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## Assessing learning achievements and development impact: Ghana's national functional literacy program

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*This paper summarises findings and lessons from a recently conducted evaluation of an adult functional literacy program in Ghana. The study attempted to assess learners' literacy and numeracy skills, and ascertain participants' knowledge and skills in various development aspects as well as their impact.*

*The literacy and numeracy skills assessment exercise suggested that the learners are gaining significant reading skills and modest numeracy skills, while achievements in writing appear to remain weak. The findings also highlight the question of sustainability of these skills, which implies a need for improvements in post-literacy programs.*

*The assessment demonstrated significant impact of the program on various areas of development. In particular, the study revealed the*

*program's strong impact on learners' and their children's education and livelihood activities. In addition, the learners gained knowledge and skills in health, environment and civic awareness.*

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## **Introduction**

This paper summarises findings and lessons learned from a recently conducted evaluation study of an adult functional literacy program in Ghana. The study was an attempt to assess literacy and numeracy skills levels at different points of the learning cycle, and to ascertain the levels of knowledge and skills in various development aspects acquired through the program and their impact on the individual participants, their families and communities. The findings from this study are intended to help improve the current and future functional literacy programs in Ghana as well as in other countries.

## **Literacy programs in Ghana**

Adult literacy initiatives have a long history in Ghana. Local language adult literacy work in Ghana (then the Gold Coast) was introduced in the early eighteenth century by the Dutch Reformed Church. Later in the nineteenth century, other missionary societies also started literacy work. After the Second World War, in 1948, the British Colonial Government officially adopted literacy as a component of the national education system (Amedzro 2004).

The first large-scale literacy program in Ghana lasted from 1948 to 1968, preparing people to participate more effectively in the process of independence which was finally realized in 1957. Basic literacy, adopting UNESCO's definition of literacy at that time (namely, the ability to read and write simple sentences in one's own language), was the main focus of the program. No conscious efforts were made to relate literacy to the occupational or civic needs of the participants.

The program granted about 250,000 certificates to the participants during this period but collapsed by the end of 1968 (Amedzro 2004, CIA 2004, The World Bank 1992). Amedzro (2004) attributes the reasons for the program's decline to politicisation and change of government, large class sizes and ineffective teaching methodologies, learning materials that did not reflect the interests of learners, and learners' disappointment with the ineffectiveness of certificates for job hunting.

Between 1968 and 1986, in the midst of an economic decline in the country, adult literacy programs were left in the hands of various religious and secular organisations. Realizing the significance of non-formal learning approaches and the need to coordinate different non-formal education activities in the country, the government under the Rawlings administration created the Non-Formal Education Division in the Ministry of Education (NFED/MOE) in 1987. Motivation for the National Functional Literacy Program (NFLP) heightened after the 1989 census showed an adult illiteracy rate of 67% (The World Bank 1992, 1998).

The first phase of NFLP lasted between 1992 and 1997, training 1.3 million learners in literacy in 15 Ghanaian languages, numeracy, and functional knowledge and skills. Based on lessons from earlier experiences, efforts were made to meet the learning needs of the participants by integrating literacy/numeracy learning with knowledge and skills in health, environment, community development and economic activities.

## **Current program description**

Today, Ghana is a country of about 20 million people, with an average gross national income per capita of \$270 in 2002. The net primary enrolment rate is approximately 60% and the estimated adult illiteracy rate is about 26% total and about 34% for females (The World Bank 2004). Following its successful implementation of the

first phase, NFED/MOE, with support from the World Bank, has been implementing the second phase of the NFLP since 1999. Its principal objective is to increase the number of Ghanaian adults (15–45 years), particularly women and the rural poor, who acquire literacy and functional skills. Under the program, a functionally literate person is defined as “one who can engage in activities in which literacy is required for effective functioning of his/her group and community and also for enabling him/her to continue to use reading, writing and calculation for his/her own and the community’s development”. NFLP II operates in 15 national languages (covering about 85% of the population), plus English for those who have completed the national language course, and targets a total enrolment of one million learners (The World Bank 1999).

Approximately 750,000 learners in three batches have participated so far under NFLP II: Batch 8 (2000–2002), Batch 9 (2003–2005) and Batch 10 (2004–2006). Sixty-two percent of the learners are women, an estimated 60% of the classes are in rural areas, and 32% of the classes are in the northern three regions, that is, the poverty stricken areas. Learners select volunteer facilitators who are usually from the same community. Facilitators receive brief pre-service and in-service training in their locality. They are not paid, but receive ‘incentives’ of their choice such as sewing machines and bicycles from NFED at the end of the learning cycle. Supervisors, who are on contract with NFED, visit classes and assist the facilitators in their teaching.

Each learning cycle (batch) consists of 21 months, with classes typically meeting three times per week at a convenient time and location. Some classes are women or men only, others are mixed. The program adopts integrated approaches to literacy, numeracy, and functional knowledge and skills development, such as health and civic awareness with income generating activities. In most cases, the learning group chooses one income generating activity and forms a group or cooperative during the program, while some learning groups are already in these work environments when they join the NFLP.

## **Methodology**

The main evaluation data were collected in two ways by the author and NFED in February 2004. Data for the learning outcome assessment are based on written paper tests assessing literacy and numeracy skills obtained at different points of the learning cycle. Data for the development impact evaluation are based on field interviews and observations (Alreck & Settle 1985, Waters 1998) of the learners and their communities to assess knowledge and practices in health, environment, civic awareness, economic activities, education and other aspects. The assessment tools were based on the curriculum (NFED 2001-a, NFED 2001-b) and developed by the author in collaboration with NFED.

For the learning outcome assessment, 1,200 learners were drawn for the written assessment through multi-staged random sampling from Batch 8 (who participated about two years ago), Batch 9 (who have gone through about one year – half of the program), and Batch 10 (who are in the beginning stage of the program). Batch 10 learners’ scores were collected in lieu of baseline data. A written test to assess reading, writing and numeracy skills was developed, field tested, translated into six major languages and administered in ten sample districts.

For the development impact evaluation, semi-structured interviews, focus group discussions and observation were used, aiming to identify the level of knowledge and skills in various development areas and proof of physical and behavioural changes. For example, in individual interviews concerning health, learners were asked questions such as: Could you tell us anything you know about immunization? Where did you learn about it? Do your children receive immunizations? If so, for what, and when did they get them? Interviews were conducted in 28 communities in three regions with NFLP Batch 8 learners in various settings (rural, peri-urban, semi-urban, urban). Due to a lack of baseline data, seven comparison communities were selected within

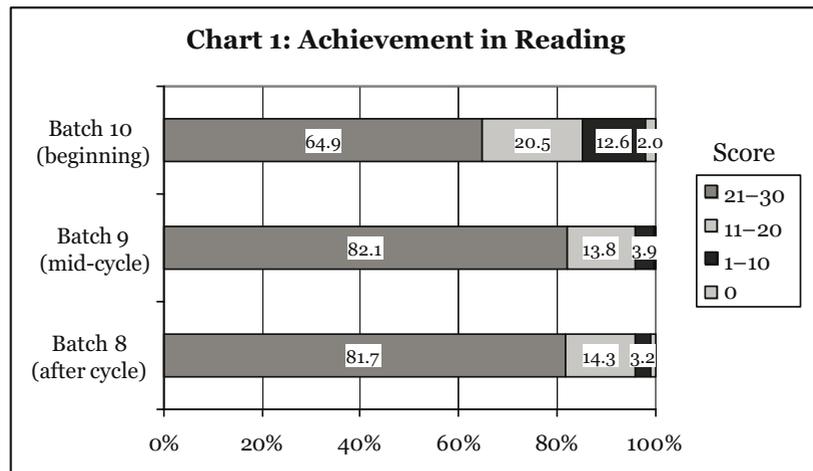
the same regions. A total of 329 Batch 8 learners (177 male, 152 female) and 105 comparison group people (55 male, 50 female) were interviewed, in addition to group discussions which included other community members.

### Findings from the learning outcome assessment

In this part of the study, written tests to assess NFLP learners' reading, writing and numeracy skills were conducted. One thousand two hundred questionnaires (400 each for Batch 8, 9 and 10) were distributed and 1,078 were returned for analysis as valid responses.

#### Achievement in reading

The items in this part included letter recognition, syllables, word recognition, sentence recognition and paragraph recognition. The NFLP learners generally achieved well in the reading skills assessment (see Chart 1).



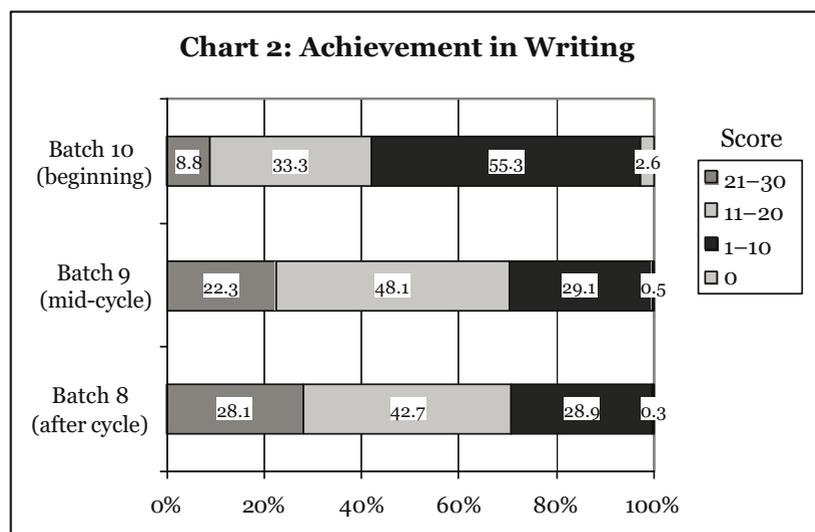
- Score 0: Cannot read at all (illiterate)
- Score 1-10: Can recognize some words
- Score 11-20: Can read at least one complete sentence
- Score 21-30: Can read paragraphs without difficulty

Approximately 82% of the Batch 8 and 9 learners could read and understand a few simple paragraphs of text, and about 95% of the Batch 8 and 9 learners could read at least one full sentence. Batch 10 learners also scored high in this area – about 65% could read paragraphs.

It is notable that there was very little difference in scores between the Batch 8 learners who completed the full program cycle about two years ago and the Batch 9 learners who have done about half (1 year) of the program at the time of the assessment. One can speculate the reason being either that some of the Batch 8 learners have lost their reading skills after completion of the course, and/or the learners could reach a sustainable reading skills level within one year of the course, and spend the second year gaining livelihood/life skills and knowledge by utilising their new literacy skills.

#### Achievement in writing

The items in this section included word tracing, word copying, word writing, sentence forming and paragraph forming. While the program seems to have a positive impact in this area, the overall performance in writing was weak (see Chart 2).



- Score 0: Cannot write at all
- Score 1-10: Can write some words
- Score 11-20: Can write at least one complete sentence
- Score 21-30: Can write a short letter

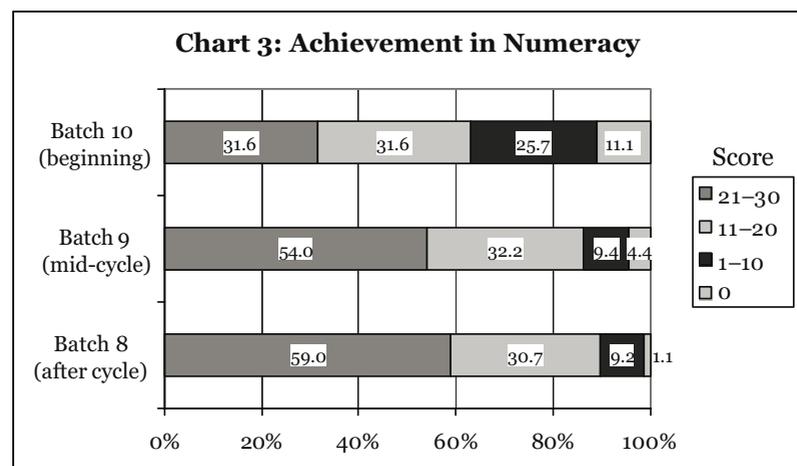
Only about 28% of the Batch 8 learners reached the level of being able to write a short letter. Approximately 22% of the Batch 9 learners scored the same level. For both Batch 8 and 9, about 70% of them could write at least one complete sentence. The majority of the remainder could write one or two words, for example, their name and/or the name of their village.

The Batch 10 learners scored much lower than the others, which may support the effectiveness of the NFLP. Nearly 60% of them had either no, or only word level, writing skills at the beginning of the NFLP participation.

#### Achievement in numeracy

The numeracy section of the assessment included four arithmetic operations up to six digits. In addition, an oral situational math question was incorporated. The situational question was translated

and read by the test administrators to the participants. The learners achieved modest results in numeracy skills (see Chart 3).



- Score 0: Cannot calculate at all
- Score 1-10: Can do one to two digit calculation
- Score 11-20: Can do three to four digit calculation and/or five digit oral situational math
- Score 21-30: Can do six digit calculation

Approximately 60% of the Batch 8 learners were able to perform six digit calculation. Almost 90% of them could correctly answer either three to four digit written calculations and/or the five digit oral math question. The Batch 9 learners achieved similarly, only slightly lower – 54% scored at the highest level.

The Batch 10 learners scored significantly lower than others, which again may support the program effectiveness. Nearly 40% of them either could not calculate at all or could only calculate with one or two digits.

#### Findings from the development impact assessment

This part of the study was based on interviews, focus group discussions and community observation in 28 Batch 8 and seven

comparison communities. Out of 329 Batch 8 learners interviewed, approximately 53% (N=177) were male and 47% (N=152) were female, and out of 105 comparison group people, approximately 52% (N=55) were male and 48% (N=50) were female. By occupation, the majority of the interviewees were engaged in farming. The areas of interview included health, environment, civic awareness, education, and income generating activities and topics were chosen from the curriculum.

#### Knowledge and practices in health

Among the NFLP learners, many of them, both men and women, mentioned knowledge of family planning as one of the greatest benefits they received from the program. Another area in which the effect of NFLP seems more prominent, was reduction of teenage pregnancy. In addition, the Batch 8 learners indicated substantial knowledge of and practice in safe motherhood, childcare, immunization, safe drinking water, personal and environmental hygiene, and food preservation. With regard to HIV/AIDS, many people interviewed had basic knowledge but also revealed mixed understanding – some correct, some not. In most cases, we were able to confirm that they were actually practising what they know by requesting them to give us specific examples or proof shown and through observation, while it was obviously impossible to confirm practices in some of the areas, such as HIV/AIDS.

The responses from the comparison groups indicated their limited knowledge in this area. The topics in which people had some idea were those they had heard through campaigns or extension work by other agencies, including HIV/AIDS, immunization and food preservation. Even in these areas, their knowledge tended to be very basic. For instance, some mentioned that nurses came to their community to vaccinate children, but could not identify names of the diseases they are trying to prevent. In some communities, food preservation methods were introduced by agricultural extension officers. People had either no or very little knowledge about other

topics, including safe motherhood, family planning, nutrition and childcare, hygiene, safe drinking water, drug abuse and teenage pregnancy in the comparison communities.

#### Knowledge and practices in environment

Concerning environmental aspects, the learners showed fair knowledge and certain levels of practices in environmentally-friendly farming, tree growing, energy saving, fishing and environmental deterioration, though the practices seem to be limited overall and may need more rigorous reinforcement and long-term efforts to change behaviour and show greater actual impact on the environment. The most effective area seemed to be environmentally-friendly farming methods. All responded positively on the usefulness of new knowledge gained through the course, such as lining crops and cultivating less land with more intensive care and use of compost manure instead of chemical fertilizer.

The comparison group had some knowledge of environmentally-friendly farming (mainly due to agricultural extension officers), fishing and sand weaning. Some also had limited knowledge about bush fires but could not explain how they can be prevented and were not taking action to prevent them. They had almost no knowledge about tree growing and energy saving and very little on environmental pollution and keeping the environment clean. There was also less communal labor organised for environmental purposes than in the communities with the NFLP.

#### Knowledge and practices in civic awareness

In this category, the program seems to have substantial positive influence in several areas related to civic awareness, one of which is promoting community empowerment and participation. The majority of the interviewed learners indicated that the NFLP strengthened bonds among community members, which started organising communal labour to clean the surroundings and 'community talk'

to discuss how to improve their community situation. Here it is important to mention that the NFLP learners and their communities developed a sense of self-help. In some of the communities, the learners organised themselves to build and start primary schools, which were later supported by the government. In another community, the learners described that if the road is not good, people used to say it was the government's fault, but now they know that they have to start something themselves in order to bring about change.

The program is also effectively introducing gender equality and communication issues. Many have reported that the program helped improve understanding between spouses who now agree on topics such as spacing of child births and other household matters. In fact, after joining the NFLP program, 40% of the sample learners agreed that they have changed the household decision-making process, that is, either from husband only to husband and wife together, or strengthened communication in the process. On other topics, the learners had good knowledge about elections and taxation, but limited or no knowledge on child labour, land disputes and intestate succession laws.

In the comparison communities, people had some knowledge about elections, land disputes, child labour and taxation, but the depth of knowledge was very limited. People reported that they vote, but could not explain why, or some said it is good if all of them belong to one party. For taxation, people pay tax because officials come around to collect it. There was obvious difference in responses to the community empowerment and participation question between the Batch 8 and the comparison communities. People from the comparison communities either had no idea about community development or were involved in only communal cleaning.

#### Knowledge and practices in income generating activities

The study revealed that the program is helping participants through providing knowledge and skills on various livelihood

activities, how to form cooperatives, and how to borrow money from financial institutions to expand business. Ninety-one percent of the learners and 74% of the comparison group people were engaged in income generating activities. As described in the earlier section on occupation, the majority of them were in farming-related activities.

Ninety-seven percent of the Batch 8 participants confirmed that the skills and knowledge they gained from the NFLP helped either to start or to improve income generating activities, and they were able to give specific examples of how the program helped. Farmers gained knowledge on how to increase yield. Some also mentioned that they are choosing crops that are more profitable in the area, and learned harvesting and packaging skills to sell more effectively. Many had formed cooperatives and borrowed money from banks and Non-Government Organisations to expand their farms. The program also helped learners engaged in other income generating activities.

Among the Batch 8 participants from whom valid responses were able to be obtained to questions on their income and/or productivity (300 out of 329, or approximately 92%), 83% reported that they have increased their income and/or products after joining the program, 13% maintained the same level and 4% have less income than before. The responses were given in various forms, including (but not limited to) monthly income, quarterly income, yearly income and monthly profits. According to the respondents who gave specific figures in one of the various forms described above, the income/product increase varied from 1.3 times to 12.5 times, with an average 3.3-fold increase.

#### Knowledge and practices in education

The study revealed that the NFLP had significant impact on learners' own lifelong learning, their children's education and general awareness towards education in the community. Through NFLP, some have gained admission into formal school even up to university,

and interviewers were told that they are performing well or even better than regular learners.

On children's schooling, 75% of the NFLP learners with school-age children said their children were attending school before they participated in the program, and 98% of them are now sending children to school. According to the learners, they are also supporting children's education for longer periods of time to allow them to complete higher grades. Some communities are paying voluntary teachers to help schools. For the comparison groups, 54% of parents with school-age children said their children were schooling five years ago, and 49% of them are sending their children to school currently. The main reasons for not sending children to school were unavailability of schools in the community and financial reasons.

NFLP participants are more likely to help their children's study at home and encourage others to get education. Eighty per cent of the learners with school-age children reported that they closely support children's learning at home through asking children what they learned at school, reading with them, teaching them whenever they can, sitting together to review what they learned, ensuring that children do their homework, helping them set up a physical environment to study (for instance, lighting) or finding them somebody to tutor when necessary. Ninety-six per cent of the learners also assured us that they are encouraging others (family and community members) to get an education. Equivalent figures for the comparison groups were 69% helping children's study at home and 68% encouraging others to learn.

### **Lessons learned**

The lessons learned based on the findings of the study are as follows, some of which are also confirmed by other literature.

- (i) Adult functional literacy programs could be an effective means to provide learning opportunities for deprived adults (Carr-Hill 2001, Cawthera 2003). The participants, community leaders and members, facilitators and supervisors all strongly supported continuation and expansion of the NFLP in Ghana. The study found fair gains in literacy and numeracy skills by the participants, and significant impact on various development aspects to help improve their quality of living.
- (ii) Post-literacy programs, or intervention to ensure sustainability and usage of skills, are the key (Cawthera 2003, The World Bank 2001). Without such efforts, the learners could lose their literacy skills over time. The study suggests a need for semi-systematic post-literacy programs, such as reading circles and word games, as distinct from merely distributing supplemental readers to communities. Multi-organisational partnerships, particularly with local NGOs/CBOs may be helpful in this area.
- (iii) Provide good support in the selection, financing and marketing of income generating activities. Support for these activities is often the key to success of functional literacy programs, as it is closely linked to poverty reduction of program participants and their communities. Nurturing entrepreneurship among learners and program supporters, avoiding over-crowding of particular activities in the same area, and linking to micro-credit schemes would be effective here. Exploring partnerships with the private sector could broaden the horizon and opportunities for income generating activities.
- (iv) Ensure the basics: logistical arrangements and timely delivery of teaching and learning materials. This frequently faced problem can greatly harm learning and often seems to stem from inadequate communication and coordination among different implementers. A simple review of planning mechanisms and rigorous efforts to improve communication among actors seem to be a solution to ensure the timely delivery of the correct materials.

- (v) Promote curriculum, teaching and learning methods that help build knowledge based on learners' experiences (Archer & Cottingham 1996). For numeracy skills, programs should explore ways of achieving closer linkages between mental calculations, the form with which learners may be more familiar, and written arithmetic operations.
- (vi) Enhance partnerships among governmental and private organisations in implementing functional literacy programs. Particularly in terms of life/livelihood skills (for example, HIV/AIDS campaign, environmental issues, income generating activities), programs could considerably benefit from developing and enhancing partnerships with existing organisations (governmental and non-governmental) and their programs. It is encouraged that such partnerships be explored at both national and local levels.
- (vii) Strengthen monitoring and evaluation and learners' assessment (Easton 1997). Monitoring and evaluation has been a weak component in NFLP as in many other adult literacy programs around the world (Abadzi 2003). While aiming to improve the quality of learning, the study found that regular monitoring is also desired by the learners as a 'source of encouragement'.
- (viii) Explore the feasibility of offering more local and international language options. The study suggested there is demand to translate materials into more languages. The study also found that there is high demand by learners to start English after respective local language training. Considering the importance of mother tongue learning as well as mastery of language of wider use (UNESCO 1999), tapping into volunteers and exploring partnerships may help open more language options to adult learners.
- (ix) Make good use of radio and other mass media (Lafrin, Quarmyne, Ansre 1999). While piloted only on a very limited scale and geographical areas, the radio program in Ghana was

very popular and seemed effective in recruiting learners to the program and transferring key messages, such as importance of education, how to prevent HIV/AIDS and so on to large groups of people, including rural areas.

- (x) Consider problems external to education, such as better eye care. Eyesight problem is fairly common among adult learners in Ghana. NFED started the eye care initiative by procuring and distributing eyeglasses and is exploring some of the regional and district level initiatives, such as subsidies to commercially available eyeglasses. What is preventing effective learning may not necessarily be teaching and learning processes, but physical obstacles that require attention.
- (xi) Keep literacy programs un-politicised and promote communication. In some areas, community leaders presume or even propagate that NFLP is linked to political activities and, as a result, refuse to cooperate with the program. Similar phenomena can be observed in literacy programs and campaigns elsewhere. Politicised programs could suffer from sudden interruption or changes in leadership. To avoid such interruption of learning and promote sustainability, it is important to separate educational programs from political activities and to promote proper communication at different levels, from grassroots to national.

### **Conclusion**

The literacy and numeracy skills assessment exercise suggested that the NFLP learners are gaining significant reading skills and modest numeracy skills, while achievements in writing appear to remain weak. The findings also posed a question relating to sustainability of these skills, which calls for improvements in the post-literacy program.

Interviews, discussions and observations indicated significant impact of the program on various areas of development. Particularly, the

study revealed the program's strong impact on learners' own lifelong learning, awareness towards education in the community, and children's education, especially for girls. The program also seems to be contributing to improvements in the income generating activities of participants. In addition, the learners gained knowledge and skills in health, environment and civic awareness areas.

In many parts of the world, for those who missed formal education for reasons such as poverty and lack of access to schools, adult functional literacy programs are one of the rare entry points to re-open the doors to learning. In fact, some of the earlier NFLP graduates have moved on to secondary or even tertiary level education. The study confirmed that, while their voices may be small, such programs are very much needed and appreciated by the disadvantaged people, and that they can be an effective means of offering life and livelihood skills to help people improve their quality of life.

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