COMMUNITY-BASED ACTIVITY OF NURSERY RAISING FOR IMPROVING THE LIVELIHOOD OF SMALL SCALE' FARMER IN DISTRICT KURRAM, PAKISTAN

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ABSTRAK

Peningkatan pendapatan melalui teknik pembibitan berbasis masyarakat, pemeliharaan pembibitan, dan pemeliharaan di daerah tersebut adalah Intervensi baru yang dilakukan di desa Kurram. Di desa-desa terpilih, petani miskin dan layak dipilih untuk melaksanakan kegiatan untuk meningkatkan mata pencaharian penerima manfaat yang layak dan membutuhkan yang dipilih dalam Rapat Masyarakat Berbasis Luas (BBCM) untuk kegiatan Pembibitan. Sebanyak 124 penerima manfaat di desa Kirman Mamuzai, Kirman Mata, Shakh, dan Syaikh Dawlat Khel diidentifikasi untuk 24 pembibitan yang berbeda sebagai sampel acak sederhana. Data dianalisis secara deskriptif dalam uji-t satu sampel dalam sesi pelatihan yang berbeda untuk mengelola pembibitan yang sesuai. Hasil penelitian menunjukkan bahwa kegiatan pembibitan dapat berkelanjutan untuk pengembangan kewirausahaan. Permintaan akan tanaman buah-buahan semakin meningkat. Produk pembibitan tidak lagi terbatas pada taman dan kebun besar. Itu telah masuk ke gedung tinggi. Perkebunan Walnut, Delima, Persik dan Aprikot, dan sebagainya. Permintaan yang tinggi diamati selama fase penilaian proyek. Baik spesies lokal maupun introduksi, Bibit Pembibitan memiliki kelangsungan hidup yang lebih baik daripada bibit yang ditanam langsung di distrik Kurram. Jadi, bibit pembibitan menjadi bahan tanam untuk perkebunan merupakan sumber pendapatan yang tinggi.

Keywords: Berbasis Masyarakat, mata pencaharian, persemaian

ABSTRACT

Income generation through community-based Nursery raising technique, Nursery raising, and maintenance in the area is a new Intervention being carried out in the villages of Kurram. In selected villages, poor and deserving farmers were selected to execute the activity to improve the livelihoods of the deserving and needy beneficiaries selected in the Broad-Based Community Meeting (BBCM) for Nursery Raising activity. A total of 124 beneficiaries in Kirman Mamuzai, Kirman Mata, Shakh, and Shaikh Dawlat Khel villages were identified for 24 different nurseries as simple randomized sampling. The data were analyzed descriptively in a one-sample t-test in different training sessions to manage the nurseries accordingly. The result showed that nurseries activity could be sustained for developing entrepreneurship. There has been an increasing demand for fruit plants plantation more. Nursery product is no longer restricted to large parks and gardens. It has entered into a high rise. Walnut, Pomegranate, Peach and Apricot plantation, etcetera. Heavy demand is observed during the assessment phase of the project. Whether local or introduced species, Nursery Seedlings have better survival than seeds sown directly in the

Kurram district. So, nursery seedling becomes the planting material for plantations is a high source of Income.

Keywords: Community based, livelihood, nursery

INTRODUCTION

Numerous projects have been carried out among poor populations to promote small business development to improve their overall livelihood (*Hayton et al., 2002)*. The study was intended to understand local people's adaptive capacity and determine how it could be enhanced. How far has this activity helped local livelihoods and promoted other social benefits for its participants (Bowles and Gintins, 2002). Nurseries are places where seedlings are grown for planting (Westlund and Bolton, 2003). In the Nursery, young seedlings develop from planting in such a way that they can withstand the harsh field circumstances. A fruit nursery is a secure location where native wild fruit seedlings are grown (Hickman and Slocombe, 2003). Since choosing healthy, disease-free species that grow in the wild or on farms, such as pomegranate, peach stone, walnut, and so on. High-quality fruit trees with robust, local roots will be produced by the nurseries. Establishing fruit nurseries in the newly merged district, Kurram has excellent potential for reducing short-term food insecurity and enhancing the long-term food security of the project participants (*Onyx and Bullen, 2000)*. The friendly climate is also why the locals tend nursery raising. The proposed activity will enable the project participants to initiate Nursery raising with their adjacent cultivable piece of land (*Shahbaz et al., 2014)*. Increase the earning for household consumption interest of the community to engage such kind of activities. It is possible to provide favorable growth conditions (*Shah and Shahbaz, 2015)*. Significantly, nursery methods are advantageous for preserving physiological processes in seedlings, resulting in a high capacity for development and survival after out planting. and good for the environment, release oxygen into the atmosphere, absorb carbon dioxide, provide food for wildlife and human (Mort, 2003).

The Improving Livelihoods and Enterprise Development Project is a World Food Program (WFP) funded initiative implemented by Foundation for Rural Development (FRD), a humanitarian organization, to assist

those communities affected by the conflict in District Kurram. Finally, the initiative intends to raise the incomes of individuals most impacted by the war, who live in the Upper, Lower, and Central Tehsils of Kurram in Khyber Pakhtunkhwa (KPK), by connecting them to markets with economic growth potential. The end result will be the establishment of a solid foundation for economic development through restored livelihoods and expanded employment and enterprise opportunities through value chain development, agriculture and livestock development, nursery raising, and capacity building training pieces in conjunction with WFP's commitment to the people of the affected regions of "building back better."

During the field visits, the FRD (Foundation for Rural Development) team has identified scope for 24 nurseries comprising of 10 nurseries of Peach Stone, 9 Walnut, and 4 Pomegranate at the villages of Upper Kurram. A total of 124 participants shall be engaged in the nursery raising activity for five cycles. Combined Nurseries modalities aim to create peace, harmony, and social cohesion among the parties; secondly, it increases production through shared work and collective efforts. In this way, the 5 Nuclear families (participants) are grouped (selected by the village VDC with mutual consensus) and will work collectively in the same Nursery. One of the 5 participants has provided land for Nursery establishments free of cost and without claiming any extra benefits. All participants will equally bear the minor costs of Nursery management tools and other pre-requisites. The benefits will be equally divided among the parties/participants (shareholders), as mentioned in the ToP documents between FRD and Participants.

The project's purpose is to recover community-based livelihoods and resilience building for the affected food insecure community of District Kurram under the country's strategic plan to identify and promote strategies for sustainable management of resources. The project was executed by an interdisciplinary partnership with World Food Program (WFP).

RESEARCH METHOD

Selection of the beneficiaries

The proposed participants for the execution of the nursery raising activity were engaged for five cycles. Each cycle is comprised of 12 days, for which they

will get an incentive of 7500 PKR (A total of 37,500 for five cycles).

Training Sessions

Earlier, the villages of Upper Kurram members did not know much about Nursery raising maintenance hold. The participants were taken to execute at field nurseries for an exposure trip, in Upper Kurram villages field. They visited nurseries and were taught about land preparation, seed sowing, safety, and nursery maintenance. Members were convinced after training that they could even operate a nursery..

The resource person from Agriculture Department, Kurram, was engaged for one day of joint sessions with the Livelihood Officer from CP (Cooperating Partner). The training sessions comprises of various topics concerning nursery raising.

Preparation of lands

Such as plowing and overturning the soil, incorporating good compost or farmyard manure into the bed, harrow to break the soil clods into smaller mass and incorporate all the residues and plant remains, leveling the field and making of proper bunds maintaining the row to row distance of 2 feet.

The visit comprises the three villages of Upper Kurram, including; Kirman Mamuzai, Kirman Mata, and Shaikh Dawlat Khel, where the activities of nurseries took place. The sessions proceed by the Livelihood Officer with the introduction. The livelihood Officer introduced the concerned trainer and highlighted the topics of the sessions. The trainer presented a welcome note to participants of the nurseries for their active and in-time participation in the sessions. The introduction session lasted for a moment; the trainer added, "Raising of Nurseries is highly a commendable step taken by Foundation for Rural Development (FRD) and World Food Program (WFP) Organizations. These sessions will enhance the confidence of the participating community members by involving them in the management processing of their nurseries raising".

Study Area: Raising of Nurseries was conducted at Upper Kurram villages such as Kirman Mata, Kirman Mamuzai, Shakh, and Shaikh Dawlat Khel.

Weather and Climate

During the summer, the District Kurram stays comfortable; however, in the winter, the minimum temperature is generally below freezing, with mercury

occasionally falling below -10 degrees Celsius (Bureau report January 26, 2010). The weather charts website "Climate-Charts," which uses World Meteorological Organization data, ranks Parachinar as the fourth-coldest locality in Pakistan (Casey and Joseph, 2003).

Winter snowfalls occur on the valley's northern and western ridges. The spring and summer seasons see the most precipitation. Typically, autumn and winter are dry. Kurram Agency is recognized across Pakistan for specific agricultural goods due to its climatic conditions, such as peanuts, beans, tomatoes, and coarse rice. Wild olive trees, as well as other trees and plants, may be found in abundance. Maple (chinar) is the main identity of Kurram Agency, particularly Parachinar.

Number/Discipline of Nurseries and their participants:

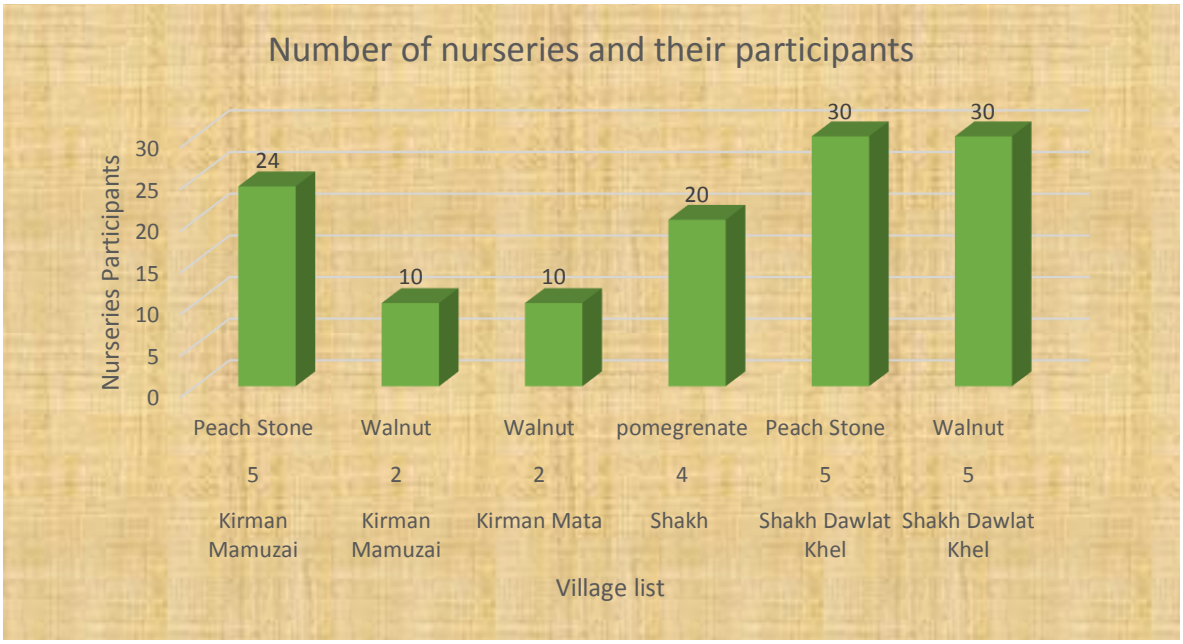
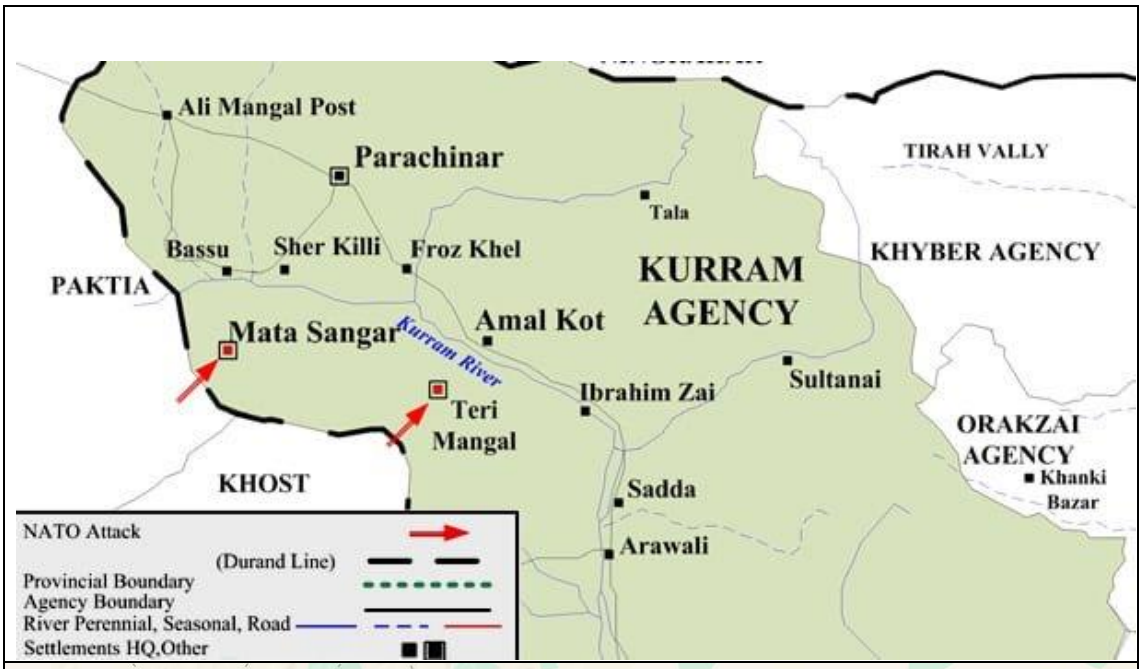


Figure 2. Number of Nurseries and their participant

Site Selection

Upper Kurram regions were chosen for nursery rearing sites based on water requirements, location, and ease of transfer of seeds.

Figures 2 & 3. Shows the area of Upper Kurram.



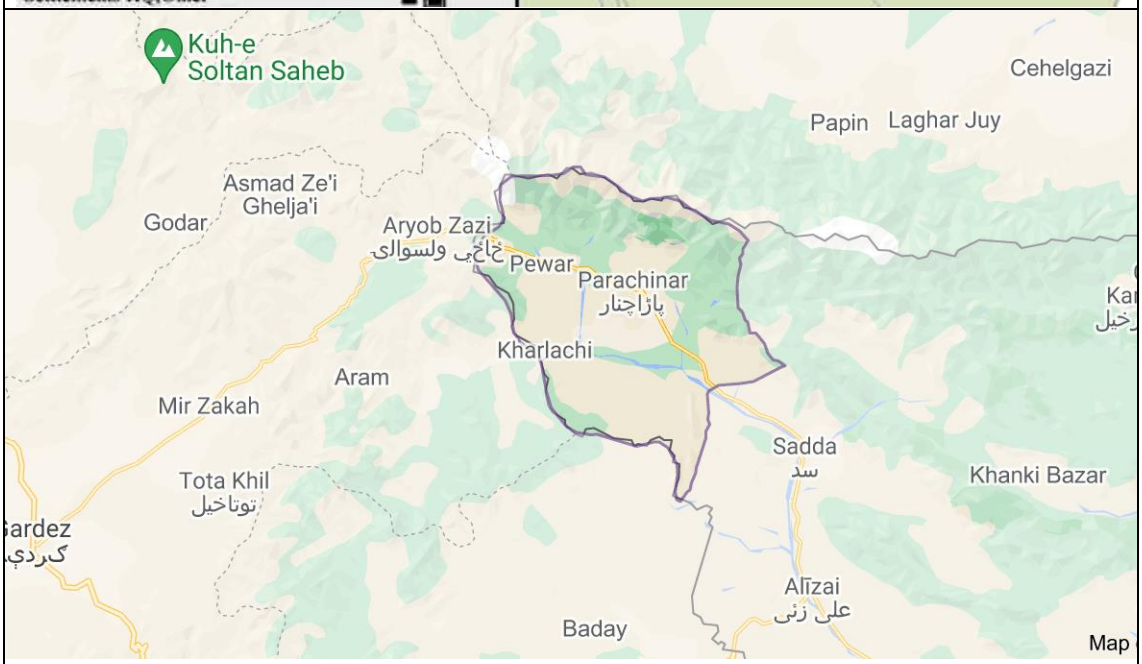


Figure 2. Area of Upper Kurram

Figure 3. Field Location

Field and soil

The experimental field's soil type was sandy loam. The nursery was being watered with high-quality water from a neighboring irrigation channel and a communal Bore well.

Seeds/Cuttings used

A high-quality seeds of Walnut, Peach, and pomegranate cuttings were

taken from the Research Stations of Wanna, DI Khan, and Swat. The quality and viability of the seeds and cutting have been verified by the resource person of Agriculture Department Kurram.

Land preparation:

The field was manually leveled. Hand leveling, plowing and overturning the soil, incorporating good compost or farmyard manure into the bed, harrow to break the soil clods into smaller masses and incorporatin. All the residues and plant remains, leveling the field and making proper bunds while maintaining the row-to-row distance of 2 feet were all used in the final leveling.

Data Analysis

Data analyzed used descriptive statistics from the nurseries population of 124 farmers taken as simple randomized sampling to become 24 samples to analyze the normality assumption of distribution. Then data analysis used a one-sample t-test to prove that understanding about nursery livelihood's value as 75 test result points after training.

RESULTS AND DISCUSSION

Descriptive Analysis

Descriptive statistics described variable research characteristic generally. The farmer understanding had minimum value at 70 and maximum value at 85, while the average was 77.98. A higher value than hypothesis as 75.

Table 1. Descriptive Statistics of Samples

Evaluation		Statistic	Std. Error
Mean		77.98	0,75
95% Confidence Interval for Mean	Lower Bound	76.42	
	Upper Bound	79.55	
5% Trimmed Mean		78.02	
Median		78.30	
Variance		13.08	
Std. Deviation		3.62	
Minimum		70.00	
Maximum		85.00	
Range		15.00	
Interquartile Range		5.00	
Skewness		0.01	0,48
Kurtosis		-0,08	0,94

Table 2. Test of Normality of Training Evaluation

Kolmogorov-Smirnov[a]			Shapiro-Wilk		
Statistic	df	Sig.	Statistic	df	Sig.
,100	23	,200*	,978	23	,873

Test of normality output indicated Kolmogorov-Smirnov and Shapiro Wilk Sig. were 0.200 and 0.873, they were more than p = 0.05. That meant the nursery training evaluation had normal distribution. However, normality assumption has met. Scattered Diagram also indicated that the data distribution was fulfil normality assumption (Figure 3).

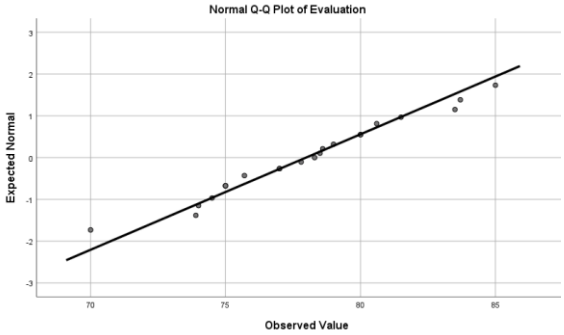


Figure 3. Scatter Diagram of Normality

One-Sample Statistics

	n	Mean	Std. Deviation	Std. Error Mean
Evaluation	23	77.98	3.62	0.75

One Sample Statistics indicated descriptive statistics value as n = 23 nursery farmers, mean = 77.98, Standard Deviation = 3.62 and standard Error mean = 0.75. It meant the sample was representative.

Table 4. One Sample Test on Nursery Farmer Understanding

Test Value = 75					
				95% Confidence Interval of the Difference	
T	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
3,955	22	,001	2,98261	1,4185	4,5468

Based on One-Sample Test, known that degree of freedom was 22, t value = 3.955 more than t table = 1.321 and Sig. (2-tailed) was 0,001 less than p = 0.05. Those meant that the average evaluation result was more than 75. It was a good result for farmer field education regarding nursery technique to increase livelihood income.

Nursery care and upkeep in community-based villages is part of a novel intervention being implemented in Upper Kurram. The majority of residents in these communities are tiny marginal farmers and landless individuals to improve the community's livelihoods had identified poor and deserving participants to execute the

nurseries (*Lyons, 2002)*. The local communities were willing to continue this nursery activity. Nursery raising is a source of income for many landless and impoverished individuals. Community members participated in large numbers for the execution of the activity. Seedlings must be raised in a nursery for a variety of reasons. It is feasible to cultivate and sustain a large number of plants per unit space.. Better care and management can raise Tiny and expensive seeds more effectively. When seeds are planted in seedbeds, their germination rate rises, as does the vigor of the seedlings. Manipulation of plant growth conditions has become simple (Maldifassi, 2001). By choosing strong and healthy seedlings, better and more uniform crop development may be achieved in the main field. Off-season seed sowing is now allowed, leading in higher returns. Because of superior management, the seed required of nursery produced crops is less than that of direct seed planting of the same crop. Sowing seeds in a nursery gives for more time in the main plot for preliminary tillage. If necessary, harvesting of the preceding crop might also be postponed. In a nursery, you may manage insect pests, illnesses, and weeds.

Social learning via capacity development has also been a successful technique for bridging the technical and management capacities of village livelihood/entrepreneurs and enhancing self-confidence In the nursery raising activity (Shah, 2010). Training workshops and talks at the community level, arranged directly for Upper Kurram village residents by the Livelihood Officer and field teams, have helped enhance their levels of information, awareness, and knowledge. Success varies by village and is determined by the type of training, the number of training sessions attended, and the quality of the training.

CONCLUSION

The average evaluation result was more than 75. The Farmer's field education throughout community-based Activity could improving the livelihood regarding nursery technique Small Scale' Farmer in District Kurram. The better understanding about raising nurseries technique has obtained.

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