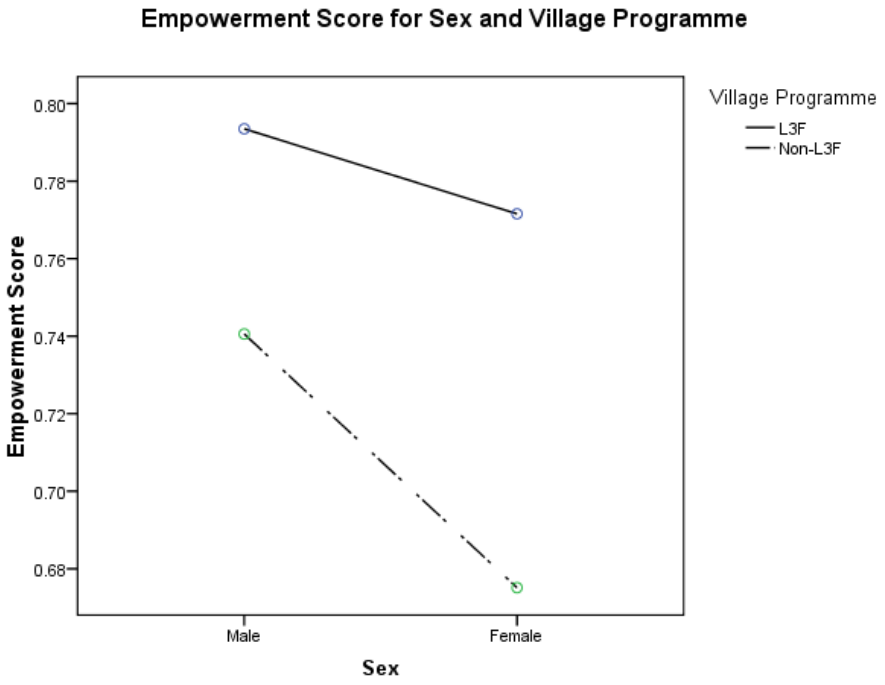

Figure 2: Gender and Empowerment Scores in L3F and Non-L3F Villages.

These results are plotted in Figure 2 and demonstrate the important differences in this analysis. It is clear that the empowerment scores are higher for the L3F group than the Non-L3F one. Also, the Female empowerment scores are lower than the Male scores, especially for the Non-L3F village. The significance of the SexL3F interaction is shown by the fact that the L3F and Non-L3F lines are not parallel, indicating larger gender empowerment differences in the Non-L3F village than in the L3F one.

Table 4: Gender and Empowerment Scores in L3F and Non-L3F Villages

SEX	Programme	Mean	Std. Deviation	N
Males	L3F	.7935	.05387	32
	Non-L3F	.7406	.05274	43
Females	L3F	.7716	.06119	30
	Non-L3F	.6751	.08521	35
Total	L3F	.8139	.04981	62
	Non-L3F	.7525	.06526	78
	Total	.7797	.06623	140

Significant difference in the scores for L3F females and non- L3F female; t (63) = 5.29, p = 0.000.
Significant difference in the scores for L3F males and non- L3F males; t (73) = 4.25, p = 0.000.

Conclusion

L3F is a holistic package blending learning with financial and social capital. Such a package offers scope for participants to gain knowledge, be inspired by desire, access means and translate them into action, leading to empowerment. In the present study the effect of this package has been examined by comparing both men and women from a L3F village with men and women from a non-L3F village in south west Uganda. Interesting patterns emerge from this examination, which shows that the holistic package is capable of influencing the empowerment process.

The patriarchal oriented, marginalised farming communities in this fragile ecological region are facing challenges such as a globalised economy, poor financial and infrastructural resources, a constricted human development process, macro political and economic structures, and social stratification, which can accelerate the disempowerment process. Empowerment being a relative concept, analysing women's empowerment alone cannot give a holistic picture. The L3F intervention addressed both men and women while keeping in view the comparatively disadvantaged position of women. The study shows that men have higher empowerment scores in L3F and Non-L3F villages. Ambunda and de Klerk (2008), in their study on Namibian women, argue that "the empowerment of men entails a corresponding disempowerment of women, who are deprived of their rights and the capacities necessary to deal with the world at large" (p. 52). However, this argument assumes that dominance is equivalent to empowerment. In contrast, Silberschmidt's (2001) study of men in Tanzania clearly shows that the disempowerment of men can lead to dominance over women through violence and sexually aggressive behavior. She points out that,

> to focus only on dismantling men's advantages over women through a politics of equal rights would be to abandon our knowledge of how those advantages are produced and defended. Ironically, empowering women may also free men from taking responsibility… Furthermore, efforts to empower women may have unintended and negative consequences for women…unless they are balanced against efforts to deal with men's increasingly marginalized situation (p. 669).

The data from the present study illustrates that an appropriate intervention in the form of improved human, social and financial capitals is capable of narrowing the gap in empowerment between men and women. This is evident in the fact that women in the L3F village have a higher mean empowerment score than men in the Non-L3F Village.

Unpacking empowerment in terms of *Degree* and *Realm* reveals some interesting insights. The data points out that the process of empowerment need not be uniform in different realms. Thus, a woman can have a higher empowerment score at the community level and enterprise level but still can be submissive to the dominance of men at the household level. IFAD (2014) points out that,

> many efforts to support women's empowerment focus on strengthening women's economic opportunities and decision-making capacities in groups or organisations. However, the same women often remain disempowered at the household level. They lack a voice in determining household priorities and spending patterns and in addressing their own health care needs (p. 2).

Similar trends are visible in the present study. The knowledge acquisition and action for empowerment in *Community* and *Enterprise* are higher in comparison to the *Household* realm within the L3F village, indicating that the intervention is making more of a difference at the *Community* and *Enterprise* level than at the *Household* level.

The multivariate regressions reflect the influence of L3F on the empowerment of learners through its holistic focus on linking social, financial and human capital. Though the L3F village seems to have had the advantage of a greater number of participants with above primary education, the influence of education on empowerment is secondary to the role of L3F and is not significant in our model. The relationship between education and empowerment needs further investigation but our analysis still validates the premises of Freire (cited in McLaren 2005), Stacki and Monkman (2003) who argued that education and learning should not be perceived in isolation from other processes. The study clearly points out that an integrated holistic approach can make education and learning more effective in promoting empowerment.

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