



Appraisal of rural livelihood and development programs: Evidence from select South Asian economies

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Abstract

More than 60% (2.2 billion) of the population in Asia live in rural areas. Rural families get livelihoods through agriculture, rural labor market, self-employment, and several rural households migrate to towns, cities in search of livelihood. Agriculture has a prominent share in livelihood across the Asian countries, but several other countries have a substantial share of the rural non-farm sector also. World Bank Development Report 2008 shows that the share of non-agricultural income in rural areas is high in South East Asian countries, with Indonesia and Vietnam having 57%. The share of self-employed in non-agriculture is the highest in Vietnam and Indonesia. Many Asian economies have adapted actions like livelihood diversification programs and integrated livelihood generation programs. These are generally an extension of development policy that tries to eradicate structural causes of poverty and food insecurity. Social protection programs are also crucial for reducing the risks faced by households due to climate change. Bangladesh, Nepal, and India are instrumental in launching programs like food for work, public work, and employment guarantee schemes for poor rural households while Sri Lanka, China, and the Philippines are strengthening their rural livelihood programs using information and communication technologies. This paper analyzes the efficacy of prominent rural livelihood programs by congregating pieces of evidence from select Asian economies. The paper briefly reviews five major rural development programs including Mahatma Gandhi National Rural Employment Guarantee Scheme of India, The Afghanistan Rural Enterprise Development Program (AREDP) of Afghanistan, The Employment Generation Program for the Poorest (EGPP) of Bangladesh, The Rural Livelihood Project (RLP) of Bhutan, and Rural Access Program of Nepal. An in-depth desktop review of relevant policy documents, policy implementation processes, project documents, and progress reports have analyzed, and information thus generated was synthesized to identify critical issues to provide concrete recommendations for elaboration and revision of relevant policies.

Keywords: Appraisal, Livelihood, development, Evidence, Population, Rural

Introduction

Asia is the region of the future. Despite having one of the lowest rates in gender equality and the creation of livelihood, Asian economies are adding up at least 15 million people to its labor force every year^[1]. A recent report by World Bank^[2] suggests in the next two decades, Asia will contribute about 40 percent of the total new entrants to the global working-age (15–64) population. Asia did succeed in immensely reducing the share of people living in poverty (that is, below USD 2 a day) over the past two decades, with rural China achieving the most substantial gains in poverty reduction, decreasing the headcount ratio by 67 percentage points from 1990 to 2012^[3]. No doubt it is a land of abundant human resources and opportunities and dreams, but its jobless growth, rural unemployment, illiteracy, poverty, lesser access to drinking water and sanitation are some challenges that the region should focus on realizing its potential and aspiration of people. Asia is a home of the rural population, more than 60% of its population lives in the rural area, but their contribution to their GDP is almost negligible. The rural masses are weaker, and their accesses to amenities are extremely limited. Table 1 shows the economic classification and groupings of all Asian economies. Countries' classification based on gross national per capita income (2015) is calculated through Atlas, World bank. Those countries having less than USD 1025 per capita income are placed in lower-income groups, while countries are having a range of USD 1026 to USD 4035 is placed under middle-income groups and countries

having income greater than USD 12476 are placed under upper-middle-income group.

The paper is organized as follows. The introduction is followed by the section of the brief introduction of the rural scenario of select Asian economies. Section three is devoted to explaining various rural livelihood and development programs in South Asia. Furthermore, the last section provides a summary and suggestions to make rural development programs more meaningful in developing countries. The broad objective of the paper is to prepare an in-depth assessment report of various interventions aimed at the rural livelihood of selected Asian economies. The specific objectives are as follows:

1. Understand the rural dynamics and population concentration in South Asia and East Asia and the Pacific.
2. Examine various rural livelihood and development programs launched for the rural population in select South Asian economies.

The effectiveness, efficiency, sustainability, and equity of the impacts of these rural livelihood policies, strategies, and interventions were assessed from the workings and implementation of the policies and strategies, to provide evidence-based information that is credible, reliable, and useful. Data were obtained through the desktop review of relevant policy documents, policy implementation processes, project documents, and progress reports. Finally, the paper identifies the gaps in the interventions concerning

activities directed towards livelihood generation of rural masses and provide recommendations and innovative ideas

to make rural livelihood and development programs more inclusive and more effective

Table 1: Economic classification and groupings of Asian Economies

Low-income economies	Lower middle-income economies	Upper-middle-income economies	High-income economies
Afghanistan, Democratic People's Republic of Korea, Nepal.	Armenia, Bangladesh, Bhutan, Cambodia, India, Indonesia, Kiribati, Kyrgyzstan, Lao People's Democratic Republic, Federated States of Micronesia, Mongolia, Myanmar, Pakistan, Papua New Guinea, Philippines, Samoa, Solomon Islands, Sri Lanka, Tajikistan, Timor-Leste, Tonga, Uzbekistan, Vanuatu, Viet Nam.	American Samoa, Azerbaijan, China, Fiji, Georgia, Islamic Republic of Iran, Kazakhstan, Malaysia, Maldives, Marshall Islands, Palau, Russian Federation, Thailand, Turkey, Turkmenistan, Tuvalu.	Australia, Brunei Darussalam, French Polynesia, Guam, Hong Kong, China, Japan, Macau, China, Nauru, New Caledonia, New Zealand, Northern Mariana Islands, Republic of Korea, Singapore.

Source: World Bank Atlas

People living in poverty often live in rural areas. In China, the share of the rural population living in poverty in 2012 was 13 percent, much higher than the 0.4 percent in urban

areas. In India, the poverty figures showed 24.8 percent in rural areas and 13.4 percent in urban areas in 2011^[4].

Table 2: Rural Population (% of total population) and Annual growth of selected Asian Economies

Countries	1960		2016	
	Rural Population (% of total Population)	Rural Population Growth (Annual %)	Rural Population (% of total Population)	Rural Population Growth (Annual %)
South Asia				
Afghanistan	92	1.6	73	2.1
Bangladesh	95	2.7	65	-0.1
Bhutan	96	2.3	61	0.1
India	82	1.9	67	0.6
Maldives	89	2.6	53	0.2
Nepal	97	1.5	81	0.7
Pakistan	78	1.9	61	1.2
Sri Lanka	84	2.5	82	1.1
East Asia and Pacific				
Brunei Darussalam	57	1.3	22	0.0
Cambodia	90	2.6	79	1.3
China	84	-1.6	43	-2.1
Fiji	70	2.6	46	-0.1
Indonesia	85	2.4	46	-0.4
Japan	37	0.0	6	-7.0
Korea, Dem. People's Rep.	60	0.5	39	0.0
Korea, Rep.	72	1.8	17	-0.2
Malaysia	73	2.3	25	-1.2
Mongolia	64	-0.4	27	-1.2
Myanmar	81	1.7	65	0.1
Papua New Guinea	96	1.7	87	2.0
Philippines	70	3.0	56	1.7
Singapore	0	-	0	-
Thailand	80	2.8	48	-2.1
Tuvalu	84	1.6	39	-1.4
Vietnam	85	1.6	66	0.1

Source: Computed from World Bank Global Development Data (January 2018)

Table 2 shows the rural population (% of total population) living in the select Asian economies. It also shows the growth of the rural population (Annual %). At present, 67 % of people in South Asia and 42% of East Asia and Pacific live in rural areas. In 1960 these percentages used to be 83% and 78% for South Asia and East Asia Pacific, respectively.

In the 55 years, 16% population moved to urban areas in South Asia. Sri Lanka has no change at all concerning 1960 estimates while Bhutan registers maximum rural-out-migration with its massive 35% less population living in rural areas today. Bangladesh is another country facing rapid rural-out-migration. Today 65 % of people in Bangladesh live in rural areas, 30% down from 95% in 1960. India, Pakistan, and Nepal too facing steady rural-out-

migration. Nevertheless, still, the majority of people live in rural areas in South Asia. On the contrary, dependence on the rural areas is steadily decreasing at a rapid pace in the East Asia and Pacific region that is evident, as shown in table 2. China had almost halved its rural population from 84% in 1960 to 43% in 2016. Some countries registered identical phenomena, and they include Thailand, Brunei Darussalam, Fiji, Mongolia, and Indonesia. Japan and South Korea have the lowest population living in rural areas. Climate change is a significant challenge for agriculture, food security, and rural livelihoods for billions of people, including the poor in the Asia-Pacific region^[33]. The health of terrestrial ecosystems intimately impacts rural

livelihoods. The drivers of land-use change vary between subregions, and degradation of terrestrial ecosystems entails forgone benefits in terms of the multiple services provided by terrestrial ecosystems, including for rural livelihoods, disaster risk reduction, water supply, food security, and carbon sequestration [6].

Globally, large-scale acquisitions of land by overseas investors are concentrated in South-east Asia and Africa. The disadvantages of these investments outweigh the benefits to local communities, among other impacts. Some

forms of agricultural investments—notably largescale investments in land concentrated in South-East Asia and Africa [7]. can entail significant risks, reducing access to natural resources and cause the loss of livelihoods, especially where land rights are unclear, and governance is weak [8]. Enclave projects with few links to the surrounding rural economy and investments that shift labor from traditional livelihood activities to the production of non-edible or export crops may also present significant risks to food security and livelihoods [9].

Rural Development Programs in select South Asian economies

Table 3: A brief overview of rural livelihood programs launched by select south Asian economies

Country	Name and Details of the intervention	Agencies involved	Focus
India	Mahatma Gandhi National Rural employment Grantee scheme	<ul style="list-style-type: none"> ▪ Federal Government ▪ State governments 	Right based program. One hundred days guaranteed work program to an adult member of rural households in a year.
Afghanistan	The Afghanistan Rural Enterprise Development Program (AREDP)	<ul style="list-style-type: none"> ▪ Ministry of Rural Rehabilitation and Development (MRRD) ▪ World Bank 	Micro-enterprise sector and its strategic linkage with high growth drivers, particularly Small Medium Enterprises (SMEs) and large agri-businesses, for sustainable employment and income generation in rural areas.
Bangladesh	Employment Generation Program for the Poorest (EGPP)	<ul style="list-style-type: none"> ▪ The Ministry of Disaster Management and Relief, Government of Bangladesh. ▪ International Development Association (IDA) 	Enhancing food security, income & productive capacity, and mitigation of the sufferings of the destitute people
Bhutan	Rural Livelihood Project (RLP)	<ul style="list-style-type: none"> ▪ Royal government of Bhutan ▪ Helvetas 	Enhancing sustainable rural livelihoods, conservation of forest and water resources, and enhancing food security. Supports farmers in remote areas to make the best use of new market opportunities that are created through improving road access and an upcoming hydropower project.
Nepal	Rural Access Program	<ul style="list-style-type: none"> ▪ Government of Nepal ▪ UK Department for International Development (DFID) 	Addresses a lack of access and social exclusion through rural road construction that targets the poorest and most disadvantaged groups in Nepal. facilitating access to economic prospects through vocational training, revenue generation activities, and developing economic infrastructure

Mahatma Gandhi National Rural Employment Guarantee Act -India

Mahatma Gandhi National Rural Employment Scheme or often referred as Act (MGNREGS / MGNREGA) is perhaps the largest and most ambitious social security and public works Programme in the world [10]. The Act was notified on September, 7th 2005 and implementation began in February, 2nd 2006. The Act notified on September, 7th 2005, and implementation began in February, 2nd 2006. The words 'Mahatma Gandhi' was prefixed to the National Rural Employment Guarantee Act as an amendment. MGNREGS implemented in three phases covering a total of 625 districts of the country [11]. Following table shows coverage and districts notification in phase wise

Table 4: Phase wise coverage of districts under MGNREGS

Phase	I	II	III	Total
No. of Districts Notified	130	200	295	625

The Phase I started with effect from February 2006. In a financial year 2007-08, Phase II became operative and phase III covering all remaining districts notified with effect from April 2008. Barring exception to the entire urban districts, Mahatma Gandhi NREGS is fully operative in the country

since April 1st 2008. All the states have notified their respective Mahatma Gandhi NREGS Schemes, as per the requirement of the Act. The Scheme formulated by the State Government, stipulated to provide for the minimum features specified in Schedule I of the Act. Persons employed under any State Scheme made under the Act shall be entitled to minimum facilities listed in Schedule II of the Act. The Schemes prepared by the state should be consistent with the amendments made, from time to time, to the Act and its Schedules [12].

Under the Act, every rural household whose' adult member is ready to take up unskilled manual job has legal right to demand 100 days of employment during the financial year within a radius of five kilometers of the village where the applicant resides at the time of applying

Till September 2019, Mahatma Gandhi NREGS has 12.22crores active workers and benefitted 4.43 crores rural households. The scheme has generated 170.6 crores person-days and created 4.68 crores assets; out of it 1.63 crores are individual category works. The scheme is increasingly relying on direct benefits transfer and real time data management system. Mahatma Gandhi NREGS has a positive impact on labour force participation, and this impact is driven by a significant impact on the female

labour force participation ^[13]. Capacity of women to earn independently through the Mahatma Gandhi NREGS has increased their say in household affairs. Women were found to be more assertive, and their voices are now being heard more often ^[14]. However, the large number of women workers under Mahatma Gandhi NREGS has minimal rights to productive assets, and this contributes to a persistence of social exclusion on a large scale ^[15].

Mahatma Gandhi NREGS also reported to have positive effects on spending, health outcomes and children's education. The income from Mahatma Gandhi NREGS made very significant contribution to children's well-being such as reducing hunger, improving health and education ^[16]. The workers are able to spend considerable amount on the education and health of their children ^[17]. Increase in income has resulted in increase in power to purchase food grains, other essential commodities, and to access education and health care ^[18].

One of the main purposes of the Mahatma Gandhi NREGS is to provide employment in the agricultural lean season when agricultural work is limited, the lean season will affect all the people employed in farm and off-farm related activities ^[19]. As per act it is well designed right based framework and for this very reason the Scheme becomes distinct to the previous employment generation and rural livelihood security schemes. The total employment generated under Mahatma Gandhi NREGS is clearly much larger than earlier employment programmes such as SGRY and NFFWP ^[20] and the number of person days generated per year among the Mahatma Gandhi NREGS is better compared to the earlier programmes ^[21]. The scheme also contributed in creating sustainable assets. There has also been an increase in village infrastructure as a result of Mahatma Gandhi NREGS, which has in turn led to increased agricultural productivity ^[22].

The Afghanistan Rural Enterprise Development Program (AREDP) - Afghanistan

Seventy-five percent of the population in Afghanistan live in rural areas where Agriculture is the only and primary source of income. Devastated by conflicts and war, countries economy is in very bad shape. Afghanistan has the highest unemployment among south Asian countries. However, the country has a significant proportion of youth that can lead the country's economy towards peace and prosperity. Afghanistan's demographic dividend cannot be realized unless and until young people are correctly skilled and business opportunities created. Lack of formal credit is another issue that the rural population of Afghanistan is coping with. To enhance employment opportunity and provide skill training to the rural youth, a program The Afghanistan Rural Enterprise Development Program (AREDP) with the assistance of World Bank and other multinational donor agencies is designed and implemented in 2010. The main objectives of the AREDP are to surge employment opportunities, income of rural masses, and the sustainability of targeted local enterprises. The major thrust was given on Community-led Enterprise Development Small and Medium Enterprise Development. These two components are providing knowledge-based and financial services to community-based rural enterprises and business advisory and financial services to rural SMEs, respectively. The program has been successful in generating community groups for the facilitation of microfinance and access to formal credit. The saving proportion has been increased, and there was more than a 30% increase in employment generation through small and medium enterprises. Those small and medium enterprises which received bank credits recorded 50% more net revenues ^[23]. The following table presented significant impact outcomes from the financial year 2010-11 to the financial year 2014-15.

Table 5: An overview of community- based enterprise Development under AREDP

Description	Female	Male	Total	Female %
Saving groups	3944	4214	8158	48.3451826
Members	44518	46299	90817	49.0194567
Enterprise groups	1107	930	2037	54.3446244
Savings (Afs Millions)	103	115	218	47.2477064
No. of borrowers	11892	8962	20854	57.0250312
No. of loan issued	15877	10706	28583	55.5470035
Loan disbursed (Afs Millions)	80	92	172	46.5116279
Graduation from micro to small enterprise	16	16	32	50

Source: Ministry of Rural Rehabilitation and Development (MRRD) ^[24]

The program has generated a total of 8.1 thousand saving groups, out of which 48% were female saving groups. The total members in saving groups across rural Afghanistan were 90.8 thousand, and the proportion of female members was 49%. 42.1 thousand Male saving groups and 39.4 female saving groups saved a total of 930 Afs millions and 1107 Afs millions, respectively. The saving among the female groups were considerably high than the male counterpart. A total of 28.5 thousand loans were issued to the 20.8 thousand borrowers. The female proportion in the quantum of borrowers and loan issuance was 57% and 55%, respectively. A total of Afs 172 million amount as a loan disbursed from which Afs 80 million (46.5%) provided to women borrowers. The program successfully facilitated the transition of micro to small enterprises.

Employment Generation Program for the Poorest (EGPP) – Bangladesh

Propel of unemployment, especially rural unemployment, is a foremost emergency for a developing country like Bangladesh. Countries' rapid increasing population and its limited source of job availability have posed a big challenge. Employment Generation Programme for the Poorest (EGPP) is one of the significant safety-net programs in Bangladesh which is being implemented by the Ministry of Disaster Management and Relief (MoDMR) and is supported by the World Bank ^[25]. The goal of the program includes enhancing food security, income & productive capacity, and mitigation of the sufferings of the destitute people. The scheme has considerable similarities with India's Mahatma Gandhi National Rural Employment

Scheme as it aims to provide temporary employment to the rural poor for 80 days in a financial year and to generate rural infrastructures through various construction projects under the program. Likewise, Mahatma Gandhi NREGS also aims to provide 100 days of employment and focuses on creating rural assets.

Furthermore, MGNREGA and EGPP, both provisions to provide one third of its total employment to the women job-seekers. The EGPP, since its inception, has generated more

than 30 million person-days every year. One interesting component that is different from the India's Mahatma Gandhi NREGS is; the EGPP mandates every rural households to save 12.5% of their total earning (TK 200) every day. This amount is locked in the bank accounts of beneficiaries and available to withdraw only on the first day of the next financial year. Thus, EGPP has channelized huge sum of savings and encouraged rural households to save more.

Table 6: Performance evaluation of EGPP

Determinant	Value
Number of beneficiaries	772357
Number of person-days generated	30.35
Female beneficiaries	36%
Beneficiaries under Safety Nets programs	772357
Female beneficiaries under Safety Nets programs	279363
Beneficiaries of Safety Nets programs - Cash-for-work, food-for-work and public works (number)	772357
% of wage costs allocated to high poverty areas	45%
Percentage of beneficiaries from households owning less than 0.5 acres of land and are engaged in manual labor	94.1 %

Source: World Bank project operation – Project Development Objective Indicators ^[26]

By the 31st December 2010, 19.97 lakhs households were registered in EGPP, while by May 28, 2014, a new 7.72 lakh beneficiaries were registered under the program. Whereas, the total number of person-days generated under the scheme by the end of 2010 was 90 million, which was added by more than 30.35 million by May 2014. The percentage of women beneficiaries under the program was 36%. Additionally, The EGPP provided safety-net to 7.72 lakhs beneficiaries, out of which 2.79 lakhs (36.1%) were women beneficiaries. A total of 45% of wage costs allocated to areas with 40% or higher poverty rates under the EGPP. The program was successful in targeting the vulnerable sections of the society as 94.1 % of beneficiaries are engaged in manual labor, and 100 percent beneficiaries owned less than 0.5 acres of land ^[27].

Rural Livelihood Project (RLP) – Bhutan

Like all south Asian countries, Bhutan is mainly an agricultural country, and almost 85 percent of its population lives in the rural area, and about 75 percent of the labor force is engaged in the agricultural sector.

Nevertheless, unlike other South Asian economies, Bhutan has achieved significant reduction in rural poverty levels. According to World Bank report, in just over five years, from 2007-2012, the number of poor in Bhutan reduced by almost half - from 23 percent in 2007 to 12 percent in 2012 while other south Asian countries remains a home to the largest number of poor in the world with whooping 21 percent of its rural population living below global poverty line. Bhutan's 10th Five Year Plan (2008-2013) addressed underlying objective to reduce rural poverty. The plan proposed expenditure of 3.63 billion Ngu, equivalent to approximately \$80 million. Its specific objectives comprise Enhancing sustainable rural livelihoods, conservation of forest and water resources, and enhancing food security ^[28]. A landlocked and remote mountainous country, Bhutan is in a state of evolution. More and more Bhutanese have access to education and consequently educated youth of the country are in search of jobs. With swiss corporate, Helvetas' support, Rural Livelihood Project is facilitated by the Royal government of Bhutan to help young women and men to acquire vocational training with job prospects. In

addition, the project intends to shore up civil society organizations (CSOs) in the new role it has to play in this fledgling democracy ^[29]. The project focuses to help the poorest gewogs (blocks) in Zhemgang and Sarpang dzongkhags (districts) providing required supports to the farmers in these remote areas to make the best use of new market opportunities that are created through improving road access and an upcoming hydropower project with the help of Indian government. The RLP is aimed to support vocational training in the construction industry addresses both challenges. The Project empowered 300 young men and women during each financial year to prepare for jobs in the building trades. 1,200 trainees take a short training course of up to three months' duration every year under the project. Building meaningful partnership with Bhutan's Ministry of Labour and Human Resources, a guided facilitation for vocational training for rural youth has been initiated and roughly 40% of trainees are women.

Rural Access Program - Nepal

Poverty in Nepal is closely correlated with poor physical access, and the country has deficient road concentrations for a landlocked country ^[30]. Poor road infrastructure across the mountainous Nepal restricts mobility of as many as 80% of Nepal's rural population. The access for livelihood supply of essential commodities often halted because of extreme weather and poor conditions of the road. The UK Aid-funded Rural Access Programme addresses a lack of access and social exclusion through rural road construction that targets the poorest and most disadvantaged groups in Nepal. The RAP aims to build sustainable rural transport infrastructure, generate livelihood for the poorest and most marginalized sections, facilitate access to economic prospects through vocational training, revenue generation activities, developing economic infrastructure, and to improve access to essential commodities by advancing a more robust rural transport network ^[31]. This phase of the project places more considerable attention on road maintenance while continuing to target short-term job creation, poverty reduction, and market-led economic development. RAP is now in its third phase (RAP3), focuses the construction of transport infrastructure as an entry point

for improving the lives of the poorest people in Nepal's remote areas^[32]. The Rural Access Program has generated more than 13.5 million person-days of employment for 6.25 lakhs rural beneficiaries.

Furthermore, the program provides employment to the 9 thousand workers belonging from the poor households in road construction and conservation. The total wage earned by these workers amounts to 1,488 million Nepalese rupees. There was a 220% average income increase in areas where Rural Access program is implemented. Additionally, Due to the enhanced access and targeted training a massive 200% average agricultural yield increased in Rural Access Program areas. Last but not least, owing to newly constructed sustainable rural transportation under the program facilitated 80% average increase in education enrolment in rural Nepal.

Conclusion and suggestions

Sustainable rural development is very crucial to the developing countries. South Asia where the largest number of poor persons live can be only empowered when a participatory development process is initiated. There are several rural development initiatives have been launched throughout but their efficacy and targeted implementation are usually come under the ambit of debate among policy makers and researchers. The welfare schemes are designed as pro-poor intervention but due to wide-spread corruption and wrong targeting it often ends up meaningless or less effective. The graduation debate provides an argument in favor of universal basic income or cash transfer instead of engaging or running rural development program at massive scale. However, this notion countered with an argument of developing rural infrastructure and improving livelihood opportunities through rural development schemes, besides enhancing income of the rural poor. For example, The Mahatma Gandhi NREGS has been successful in creating 4.63 crores assets related to rural infrastructure, connectivity, sanitation, land development, irrigation, water conservation and natural resource management. The Afghanistan Rural Enterprise Development Program (AREDP) has generated a total of 8.1 thousand saving groups, out of which 48% were female saving groups. Under the program a total of Afs 172 million amount as a loan disbursed from which Afs 80 million (46.5%) provided to women borrowers. The program successfully facilitated the transition of micro to small enterprises. Similarly, Employment Generation Programme for the Poorest (EGPP) of Bangladesh generated more than 100 million person-days within a short span of time The EGPP provided safety-net to 7.72 lakhs beneficiaries, out of which 2.79 lakhs (36.1%) were women beneficiaries. The program was successful in targeting the vulnerable sections of the society as 94.1 % of beneficiaries are engaged in manual labor, and 100 percent beneficiaries owned less than 0.5 acres of land. The Rural livelihood project of Bhutan empowered 1200 young men and women providing vocational training during each financial year to prepare for jobs in the building trades and roughly 40% of trainees are women. Likewise, Rural Access Program of Nepal provided employment to the 9 thousand workers belonging from the poor households in road construction and conservation. The program facilitated a 220% average income increase and 200% average increase in agricultural yield in Rural Access Program areas.

To make rural livelihood and rural development programs

more effective a Bottom of the Pyramid (BOP) Approach is required. This approach relies on market-based solutions for poverty reduction by harnessing the profit potential of poor households. Two areas where BOP approaches have already succeeded are (i) financial services where commercial banks and commercial microfinance institutions have begun to tap the BOP market; and (ii) health insurance for the poor through commercial micro health insurance schemes. Another avenue can be the use of technology in implementation, functioning, maintaining quality and monitoring and evaluation of such programs. An ICT Based Approaches for Rural livelihood generation is gaining momentum in rural development arena. Grameen Telecom serves over 80,000 villages in Bangladesh. In India, the state government of Karnataka introduced the Bhoomi Program, a computerized land record system that now serves more than 7 million rural clients. Farmers who now get land records quickly without payment of bribes have better access to credit from formal sources. Another innovation is the E-Choupal program, launched by ITC, one of India's leading companies. It covers 36,000 villages in 9 states and benefits over 3.5 million farmers by linking them through computer kiosks to remunerative markets, enabling them better manage risks, obtain inputs cheaply, and improving their productivity and incomes. ADB's e-Rural Development Initiative supports some of these innovations by mainstreaming ICT for socioeconomic improvement of rural communities in its rural development projects. Lastly, the success of any rural development program depends on the functional participation of workers in the decision making. The adoption of participatory development process and social auditing can improve ownership and sustainability of the program.

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