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## **QUALITATIVE ANALYSIS OF STRATEGIES AFFECTING SUSTAINABLE LIVELIHOODS IN THE NORTHERN VILLAGES OF ANDAR DISTRICT, GAZNI PROVINCE, AFGHANISTAN**

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### **Abstract**

*The present study is one of the qualitative researches that the grounded theory method (Strauss and Corbin approach) has been used to analyze the data. In-depth interviews and observations were used to obtain data. In qualitative research, in-depth interviews and observations are common data collection approaches. Despite the fact that in-depth interviews and observations are two separate methodologies, both aim to gain a thorough grasp of the situations under investigation. Purposive sampling and snowball sampling techniques were used to collect data. The ATLAS.TI software was used to perform three steps of data analysis: open coding, axial coding, and selective coding. according to the research results, it can be said that strategies for achieving sustainable livelihoods such as Rural industrialization, use of solar energy, strengthening of rural housing, effectiveness of factors of production, breeding of native poultry in yard, Eugenic dairy cows, attention to rural research, development of non-agricultural occupations can improve the living conditions of villagers.*

**Keywords:** *Strategies, Sustainable livelihood, Qualitative research, Strauss and Corbin model, Afghanistan.*

**JEL Codes:** *Q10, Q11, R11, R12*

### **1. Introduction**

The concept of sustainable livelihood originated in rural studies and has since been developed in a variety of developed and developing nations and applied to a variety of development disciplines (Ellis, 2000; Scoones, 1998; Tao & Wall, 2009; Mbaiwa & Stronza, 2010; Mbaiwa, 2011; Snider, 2012; Wu and Pearce, 2013). Sustainable development is important for national and societal growth, as well as the long-term development of low-income individuals and families. As a result, one of the most important aspects of sustainable

development is sustainable livelihood (Zhang et al., 2019a, Zhang et al., 2019b). A livelihood is sustainable when it is able to cope with and recover from stresses and shocks, as well as maintain or enhance its capabilities and assets in the present and future, without jeopardizing the natural resource base (DFID, 2008). However, rural livelihoods in developing countries are disproportionately vulnerable to multiple shocks and stresses (Ellis, 2000; Ribot, 2009; Scoones, 1998). Afghanistan is a developing country where more than half of the population, or 16 million people, live in poverty (World Bank, 2020). A person's livelihood refers to his or her ability to get basic necessities of life such as food, water, shelter, and clothing. Rural areas constitute the developing world's economic backbone; they contribute to overall economic growth by giving extra labor, food, and raw materials to other growing sectors of the economy, and therefore to the developing world's development. Despite their significant contributions, rural areas are the most neglected. They are defined by food insecurity, unemployment, poverty, income imbalance, and a lack of essential socioeconomic services (Israr et al., 2017). According to findings of (Bateman, 2010; Hajdu, 2006; Hajdu, Jacobson, Salomonsson, & Friman, 2012; Jacobson, 2013; Hajdu et al., 2020), The majority of the world's poorest people live in rural areas, where they face concerns including climate change, declining cash crop prices, limited land access, and dwindling job opportunities. Various development attempts, ranging from agricultural development interventions and microfinance schemes to the promotion of private investments, have frequently failed to encourage sustainable livelihoods in impoverished rural communities. Agriculture is an essential aspect of the villagers' livelihood in Afghanistan's villages. Around 70% of the population lives in rural regions, and the majority of them rely on agriculture to make a livelihood. Agriculture is a foundation of national prosperity and security in Afghanistan; it employs 40% of the overall labor force, and more than half of the rural labor force is employed in agriculture (Leao et al., 2018). Afghanistan's economy is unstable, and the private sector is failing; agriculture employs 44 percent of the overall work force and 60 percent of households rely on it for income (World Bank, 2021). According to the World Bank 2020, Afghanistan's economic income will decline between 5.5-7.4% in 2020 as a result of the COVID-19 pandemic, and poverty will rise. The deteriorating food security and livelihood situation has persisted until 2019, with the most significant contributor being the droughts of the previous decade, particularly in 2018, which damaged more than two-thirds of the nation and destroyed the agriculture industry (FAO, 2019). The drought has lowered food production, depleted farmers' and herders' assets and livelihoods, cut people's income in half, and deteriorated their health, encouraging Afghans to resort to negative coping methods like as begging, indebtedness, and asset and livestock sales (FAO, 2019). Crop production and livestock are the primary sources of income and subsistence for 26.7 million Afghans, yet 14.3 million Afghans live in poverty. A total of 12.9 million people (about 90% of the population) reside in rural areas and rely on the agriculture sector for their livelihood (FAO, 2019).

Due to the consequences of drought on livelihoods and other agricultural operations, rural poverty is anticipated to rise in the short term. In the short term, reducing poverty requires boosting agricultural output and establishing new economic possibilities for the rising urban population (World Bank, 2021). As a result, it is reasonable to conclude that drought in agricultural communities poses a significant danger to livelihood groups, particularly small-scale farmers (Campbell et al., 2011). Indeed, the effects of drought may put rural livelihoods in jeopardy (OECD, 2009). The majority of Afghanistan's population, according to available statistics, lives in rural regions. Unfortunately, Afghanistan has become one of the poorest nations in the world as a result of the conflicts of the previous few decades, and the people face numerous challenges. Rural areas, on the other hand, are the most impoverished in the country, with issues such as conflict and security, food insecurity, unemployment, poverty, income disparity, and a lack of vital socio-economic services (Saidajan, 2012; World Bank, 2020; FAO, 2019; USDA, 2020). Agriculture remains the principal source of income for the majority

of rural communities in developing countries. On the other hand, the vast majority of rural households alter their economic activity by growing, expanding, or diversifying their agricultural produce. They also diversify their economic activities beyond agriculture (Moges et al, 2018). Agriculture is a significant sector of Afghanistan's economy, accounting for 25% of the country's GDP. Approximately 44% of the work force is actively involved in agricultural operations, while the remaining 80% is dependent on agricultural goods and activities in some way (FAO, 2018). Irrigation infrastructure, inputs, and crops have all been harmed during four decades of war and turmoil, and this could be one of the main reasons for low agricultural production (Zhiquan & Samim, 2020). Armed warfare has impacted the lives of practically every Afghan, accounting for 96 percent of the country's population (ICRC, 2009). Afghans have lost livelihoods and had access to education, health care, and other key services disrupted in addition to the rising cost of life (HRDPA, 2010). Afghanistan is an agricultural country, with agriculture, animal husbandry, or both employed by 80% of the people (NSIA, 2020). Agriculture is the most important activity in rural areas, and it has long been a source of income in Afghanistan's rural areas. In rural areas, such an economic and employment structure has resulted in a number of challenges. As a result, resorting to agricultural activities in rural areas is not the only solution; diversifying operations or establishing different jobs is now considered as a norm (Izadi et al., 2012). The purpose of this article is to study the strategies and consequences of sustainable rural livelihood that the qualitative approach and the grounded theory guide the research process in this direction. The present study seeks to answer a fundamental question: What are the appropriate strategies for achieving sustainable livelihoods in the studied villages? It can be said that this type of research has been a basic need in the studied villages. Because the residents of the studied villages face many livelihood challenges, this research will help to improve their living conditions.

## **2. Literature Review**

We've already mentioned that the majority of Afghans live in rural areas and confront numerous obstacles in their daily lives, but regrettably, little study has been done to enhance the villagers' living conditions. This section provides a summary of some previous studies on rural livelihood sustainability. According to the findings of Singh and Nayak's (2020) study in Uttar Pradesh, India, Bundelkhand has the lowest livelihood security of all the Agro-Climatic Zones. Lower livelihood security in the Bundelkhand zone was caused by a lack of access to basic facilities, a lack of social and health security, and a higher reliance on agriculture for a living. At the same time, greater infrastructure and health facilities, as well as a lower reliance on agriculture for a living, were key contributors to Vindhyan Zone's highest livelihood security. According to a research by Kuiper et al. (2006), nonfarm activities have a significant influence in rural households' incomes and livelihoods, as well as affecting agricultural activities, which has consequences for sustainability.

According to Iiyama et al. (2008), the wealthiest African farmers are those that seek non-farm income and engage in additional agricultural activities. In a research titled Livelihood activities and skills in rural parts of Namibia's Zambezi region, Kamwi et al. (2018) found that agriculture alone is not a sufficient source of money for rural families. The findings show that focusing just on agricultural growth will not be enough to overcome poverty. Promoting creative livelihood activities and skill development, as a result, might be an essential method for augmenting rural populations' income and ensuring equitable rural growth. Other research The variables that impact livelihoods have been studied by Wang et al., (2010); Bhandari, (2013); Fang et al., (2014); Qian et al., (2016) Education level, household size, health condition, transportation means, finances, living expenses, and social standing are some of these characteristics. Several studies (e.g., Gohar et al., 2013; Ward et al., 2013) found that a shortage of water sources in Afghanistan might be a major factor in food insecurity,

livelihoods, and agricultural income. Many issues, such as continued climate variability, high land fragmentation, poor credit availability, low adoption of advanced agricultural technology, low levels of education for farmers, lack of extension facilities, poor roads, and infrastructure, have been highlighted by Jilani et al., (2013); Tavva., et al., (2017); Thomas et al., (2011) as major roadblocks to improving agricultural production in Afghanistan.

Moreover, various studies, such as USDA, (2013); WFP, (2020), have found that food prices, family income, and drought are the main causes of food insecurity in Afghanistan, with a negative association between those parameters and food security. Challenges such as lack of resources, fluctuating markets, lack of crop storage facilities, inadequate agronomic methods, poor management practice, low-quality seeds, high input cost, poor management of water resources, lack of water supply, and climate variability, according to Gohar et al. (2013), Ahmadzai (2017), and Elham et al. (2020), affect production and result in low agricultural productivity. According to Eddins (2013), one of the effective determinants of rural livelihood is the degree of agricultural mechanization, improving economic infrastructure, strengthening social networks, access to social services, providing bank credit, and in terms of natural circumstances, the type of village. According to Roche and Blanchard's (2018) research on the cost and dependability of power delivery to rural Kenyans, grid extension is prohibitively expensive; hence off-grid solar systems are a viable and inexpensive option for increasing energy availability. Warnecke & Houndonougbo (2016) further concludes that off-grid solar systems have some strong benefits as increased direct access to clean energy, but that there are still significant challenges like quality assurance and access to finance which is a natural obstacle, especially for the poorest. According to Kabir et al. (2017), solar household systems have a favorable societal impact in Bangladesh's rural areas. Furthermore, Gray et al (2018) did a study on solar energy in Tanzania, which is a women-oriented solar lighting social enterprise. They said that off-grid solar systems improved household savings, health, education, and women's economic production and empowerment. In a research done in Pakistan's Bajaur Agency, Khan et al. (2017) found that solar energy has enhanced the livelihood capitals of rural households, that it is a feasible system, and that it should be spread to other distant areas. In their study in India, Mounica et al. (2018) found that poultry plays a significant role in supplying part of a household's livelihood and helping rural households. According to Singh et al., (2017), impoverished farmers might employ the production of local poultry as a viable production activity to enhance their living conditions. In their study on the local poultry economy in India, Tufail et al, (2012) found that chicken contributes to the rural home economy by being used for family nutrition, selling in local marketplaces, and generating cash.

According to Islam et al., 2014 in their research of Bangladesh's coastal regions, Local poultry farming has been performed in developing nations for many years and is a wonderful way to provide protein to a rising population while also giving additional revenue to disadvantaged farmers (especially women). They also came to the conclusion that farming local poultry in the research region raised household earnings, made food more accessible, and enhanced household food security. Furthermore, producing local poultry has boosted women's social status at home and in the community by providing them with self-employment and empowerment.

### **3. Research Methodology**

Qualitative research uses techniques of inquiry that extract qualitative, non-numerical data to describe, investigate, comprehend, and explain phenomena. Qualitative approaches are very beneficial for gathering in-depth data that is difficult to measure, such as meanings, understandings, and experiences. Qualitative researchers investigate phenomena in their natural environments, aiming to understand or interpret them in terms of the meanings

individuals assign to them (Lincoln & Denizin, 2005). Researchers in a variety of fields can use qualitative research methods to dive into problems of meaning, investigate institutional and social practices and processes, identify barriers and facilitators to change, and figure out why interventions succeed or fail. Choosing the technique that is most suited to the area of inquiry, like with all research attempts, is critical to attaining the intended findings. A well-chosen approach directs the study toward its goals and ensures that its outcomes are valuable and well-received. Towards this end, the researchers must be encouraged to undertake qualitative research and grounded theory and phenomenology in particular (Jones & Alony, 2011; Suddaby, 2006). This is a qualitative research that looks at the participants' inner experiences and how they develop meanings from their point of view. In this work, a grounded theory technique was used, with the goal of developing a theory that emphasizes a thorough knowledge of particular items or events. The systematic design of grounded theory created by Corbin and Strauss (2015) was used to guide the data analysis in this study, and three steps of coding, which comprise the systematic method of grounded theory, were used to analyze the data. The open, axial, and selective processes are followed by these coding phases (Chong & Yeo, 2015). Purposive and snowball samplings were utilized to acquire data in the current study. Purposive sampling is a sampling approach in which the researcher chooses individuals of the population to participate in the study based on his or her own assessment (Sunders et al., 2018). Purposive sampling is a non-probability sampling technique in which "components chosen for the sample are picked based on the researcher's judgment." Researchers frequently feel that by applying excellent judgment, they can produce a representative sample and save time and money (Black, 2019). Purposeful sampling methodology is used to identify beginning participants with the required qualities in the Snowball sampling method. The key of qualitative research in general, and grounded theory in particular, is to collect enough data to reveal patterns, ideas, categories, qualities, and dimensions of the phenomena under study (Glaser & Strauss, 2017; Corbin & Strauss, 2015).

**Table 1. Profiles of the Interviewees**

Number	Place of interview	Number of interview	Number of interviewees	Average duration of interviews
1	Hakim Khan Baba village	6	51	25 minutes
2	Ghulam Sediq kala village	3	28	33 minutes
3	Chaharkhana village	4	48	35 minutes
4	Tangi Village	4	38	28 minutes
5	Akakhil villages	2	18	38 minutes
6	Haji kala village	4	41	25 minutes

The procedure was to choose an initial group for the interview initially, and then conduct interviews with following groups depending on the first group's introduction. Interviews were done with farmers, non-farmers, students, alumni, government personnel, experts, specialists, and key informants, among others. The interviews varied in length and lasted up to 38 minutes. As a result, 23 individual and group interviews were performed, with information on the interviewees' characteristics presented in Table 1.

#### **4. Research Finding**

The most important element in the process of analyzing the data obtained from the interview is coding (Adib Haj Bagheri et al., 2007). The process of processing data is referred to as coding by Strauss and Corbin (2008). To get a full picture of the information obtained during the data collecting process, coding incorporates three levels of analyses: (a) open coding, (b) axial coding, and (c) selective coding. In this study, all three open, axial and selective coding processes have been used to analyze the data obtained from the interview. The data from the interviews was analyzed by Atlas.TI software in order to improve the accuracy and speed of the research.

##### **4.1. Open coding**

The first analytical step in which the codes or ideas were found from the data and later classified into categories based on their attributes and dimensions is known as open coding (Corbin & Strauss, 2015). This involves line by line coding where concepts and key phrases are identified and highlighted and moved into subcategories, then categories. This breaks the data down into conceptual components and the researcher can start to theories or reflect on what they are reading and understanding making sense of the data. The data from each participant will be 'constantly compared' for similarities. Thus, open coding involves shredding, comparing, conceptualizing, and categorizing data (Danaeifard & Emami, 2007). In this research, 35 codes were extracted in the open coding stage for strategies. These codes were classified into 8 main categories and 11 subcategories.

##### **4.2 Axial coding**

Axial coding is the second step of the grounded theory method that requires more focus. In this stage relationships are identified between the categories, and connections identified. At this stage, the data that was broken in the open coding process are collected again to provide a more accurate explanation of the phenomenon. For this purpose, categories and the relationships between them are classified using the axial coding pattern in the form of core category, causal conditions, strategies, contextual conditions, intervening conditions and consequences (Corbin and Strauss, 2015). The coding paradigm, according to Corbin and Strauss (2015), is an essential component of grounded theory development: without it, the theory would lack density and precision. The most important category chosen is access to a sustainable livelihood, which is seen as the central concept in the process. The causal conditions have an influence on the core category, according to the coding paradigm (figure 1). The core category, contextual, and intervening conditions all have an impact on strategies. The strategies have an impact on the consequence (Creswell, 2018). figure 1 is the result of re-analysis of data based on the paradigm model and shows the results of axial coding in this research.

##### **4.3 Selective Coding**

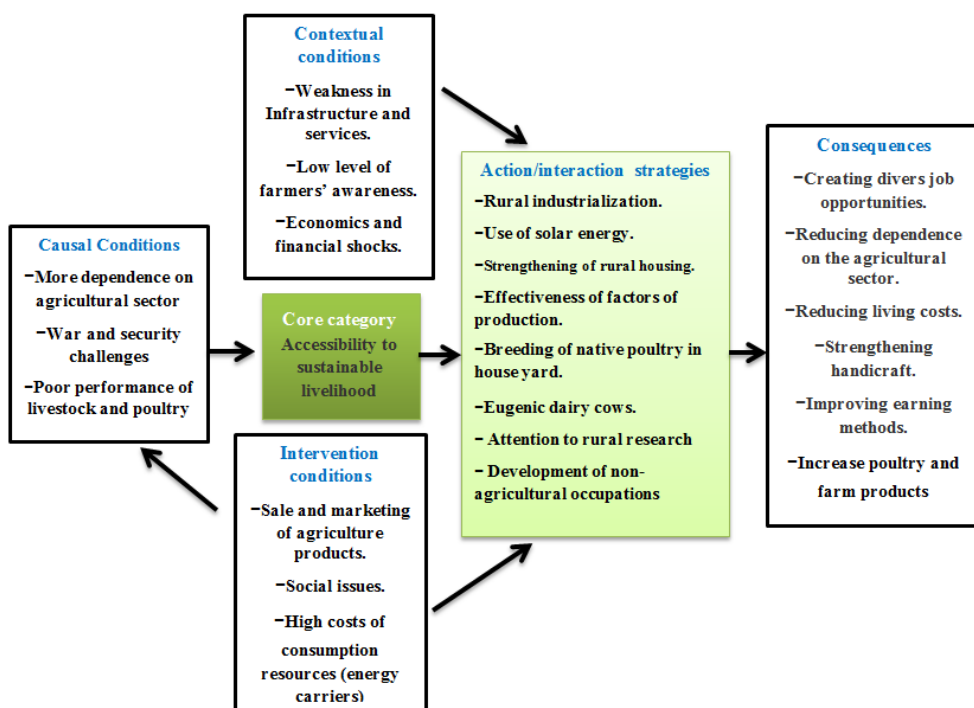
The final phase of grounded theory is selective coding, which entails collecting all of your categories into a single core category. You'll be able to define a single, cohesive theory for your research as a result. Selective coding, like axial coding, occurs later in the research process and connects categories created from qualitative data in previous coding cycles (Corbin and Strauss, 2015). In selective coding, you may construct a core category by elevating one of the categories from the axial coding stage or by creating a new category based on your other categories.

**Table 2. Sub and Main Categories of Sustainable Livelihoods Strategies**

<b>Axial Coding</b>	<b>Main Categories</b>	<b>Sub Categories</b>	<b>Concepts</b>
<b>Action/ interaction Strategies</b>	Rural industrialization	Rural industries	Lack of rural industry stores, low level of handicraft production, lack of attention to the skills of rural women in the field of handicrafts, lack of attention to the construction and operation of rural micro-industries.
	Use of solar energy	Encourage investment in this sector	Use of solar water heaters, prevention of air pollution, reduction of energy carrier costs, creation of incentive and support programs for the use of solar energy, job creation in the solar energy sector.
	Strengthening of rural housing	Rural housing review by the government	Physical damage to rural dwellings due to the texture of clay and mud in winter, the high cost of reconstruction of damaged rural dwellings in winter.
	Effectiveness of factors of production	Use the management factor	Lack of farm management, no use of agricultural mechanization.
		Problem in production factors	Poor quality of inputs and reduction of agricultural production, expensive inputs and factors of production, non-compliance with the time and size of chemical fertilizers.
		Attention to agricultural lands	Decreasing the quality of agricultural lands, destroying agricultural lands, lack of development of agricultural lands, lack of attention to land integration
	Breeding of native poultry in yard	Attention to generations of native poultry	Poultry maintenance training for villagers, easy access to poultry feed, launching incentive and support programs for poultry maintenance.
	Eugenic dairy cows	Establishment of artificial insemination centers	Breeding of olden cows, existence of artificial insemination expert.
		Suitable conditions for keeping dairy cows	Availability and cheapness of fodder, vaccination of cattle, prevention of animal diseases.
	Attention to rural research	Implementation of applied research	Conducting rural research, using rural research in rural planning
	Development of non-agricultural occupations	Attention to rural entrepreneurship	Reduction of necessary job skills, lack of educational programs in the field of job skills acquisition, unemployment in autumn and winter, absolute unemployment, hidden unemployment, creation of small rural job



The goal of selective coding, which comes at the end of the grounded theory process, is to either create a new theory or alter an existing theory depending on your findings. In an ideal world, you'll be able to express your theory in a few words or lines, and it should be mentioned clearly in your study report (Saldana, 2009). It's time to use selective coding to bring your findings together if you believe you've reached theoretical saturation with your codes and categories so far. Selective coding unites all of your codes and categories under a single core category (Charmaz, 2006). According to Figure 1, the core category (access to sustainable livelihood) can be interpreted as rural industrialization, use of solar energy, strengthening of rural housing, effectiveness of production factors, breeding of native poultry in yard, Eugenic dairy cows, attention to rural research, development of non-agricultural occupations are the factors that have been identified in the studied villages as strategies for achieving sustainable livelihood. In addition, some sub-categories such as rural industries, Encourage investment in this sector, rural housing review by the government, use of management factor, problem in production factors, attention to generations of native poultry, establishment of artificial insemination centers, Suitable conditions for keeping dairy cows, implementation of applied research, and attention to rural entrepreneurship will also be effective in achieving sustainable livelihoods. And these are the factors that will play a significant role in reducing poverty and solving livelihood challenges in the studied villages.



Source: Corbin and Strauss, 2015/

**Figure 1. Grounded Theory Coding From Open Coding to the Axial Coding Paradigm**



strategies as follows: People in the studied villages do not have access to new energy services, so they rely on natural fuels like wood, coal, and animal waste for cooking and heating. And, in order to purchase these materials, a significant sum of money is required, as the price of petroleum products is quite high, and the local population does not have complete access to petroleum goods. Therefore, the way out of the high cost of living is the use of renewable energy and solar energy, which will improve the economic situation of the villagers. The results and findings of researches Kabir et al., (2017); Gray et al., (2018); Roche and Blanchard., (2018); Warnecke and Houndonougbo., (2016) and Khan et al., (2017) also point to this issue and state that the solar energy system has a positive effect on household savings and economic productivity, The researchers also claimed that solar systems are an affordable and convenient choice for villagers, and that solar energy can help them increase their living capital. Residential houses in the studied villages are erected in vast yards, according to the findings of this study, and no production activities take place in these vast yards. As a result, maintaining native poultry in these large yards can help villages improve their nutrition and livelihood. Also, it can be a profitable production activity to help villages and farmers better their living standards.

The results of researches (Tufail et al, 2012; Malik et al., 2012; Islam et al., 2014; Singh et al., 2017; Mounica et al, 2018) also confirms these findings, stating that the maintenance and breeding of local poultry has a positive effect on providing part of the livelihood of households, strengthening the economy of rural families, empowering women, improving the nutritional status and food security of households. It can be used as a profitable productive activity to improve the living standards of farmers. More study is required to identify existing difficulties and provide various solutions for them. In truth, research is one of the most crucial vectors for any country's long-term prosperity and development. Unfortunately, the research sector in Afghanistan, particularly in rural areas, does not receive the attention it deserves. As a result, it is critical to perform applied research in Afghanistan, particularly in rural regions, and to incorporate the findings in rural planning. Poverty and unemployment are on the rise in the villages under study. Because the majority of people are engaged in agriculture and due to the seasonal nature of agriculture in the autumn and winter seasons, people are unemployed; therefore, the development of rural entrepreneurship can help reduce unemployment to some extent. In fact, rural entrepreneurship is a strategy for socio-economic development of villages. In addition, while promoting rural entrepreneurship, the diversity of economic activity should be prioritized. Non-agricultural activities play an important role in rural households' income and livelihood, according to research by Kuiper et al., (2006), Iiyama et al., (2008), and Kamwi et al., (2018). According to the findings, there are old cows in the studied villages with low lactation capacity; therefore, enhanced dairy cows should be prioritized, and artificial insemination clinics should be built for this purpose.

## **7. Conclusion**

In this article only effective strategies for obtaining a sustainable livelihood in the northern villages of Andar district are discussed. Finally, according to the research results, it can be said that strategies for achieving sustainable livelihoods such as Rural industrialization, use of solar energy, strengthening of rural housing, effectiveness of factors of production, breeding of native poultry in yard, Eugenic dairy cows, attention to rural research, development of non-agricultural occupations can improve the living conditions of villagers. In addition to these strategies and main categories of some sub-categories such as rural industries, encourage investment in this sector, rural housing review by the government, use the management factor, problem in production factors, attention to agricultural lands, attention to generations of native poultry, establishment of artificial insemination centers, suitable conditions for keeping dairy cows, implementation of applied research, attention to rural entrepreneurship sector can also

help in achieving sustainable livelihoods and reduce the existing livelihood challenges. The current research had certain drawbacks. One of the drawbacks is that people found it very difficult to engage in the interviews owing to existing security and social situations, and local people's cooperation was relatively low. Another issue was the conduct of interviews, which was difficult for certain experts to access. Because the activities of the communications networks in the study areas were very weak, the researcher was there to arrange the time for the interview and set the time of the interview with the interviewees, which took up to a month in some circumstances. In other cases, due to the coronavirus outbreak, the time and location of scheduled interviews with specialists were shifted, lengthening the study process. It is suggested that future studies be conducted in the fields of renewable energy, rural industrialization and the development of non-agricultural employment.

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