

THE EXTENT OF HOUSEHOLD POVERTY IN AFGHANISTAN: A CASE STUDY OF MAZAR-I-SHARIF CITY, BALKH PROVINCE (2019/20 AND 2020/21)

Baqir KHAWARI *

Abstract

There is limited literature review and analysis of poverty in Afghanistan, particularly in the analysis of an urban area. Therefore, due to the limited information on the extent of poverty in Mazar-i-Sharif city especially at the micro/household level, this paper will provide such information and a more current one. To conduct the study, an actual data of 1060 households in Mazar-i-Sharif, obtained from a strictly random process, is used and applied the “Foster-Greer-Thorbecke (FGT)” measures of poverty to analyse poverty based on income and expenditure approach in two waves, before “COVID-19” (March 21, 2019-March 20, 2020) and during “COVID-19” (March 21, 2020-March 21, 2021). Also, the “Independent t-test” is applied to compare the mean of poverty indices in wave 1 compared to wave 2. It is found that, overall, the poverty rate is high in Mazar-i-Sharif, and more than two-thirds of the population severely suffers from the phenomenon, and it increased during the pandemic compared to pre-pandemic time. Also, the depth and severity of poverty are also serious issues and the indices increased in wave 2 compared to wave 1. Further, the study suggests that the government and international organizations should do urgent actions to save million lives and to overcome of this phenomenon.

Keywords: Headcount Ratio, Poverty Gap, Pandemic, Afghanistan

JEL Classification: O150, O120, I32, N15

I. Introduction

Economic development is highly desired by many developing countries, including Afghanistan. The first president of Afghanistan, Hamid Karzai, has developed the “Interim Afghanistan National Development Strategy (I-ANDS)” for 15 years to achieve Afghanistan’s Millennium Development Goals (MDGs) in 2020 (ANDS, 2005). Therefore, based on the strategy, many projects have been implemented by the Afghan government and foreign direct investment (FDI) to achieve the goal, unfortunately, the country is still so far from its MDGs and severely involved with a serious and dark phenomenon, poverty. According to Mohsen et al. (2021), Afghanistan is one of the poorest countries in the world.

* Samangan University, Aybak, Afghanistan, E-mail: baqirkhawari1991@gmail.com, ORCID: 0000-0001-5142-4784

The poverty rate in Afghanistan has increased over time. According to “National Risk and Vulnerability Assessment” (NRVA), in 2007/08, the poverty headcount rate was 34%, raised to 38% in 2011/12 (NRVA, 2009, 2012), and 54.5% in 2017 (CSO, 2018). However, based on “Income, Expenditure, and Labor Force Survey” (IE&LFS 2020), the poverty rate decreased from 54.5% to 47% in 2019 (NSIA, 2021), in 2020, due to the “COVID-19 pandemic”, the poverty rate again dramatically increased. The World Bank estimated that approximately 15 million persons were susceptible to the COVID-19 lockdown (April-June) in Afghanistan. The analysis showed that, in urban areas, the poorest percentile of the households experienced about a 35% decrease in their consumption while the richest percentile experienced about a 19% reduction. In contrast, in rural areas, the consumption of the poorest percentile of the households was reduced by about 21%, while it was estimated to be about 24% for the richest percentile (Cancho & Pradhan, 2020). As a result, the pandemic caused the poverty rate to increase from 55% in 2017 to 72% in 2020 (United Nations, 2021).

Besides, in July 2020, the ex-president of Afghanistan, Dr. Mohd. Ashraf Ghani, announced that 90% of Afghan people are below the poverty line, \$2 per person/day (AFN154), (Omid, 2020). Notably, the rate is expected to increase because of the recent political changes that have pushed the country into a predicament situation (UNDP, 2021a). On 15 August 2021, the Taliban took the power in Afghanistan, where its economy was already facing more developmental challenges such as insecurity, severe drought conditions which negatively affected agriculture production, and COVID-19, of which the third wave started in April 2021. Hence, the United Nations Development Program (UNDP) reported that about 97% of Afghans’ citizens would dive below poverty line by mid-2022 (UNDP, 2021b). Also, World Food Program (WFP) announced that 95% of Afghans do not have enough food to survive (WFP, 2021). Furthermore, based on the UNDP (2021) report, the poverty gap was estimated to be 13.5% in 2019, increasing to 21% in 2020 because of the pandemic. It is predicted that the poverty gap will rise to 30% by mid-July 2022 if the poverty rate reaches 97%, considering the poverty line of AFN 2,268 or US\$1. Thus, it shows that the poverty gap will be more than double in 2022 compared to 2019, and it needs urgent actions to save lives.

Besides, the poverty rate differs among the regions. For instance, according to the World Bank estimation, the headcount ratio for the southwest and central provinces was 0%-30%, for the north, west, and south provinces were 30%-40%, and for the western central, north-eastern, and eastern provinces of Afghanistan was 40%-50%. Also, it was mentioned that poverty concentration is highest in more urbanized and densely populated provinces (World Bank, 2015). So, this study focuses on one of the biggest and most populated cities, Mazar-i-Sharif. It is the provincial capital of Balkh province that was ranked as the fourth most populated province in Afghanistan with an estimated population of 1.5 million and is located in the north of Afghanistan in 2021 (NSIA, 2021). It may seem significant to analyze poverty in the capital of the province because poverty was reported to be relatively high in the province and its capital (NRVA, 2009). For instance, the poverty rate and poverty gap were estimated to be between 61%-76% and 14.8%-18.5%, respectively, in Balkh province in 2008 (NRVA, 2009).

Hall (2011) considered the per capita monthly total consumption of AFN1,289 and estimated that the poverty rate in Balkh province was 60.3%. Later, Hall (2014) conducted a research on poverty in different cities of Afghanistan and released that poverty in Mazar-i-Sharif city is serious and almost 81% of its inhabitants are under the poverty line (AFN1,710 per person/month) based on expenditure approach and 83.5% based on the income approach. To go further, "Afghanistan Research and Evaluation Unit" (AREU) reported that the poverty rate, poverty gap, and Gini coefficient for the province's consumption were estimated to be 60.3%, 17.4%, and 27%, respectively (World Bank, 2013). Temory (2017) found that the Gini coefficient for Balkh province was 0.25 or 25%. Also, the income distribution inequality in the province was found to be 20.33% between the bottom 20% and the top 20%, which shows a huge gap between the first bottom quintile and the top quintile. Generally, in rural areas poverty looks more serious than urban areas; however, Kandahar, Kabul, Balkh, Herat, and Kunduz are the provinces where urban poverty is increasing because of trends in internally displaced people and returnees from abroad. It is estimated that 80% of urban poverty is distributed in these provinces (EASO, 2020).

As shown, poverty has been a big and challenging phenomenon in Afghanistan for a long time, particularly in Balkh province and its capital. Therefore, the article will provide a more current insight regarding the issue among households in the provincial capital of Balkh province of Afghanistan in two waves, 2019/20 and 2020/21, as well as examine the influence of the pandemic on the household poverty level. Besides, the article will address the subsequent research questions:

What is the nature and extent of poverty in Mazar-i-Sharif city? How does the pandemic influence the poverty level? For the study, poverty is measured based on two approaches, income and expenditure, by employing the data which are collected from 1060 households in Mazar-i-Sharif city from May-July 2021. Further, the FGT measures of poverty and "Independent t-test" are applied to analyse poverty and test the significance of poverty indicators in the two waves.

2. Basic Concept of Poverty

The social sciences have faced difficulties in agreeing to a single definition of poverty due to its complex and multi-faceted nature (Chamhuri et al., 2012). Poverty is understood as the inability to meet a least level of living (World Bank, 1990). Gass and Adetunmbi (2000) and Raji et al. (2006) define poverty as a lack of resources that prevent individuals from achieving a basic level of social rights, such as ingress to food, water, shelter and clothing. Additionally, Tirkaso and Hess (2015) assessment poverty as an absence of sufficient income to afford the purchase of essential goods and services.

Furthermore, according to the traditional perspective, persons who do not have sufficient earnings or spending to raise them beyond a sufficient minimal level are measured as poor. Poverty line is often used to refer to this threshold. According to this perspective, poverty is primarily understood in financial terms. Another way that poverty may indeed be defined is as a lack of a particular good or service, such as housing, food, or health. These aspects of poverty

are often directly measurable, for instance, by assessing education or food. The capacity of the person to operate in society is the emphasis of the widest method to well-being (and poverty). Poor individuals often lack essential skills; they may not have enough money or schooling, be in poor health, feel helpless, or lack political liberties (World Bank, 2005). For instance, tracking achievement toward the Millennium Development Goals is often done using this simple monetary approach for measuring poverty (Sanchez-Martinez & Davis, 2014). The concepts of poverty given above include a variety of conditions, including absolute poverty, relative poverty, and the idea of the poverty line, which is succinctly described as follows.

2.1. Absolute Poverty

Absolute poverty is considered to be an absence of incomes essential to meet one's basic needs, including food, water, shelter, healthcare, education, and other necessities. This type of poverty is gauged by a universal baseline that does not take into account others' incomes or access to commodities, and failure to meet the baseline indicates poverty (Eskelinen, 2011). According to the United Nations (1995), absolute poverty relies on both income and access to services and is defined by extreme deprivation of essential human necessities. This type of poverty is more concerning in circumstances where there is a risk of starvation, rather than in areas where everyone has the means to provide for themselves (Ruggeri Laderchi et al., 2003).

2.2. Relative Poverty

The level of poverty experienced by a person is dependent upon how it is evaluated in comparison to the social norms of the country and culture they live in, and this can change over time (Sanchez-Martinez & Davis, 2014). The relatively poor are individuals whose earnings are lesser than those of the rest of the population, even if they can obtain an appropriate subsistence level. In other words, relative poverty refers to those who are poorer than the rest of the community. Hence, the term "relative poverty" refers to the delivery of income and, consequently, the disparity of living circumstances within a population (Demeke et al., 2003). Measuring this kind of poverty is feasible only for developed countries (Ravallion, 1992). Thus, for least developed countries (LDCs), including Afghanistan, where the largest share of its population are living in absolute poverty (UNDP, 2021a), the emphasis on relative poverty is not of primary relevance.

2.3. Poverty Line

When measuring poverty in a certain nation and determining the most effective means of poverty reduction, one is naturally drawn to a poverty line that is deemed acceptable for that country (Hagenaars & de Vos, 1988). The beginning points for examining poverty is poverty line (PL), and it is often the most disputed. Methods to calculate the PL significantly impact poverty profiles, which are used to formulate poverty alleviation initiatives. PLs provide a variety

of functions. According to Ravallion (1992), “the poverty line is the minimum level of income deemed adequate in a particular country”.

Moreover, since poverty lines vary greatly across countries, the World Bank sets the international poverty line by considering the cost of living for essential food and non-food goods and services such as cloth, shelter, education, and health. Therefore, as a result, the United Nations and World Bank have chosen per individual poverty line of \$1 and \$2 per day/person for worldwide analyses, however for comparison of poverty inside a country, national poverty line will be more appropriate (United Nations, 2005). In July 2020, the Ministry of Economy of Afghanistan announced the national poverty line, \$2 per person/day (AFN154), which contains food, cloth, shelter, healthcare, and education which follows the international poverty line. It means that if a person earns less than \$2 per day, they identify as poor (Omid, 2020).

3. Measuring Poverty: Income or Expenditure Approach

The extent of poverty is largely ground on income or expenditure, which specify a person’s access to goods and services. This has been a focus of a great deal of research, particularly around the United Nations’ 2005 report, as it is often used to measure social and economic progress or failure. Lekobane and Seleka (2014) have argued that income and consumption are good indicators of well-being since they demonstrate a person’s capability to gain the necessities of life.

According to the studies such as Beverly (1999); Mayer (1997); Mayer & Jencks (1989) and Rector et al. (1999), the income approach has been acknowledged as a viable tool for capturing the financial situation of families. It has also been seen to be advantageous when it comes to examining administration and societal well-being policies, such as food stamps, medical aid, subsidies, job assistance, and other monetary transfers (Ringen, 1988; Melkamu & Mesfin, 2016). The income method could be a good proxy for showing the ability of households to purchase basic goods and services because it measures households’ resources, including individual tastes and preferences (Ali, 2019). Atkinson (1991) also stated that income is a well proxy for measuring living standards, generally difficult to quantify. Income is largely used to measure economic deprivation, and it is simpler to account accessible for much bigger samples (Meyer & Sullivan, 2003).

On the other hand, expenditure is typically a superior predictor of living standards compared to income, especially in developing nations (Boskin et al., 1998; Cutler et al., 1991; Fisher et al., 2013; Mayer & Jencks, 1993; Slesnick, 2002, 1994). Therefore, the consumption approach to measuring poverty is becoming more common (Fox et al., 2015). For instance, data from 88 developing countries showed that 36 countries used household income surveys, and 52 of them employed household expenditure surveys for measuring poverty or welfare (Ravallion, 2001). Consumption is thought to be more stable than income, especially in developing countries where income can often be subject to seasonal variation. To maintain a consistent level of utility,

households will use savings or debt to balance out their spending during years of high and low income (Atkinson et al.,1994).

This was supported by McKay & Lawson (2003) and Milanovic (1999). Milanovic (1999) stated that collecting income data is more complicated than data on consumption or expenditure of households, so the output of expenditure measurement is more accurate than income in transition countries. Duclos and Araar (2006) argued that, compared to income, consumption is a much better indicator of one's accomplishments and the ability to meet fundamental requirements. Moreover, consumption can be observed, remembered, and measured in a much more accurate way than income, and there is less of an issue with underreporting. Furthermore, it is also important in understanding the necessity of consumption when it comes to determining poverty (Grosh & Glewwe, 2000).

It is shown that each approach has its advantages, and we cannot ignore them so in this article poverty indices are measured based on the two approaches to have a better analysis of poverty in Mazar-i-Sharif city, Balkh province of Afghanistan.

4. Foster-Greer-Thorbecke (FGT) Measures of Poverty

The most well-known indicators of poverty such as headcount ratio (HCR), poverty gap (PG), and poverty gap squared (PGS) indices initially defined by Foster et al. in 1984. All of the indices are often used in research (Duniya & Rekwot, 2015) to assess the incidence, depth, and severity of poverty respectively in a society (Bellù & Liberati, 2005; United Nations, 2017). The indices can be computed based on the income or expenditure approach. So, many scholars such as Dharmadasa et al. (2018); Imran et al. (2020); Le et al. (2019); Nahar et al. (2017); Olowa et al. (2013); Shroff (2009); and Adams et al. (2008) used per capita household income while Afera (2015); de Silva (2008); Etuk et al. (2015); Duniya & Rekwot (2015); Mussa (2014); Ogwumike & Akinnibosun (2013); and Oyekale et al. (2012) used per capita household expenditure to capture the FGT indicators and measure poverty. The FGT poverty index (P_α) can be broken down to show the amount of poverty experienced by various population sub-groups and how much of the overall poverty level is due to each sub-group (Borko, 2016). The formula for the FGT measure of poverty is as follows:

$$P_\alpha = \frac{1}{N} \sum_{i=1}^M \left(\left(\frac{z - y_i}{z} \right)^\alpha * I(y_i < z) \right), (\alpha \geq 0)$$

The P_α measure of poverty is determined by the values of indices P_α , where N is the total population (or sample), M is the number of people living under PL, z is the PL, y_i is the per capita income or expenditure of the i^{th} household, and α is a measure of the sensitivity of the index to poverty. With values greater than 0, the measure is decreased when living standards are lower.

If α is greater than 1, the greater the poverty, the more the measure is impacted by a decrease in living standards. This is considered to be “strictly convex” in incomes, while “weakly convex” is applicable to $\alpha = 1$. The indicator function I has the value of 1 if y_i is less than z and 0 if y_i is equal or greater than z . The P_α class model is described as follows:

$$P_0 = \text{HCR}$$

$$P_1 = \text{PG}$$

$$P_2 = \text{PGS}$$

The equations for the poverty indices are as follows respectively.

$$P_0 = \frac{1}{N} \sum_{i=1}^M \left(\left(\frac{z - y_i}{z} \right)^0 * I(y_i < z) \right) = \frac{1}{N} \sum_{i=1}^M I(y_i < z) = \frac{M}{N}$$

The P_0 is the headcount ratio (poverty incidence) that measures poverty rate. If the per capita income of the household is less than \$2¹ per day/person (AFN154), then the household is identified as poor otherwise non-poor.

$$P_1 = \frac{1}{N} \sum_{i=1}^M \left(\left(\frac{z - y_i}{z} \right)^1 * I(y_i < z) \right)$$

The P_1 measures the depth of poverty. It shows that how far the poor is from the poverty line.

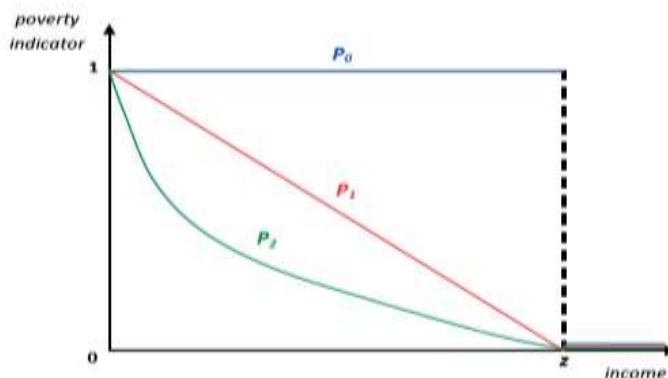
$$P_2 = \frac{1}{N} \sum_{i=1}^M \left(\left(\frac{z - y_i}{z} \right)^2 * I(y_i < z) \right)$$

The P_2 measures the severity of poverty. The measure puts more weight the further a poor person's observed income falls below the poverty line.

In short, the correlation among the values of the above poverty indices is shown in following figure.

1 \$1=AFN77

Figure 1: The Relationship Between P_0 , P_1 , P_2



Source: United Nations (2017)

5. Sample Size

Initially, the study designed a questionnaire to collect data about household income and expenditure for the two periods, before the “COVID-19 pandemic (March 21, 2019-March 20, 2020)” and during the “COVID-19 pandemic (March 21, 2020-March 21, 2021)”. The respondents were asked to give information about their income and expenditure in the two periods at the time of the survey. The study intended to survey 1100 households to raise the reliability of the result but from the original sample size, 1100 households, 40 households were not surveyed because of some problem such as unwillingness to cooperate, absence of the head of a family or a man at the house, having moved out, or being unavailable at home when the interview was conducted, so it ended up having only 1060 households.

6. Sampling Technique and Procedure

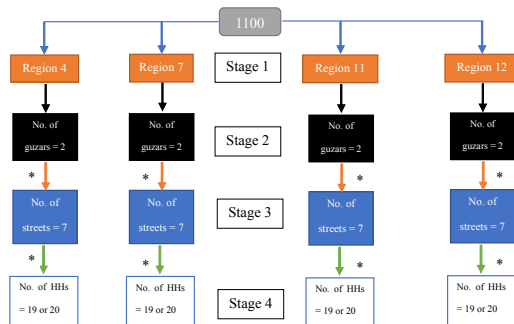
The research used a multi-stage simple random sampling approach to pick 1100 houses in the study region, which may be stated as follows:

1. Mazar-i-Sharif has 12 regions (Nahiyah). So, based on the lottery method, 4 regions, 4,7,11, and 12, were selected in the first step.
2. In the second step, since each region contains some areas (Guzars), again based on the lottery method, from each region 2 Guzars were selected randomly, which made up a total number of 8 Guzars.
3. In the third stage, since each area consists of some streets, another simple random selection was made, and 7 streets were selected. This made up a total number of 56 streets.
4. The last stage involved a systematic random sampling of 19 or 20 households from each street,

making a total of 275 households for each region (Nahiyah).

The stages of the sampling procedure are shown in figure 2.

Figure 2: Stages of Sampling Procedure



According to a meeting that was held by the mayor of Mazar-i-Sharif, Abdul Haq Khurami, in May 2021, the four selected regions (Nahiyah) allocates more that 25% of the total population of the case study (484,492 people) to themselves. So, taking sample from these four regions could be a good representative of the total targeted population.

7. Descriptive Analysis

Table 1 displays the descriptive statistics of the demographic characteristics' of 1060 households head. The table shows that 88 per cent of the households' heads were male while around 12 per cent were female. Around (47%) of the households' heads fall above 50-year-old while the rest of the heads fall under the productive age group with 10% between the range of 18-28 years old and 44% between the range of 29-50 years old. In terms of marital status, a large percentage of the households' head (90 per cent) were married people, followed by singles (6%) and divorced (0.5%) and widows (3.4%).

Regarding the education background, most households' heads have primary and secondary education, lower and upper, with (30%) and (27.5%) respectively. 19.5 per cent with Islamic education and 15.5 per cent with university and above, while those who have zero level of education is 7.5%. Approximately 38 per cent of the households' head have elementary occupations, professional (14%), manager (1%), plant and machine operators and assemblers (around 9%). The rest of the households' head (38%) has some other occupations. Moreover, it indicates that 37 per cent and 33 per cent of the households' head were employed and self-employed, while out of the remaining 30 per cent, 6 per cent were unemployed, around 23 per cent were PAF², and only 1 per cent were retired heads. The majority of employed heads work in the private sector (about 78%), followed by government sectors (20%) and foreign institutions (2%).

2 The sum of the two groups persons seeking work but not immediately available and persons available to work but not seeking is called the potential additional labour force (PAF)."

Table 1: Characteristics of the Households' Head

Variables	No Remittance		Internal Remittance		International Remittance		Both		Total	
	Obs.	%	Obs.	%	Obs.	%	Obs.	%	Obs.	%
Gender										
Male	451	97.6	234	75.7	245	87.5	7	77.8	937	88.4
Female	11	2.4	75	24.3	35	12.5	2	22.2	123	11.6
Total	462	43.6	309	29.2	280	26.4	9	0.8	1060	100.0
Age										
18-28	29	6.3	31	10.0	34	12.1	0	0.0	94	8.9
29-50	238	51.5	130	42.1	98	35.0	6	66.7	472	44.5
above 50	195	42.2	148	47.9	148	52.9	3	33.3	494	46.6
Total	462	43.6	309	29.2	280	26.4	9	0.8	1060	100.00
Marital Status										
Single	25	5.4	21	6.8	18	6.4	0	0.0	64	6.0
Married	425	92.0	271	87.7	252	90.0	7	77.8	955	90.1
Divorced	0	0.0	3	1.0	2	0.7	0	0.0	5	0.5
Separated	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Widowed	12	2.6	14	4.5	8	2.9	2	22.2	36	3.4
Total	462	43.6	309	29.2	280	26.4	9	0.8	1060	100.0
Education										
No Education at all	35	7.6	30	9.7	14	5.0	0	0.0	79	7.5
Islamic School	99	21.4	60	19.4	44	15.7	4	44.4	207	19.5
Primary School	113	24.5	93	30.1	112	40.0	2	22.2	320	30.2
Lower and Upper Secondary School	140	30.3	79	25.6	69	24.6	3	33.3	291	27.5
University and above	75	16.2	47	15.2	41	14.6	0	0.0	163	15.4
Total	462	43.6	309	29.2	280	26.4	9	0.8	1060	100
Occupation										
Elementary occupations	187	40.5	103	33.3	111	39.6	1	11.1	402	37.9
Manager	7	1.5	4	1.3	1	0.4	0	0.0	12	1.1
Professional	69	14.9	38	12.3	40	14.3	1	11.1	148	14.0
Plant and machine operators, and assemblers	50	10.8	20	6.5	16	5.7	6	66.7	92	8.7
Others	149	32.3	144	46.6	112	40.0	1	11.1	406	38.3
Total	462	43.6	309	29.2	280	26.4	9	0.8	1060	100.0
Status of Employment										
Employed	211	45.7	96	31.1	87	31.1	1	11.1	395	37.3
Self-Employed	156	33.8	97	31.4	98	35.0	1	11.1	352	33.2
Unemployed	23	5.0	16	5.2	26	9.3	0	0.0	65	6.1
Retired	4	0.9	2	0.6	1	0.4	0	0.0	7	0.7
PAF	68	14.7	98	31.7	68	24.3	7	77.8	241	22.7
Total	462	43.6	309	29.2	280	26.4	9	0.8	1060	100.0

Sector or Institution of Employment										
Government Sector	41	19.4	22	22.9	16	18.4	1	100.0	80	20.3
Private Sector	166	78.7	71	74.0	70	80.5	0	0.0	307	77.7
Foreign Institution(s)	4	1.9	3	3.1	1	1.1	0	0.0	8	2.0
Total	211	53.4	96	24.3	87	22	1	0.3	395	100.0

Table 2 indicates other related factors, which are also important as far as the characteristics of the households' heads are concerned. As can be seen from the table, 96.5 per cent of the households do not have any disabled person in their families, while 3.5 per cent represent having at least one disabled person in their family. In terms of households' structure, it is demonstrated that almost half (49%) of the sample size has more females compared to males in their families, while 25 per cent of the households have a male majority. In the rest of the households (26%), the number of males and females are equal. Interestingly, it is shown that in all categories of the households, the number of households with a female majority is greater than the other two groups. Besides, half (50%) of the sample size have more than six members in their families, around 41 per cent have a family size between the range of 4-6 people, and a low percentage of the sample size (9%) have a family size between range of 1-3 people. There is 19 per cent of the sample size have received assistance from the ex-government and NGOs since 21 March 2020, while 81 per cent receive nothing. Households who received the assistance reported that most of them (81%) received non-cash assistance than cash assistance (5%); around 14 per cent of them received both types of assistance due to COVID-19.

In addition, non-cash assistances include food and non-food goods such as clothes, coal, and wood. So, 70.7 per cent of the assistance's recipients received food while only 0.5% received non-food, and the rest (28.9%) received both types of the assistance. In terms of Zakat, 2 out of 1060 households received the Islamic assistance; however, our country is an Islamic country. Thus, the government should have a special look at these Islamic elements, which significantly affects poverty reduction in a country. Finally, it represents that around 11 per cent of the households take a loan to provide the basic needs while 81 per cent of them do not take a loan for daily needs.

Table 2: Other Important Characteristics of the Households

Variables	No Remittance		Internal Remittance		International Remittance		Both		Total	
	Obs.	%	Obs.	%	Obs.	%	Obs.	%	Obs.	%
Disability										
Yes	13	2.8	13	4.2	11	3.9	0	0.0	37	3.5
No	449	97.2	296	95.8	269	96.1	9	100.0	1023	96.5
Total	462	43.6	309	29.2	280	26.4	9	0.8	1060	100.0
HH Formation										
Male Majority	97	21.0	101	32.7	68	24.3	3	33.3	269	25.4
Female Majority	227	49.1	155	50.2	131	46.8	2	22.2	515	48.6

Female = Male	138	29.9	53	17.2	81	28.9	4	44.4	276	26.0
Total	462	43.6	309	29.2	280	26.4	9	0.8	1060	100.0
Household size										
1-3 people	22	4.8	34	11.0	37	13.2	0	0.0	93	8.8
4-6 people	178	38.5	130	42.1	120	42.9	3	33.3	431	40.7
above 6	262	56.7	145	46.9	123	43.9	6	66.7	536	50.6
Total	462	43.6	309	29.2	280	26.4	9	0.8	1060	100.0
Received Assist. Because of Covid-19										
Yes	44	9.5	70	22.7	84	30.0	6	66.7	204	19.2
No	418	90.5	239	77.3	196	70.0	3	33.3	856	80.8
Total	462	43.6	309	29.2	280	26.4	9	0.8	1060	100.0
Type of Assistances										
Cash	0	0.0	8	11.4	3	3.6	0	0.0	11	5.4
Non-Cash	41	93.2	49	70.0	69	82.1	6	100.0	165	80.9
Both	3	6.8	13	18.6	12	14.3	0	0.0	28	13.7
Total	44	21.6	70	34.3	84	41.2	6	2.9	204	100.0
Type of non-cash assistance(s)										
Food	35	79.5	50	71.4	58	69.0	1	16.7	144	70.6
Non-food	1	2.3	0	0.0	0	0.0	0	0.0	1	0.5
Both	8	18.2	18	25.7	28	33.3	5	83.3	59	28.9
Total	44	21.6	70	34.3	84	41.2	6	2.9	204	100
Received Zakat										
Yes	1	0.2	1	0.3	0	0.0	0	0.0	2	0.2
No	461	99.8	308	99.7	280	100.0	9	100.0	1058	99.8
Total	462	43.6	309	29.2	280	26.4	9	0.8	1060	100.0
Taking loan for basic needs										
Yes	38	8.2	41	13.3	35	12.5	0	0.0	114	10.8
No	424	91.8	268	86.7	245	87.5	9	100.0	946	89.2
Total	462	43.6	309	29.2	280	26.4	9	0.8	1060	100.0

8. Result and Discussion

Table 3 shows the means of poverty indices based on income and expenditure approaches for the two periods, 2019/20 and 2020/21. First, based on income approach, the result indicates that about 70% of the household are below the poverty line of \$60 per month/person (AFN 4620) before the pandemic time. In contrast, the rate has increased to 77% during the pandemic time which shows a 7% increase in the headcount ratio. In terms of poverty gap, the finding demonstrates that, before the pandemic, the PG estimated to be 24% while during the pandemic time the PG increased by 4.5%. The severity of poverty is calculated 11% in the period of 2019/20 while in the next period, 2020/21, the severity of poverty increased to 13%.

On the other hand, based on expenditure approach, the table represents that the headcount ratio was about 76% in wave 1 while the rate increased to around 88% in wave 2. The poverty gap is estimated to be around 25% before the pandemic and 34% during the pandemic, which shows a 9% increase. In addition, the squared of poverty gap estimated about 11% in the first wave and 16% in the second wave which shows the inequality among the poor themselves are high as well that should be considered in policy making.w

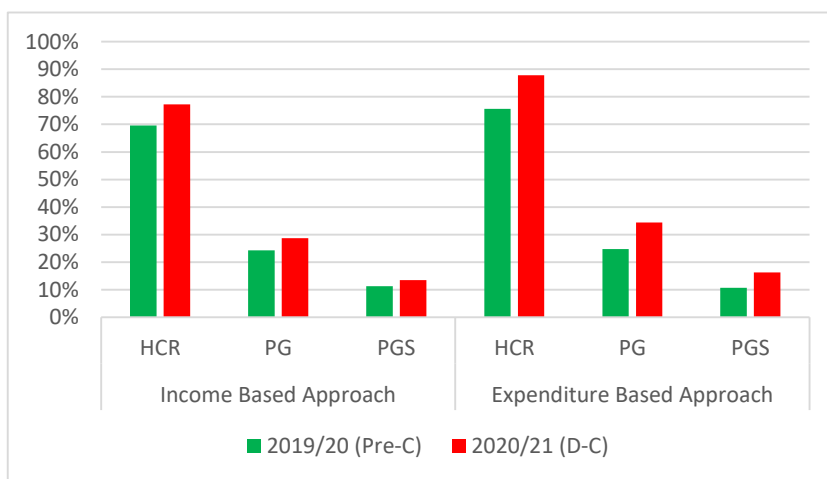
Table 3: Poverty Profile of Mazar-i-Sharif

Mean of Poverty Indices	Income Based Approach			Expenditure Based Approach		
	2019/20 (Pre-C)	2020/21 (D-C)	t-test (Pre-C vs D-C)	2019/20 (Pre-C)	2020/21 (D-C)	t-test (Pre-C vs D-C)
HCR	69.6%	77.3%	(-3.99)***	75.7%	87.8%	(-7.34)***
PG	24.2%	28.7%	(-4.42)***	24.7%	34.4%	(-10.57)***
PGS	11.2%	13.4%	(-3.41)***	10.7%	16.2%	(-9.25)***

(***), (**), and (*) represent the level of significance at 1%, 5%, and 10% respectively based on the result of Independent t-test.

Note: Pre-C = Pre-COVID-19; and D-C = During-COVID-19.

Figure 3: Household Poverty Indices in Wave 1 Compared to Wave 2 Based on Income and Expenditure Approaches

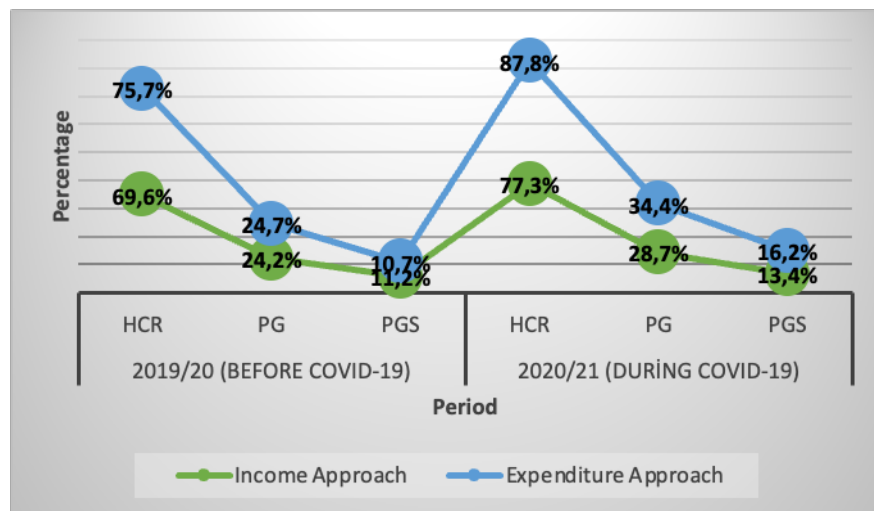


In short, the findings of the study present that, either use income or expenditure approach, poverty indices increased during the pandemic time compared to before the pandemic which is clearly shown in figure 3. It means that during the pandemic more households slip into poverty

compared to pre-pandemic time; the PG and PGS indices also significantly increased in wave 2 compared to wave 1. Moreover, according to the independent t-test, all changes between wave 1 and wave 2 poverty indicators are statistically significant.

Figure 4 illustrates the differences between income and expenditure approach. It shows that in both periods, 2019/20 and 2020/21, poverty indices are estimated to be greater based on expenditure approach compared to income approach. It is because some portion of the household income might shift to saving and payment of loan that decrease the household expenditure (consumption). In addition, the figure represents that the differences between poverty indices based on expenditure approach compared to income approach is more in wave 2 than wave 1 and it is because during the pandemic households may more interested to shift higher portion of their income into saving to use it later in urgent time. Therefore, we can conclude that since households may save more during the pandemic, it is better to measure poverty indices based on income approach rather than expenditure.

Figure 4: Comparison of Income and Expenditure Approach



9. Conclusion

Poverty has been a significant obstacle for the Afghan administration for quite some time. As a result, most of the population severely suffer from this phenomenon. In this study, we measured poverty indices based on two approaches, income and expenditure, in two different periods, before COVID-19 and During COVID-19, for provincial capital of Balkh province, Mazar-i-Sharif city. Overall, the findings indicate that poverty is a serious issue in Mazar-i-Sharif city and almost two third of its population are below the poverty line in each period. In addition, it is found that either use income or expenditure approach, the poverty indices are estimated to be

high during the pandemic compared to pre-pandemic time. During the pandemic not only, more households fell into poverty but also the depth and severity of poverty among poor households also relatively increased. Furthermore, the result shows that poverty indices are estimated to be greater based on expenditure approach than income, and especially during the pandemic. Hence, it is matter whether use income or expenditure approach in measuring poverty indicators, particularly during the pandemic or other economic shock.

Besides, the main reason for poverty in Afghanistan is poor governance. Because for the last two decades a significant amount of money (\$77 billion) was injected in the country through Official Development Aid (ODA) and around \$2 billion was inflowed between 2002-2019 through FDI to develop the economy, but still, millions of people are suffering economically. So, it shows that the Afghan government did not achieve well, particularly in terms of poverty. Thus, the current study suggests that to reduce poverty rate in the country, Afghan government should focus on how to make a good governance and reduce corruption, economic and political instability to enhance the growth.

References

- Adams, R., Lopez-Feldman, A., Mora, J., Taylor, J. E., DeWind, J., & Holdaway, J. (2008). Remittances, inequality and poverty: Evidence from rural Mexico. *Migration and development within and across borders: Research and policy perspectives on internal and international migration*, 101-130.
- Afera, N. (2015). Determinants of poverty in rural Tigray: Ethiopia evidence from rural households of Gulomekeda Wereda. *Journal of Poverty, Investment and Development*, 10(1), 95-102. <https://core.ac.uk/download/pdf/234695199.pdf>
- Ali, A. F. M. (2019). Difference Between Income and Expenditure Method in Measuring Poverty in Kelantan, Malaysia. *International Journal of Economics, Management and Accounting*, 27(1), 1-40. <https://journals.iium.edu.my/enmjjournal/index.php/enmj/article/view/594/314>
- ANDS. (2005). Afghanistan National Development Strategy: An Interim Strategy for Security, Governance, Economic Growth & Poverty Reduction. Accessed on September 8, 2022. <https://reliefweb.int/sites/reliefweb.int/files/resources/AFA4970B33A0505E492.571.07000811C6-unama-afg-30jan2.pdf>
- Atkinson, A. B. (1991). Comparing poverty rates internationally: lessons from recent studies in developed countries. *The World Bank Economic Review*, 5(1), 3-21. <https://doi.org/10.1093/wber/5.1.3>
- Atkinson, A. B., Rainwater, L., & Smeeding, T. M. (1994). Income distribution in European countries (No. 121). LIS Working Paper Series. [https://doi.org/10.1016/S0305-750X\(01\)00072-9](https://doi.org/10.1016/S0305-750X(01)00072-9)
- Bellù, L. G., & Liberati, P. (2005). Impacts of Policies on Poverty. Basic Poverty Measures. <https://mpr.ub.uni-muenchen.de/id/eprint/44666>
- Beverly, S. G. (1999). *Economic poverty reconsidered: Material hardship and income-poverty in the United States*. Washington University in St. Louis.
- Borko, Z. P. (2016). Determinants of Poverty in Rural Households (The Case of Damot Gale District in Wolaita Zone) A Household Level Analysis, *International Journal of African and Asian Studies*, V(29), <https://core.ac.uk/download/pdf/234690246.pdf>

- Boskin, M. J., Dulberger, E. L., Gordon, R. J., Griliches, Z., & Jorgenson, D. W. (1998). Consumer prices, the consumer price index, and the cost of living. *Journal of economic perspectives*, 12(1), 3-26. <https://doi.org/10.1257/jep.12.1.3>
- Cancho, C. A., & Pradhan, T. (2020, August 16). Mitigating the poverty implications of COVID-19 in Afghanistan. Published on End Poverty in South Asia. <https://blogs.worldbank.org/endpointtyinsouthasia/mitigating-poverty-implications-covid-19-afghanistan>
- Chamhuri, N. H., Karim, H. A., & Hamdan, H. (2012). Conceptual framework of urban poverty reduction: A review of literature. *Procedia-Social and Behavioral Sciences*, 68, 804–814. doi:10.1016/j.sbspro.2012.12.268
- CSO. (2018). Afghanistan Living Conditions Survey 2016-17. Central Statistic Organization: Kabul, Afghanistan. Accessed on September 7, 2022. <https://washdata.org/sites/default/files/documents/reports/2018-07/Afghanistan%20ALCS%202016-17%20Analysis%20report.pdf>
- Cutler, D. M., Katz, L. F., Card, D., & Hall, R. E. (1991). Macroeconomic performance and the disadvantaged. *Brookings papers on economic activity*, 1991(2), 1-74. <https://doi.org/10.2307/2534589>
- De Silva, I. (2008). Micro-level determinants of poverty reduction in Sri Lanka: a multivariate approach. *International Journal of Social Economics*, 35(3), 140-158. <https://doi.org/10.1108/030.682.90810847833>
- Demeke, M., Guta, F., & Ferede, T. (2003). Growth, employment, poverty and policies in Ethiopia: an empirical investigation. *Issues in employment and poverty Discussion Paper*, 12, 86. http://www.ilo.int/wcmsp5/groups/public/—ed_emp/documents/publication/wcms_120734.pdf
- Dharmadasa, R. A. P. I. S., Weerahewa, J., & Samarathunga, P. A. (2018). Labor migration and impact of remittances on poverty and income inequality: evidence from estate sector of Sri Lanka. *Tropical Agricultural Research*, 30(1), 69. <https://doi.org/10.4038/tar.v30i1.8279>
- Duclos, J. Y., & Araar, A. (2006). *Poverty and equity: measurement, policy and estimation with DAD* (Vol. 2). IDRC.
- Duniya, K. P., & Rekwot, G. Z. (2015). Determinants of poverty among groundnut farming households in Jigawa State, Nigeria. *Asian Journal of Agricultural Extension, Economics and Sociology*, 4(3), 224-230. <https://doi.org/10.9734/ajaees/2015/13539>
- EASO. (2020). Afghanistan Key socio-economic indicators Focus on Kabul City, Mazar-e Sharif and Herat City. <https://doi.org/10.2847/497573>
- Eskelinen, T. (2011). Relative poverty. *Encyclopedia of Global Justice*. Springer Netherlands, Dordrecht, 942-943. <https://doi.org/10.1007/978-1-4020-9160-5>
- Etuk, E., Angba, C., & Angba, A. (2015). Determinants of poverty status of fish vendor households in Lower Cross River Basin, Nigeria. *Journal of Economics and Sustainable development*, 6(14), 50-55. <https://core.ac.uk/download/pdf/234647149.pdf>
- Fisher, J. D., Johnson, D. S., & Smeeding, T. M. (2013). Measuring the trends in inequality of individuals and families: Income and consumption. *American Economic Review*, 103(3), 184-88. <https://doi.org/10.1257/aer.103.3.184>
- Foster, J., Greer, J., & Thorbecke, E. (1984). A class of decomposable poverty measures. *Econometrica: journal of the econometric society*, 761-766. <https://doi.org/10.2307/1913475>
- Fox, L., Wimer, C., Garfinkel, I., Kaushal, N., & Waldfogel, J. (2015). Waging war on poverty: Poverty trends using a historical supplemental poverty measure. *Journal of Policy Analysis and Management*, 34(3), 567-592. <https://doi.org/10.1002/pam.21833>

- Gass, G., & Adetunmbi, O. (2000). Summary report: DFID's civil society consultation process in Nigeria (13 December 1999–2 February 2000). UK: Department for International Development.
- Grosh, M., & Glewwe, P. (2000). *Designing household survey questionnaires for developing countries*. Washington, DC: World Bank. <http://hdl.handle.net/10986/25338>
- Hagenaars, A., & de Vos, K. (1988). The Definition and Measurement of Poverty. *The Journal of Human Resources* vol. 23, issue 2, 211-221. <https://doi.org/10.2307/145776>
- Hall, S. (2011). Economic Assessment and Labour Market Survey of Mazar-i-Sharif, Pul-i-Khumri, Kandahar City and Kunduz City.
- Hall, S. (2014). Urban Poverty Report: A Study of Poverty, Food Insecurity and Resilience in Afghan Cities. Danish Refugee Council and People In Need, Kabul, Afghanistan. <https://www.clovekvtisni.cz/media/publications/729/file/143.350.2328-pin-drc-afghanistan-2014-a-study-of-poverty-food-security-and-resilience.pdf>
- Imran, K., Devadason, E. S., & Kee Cheok, C. (2020). Foreign remittances and regional poverty: Evidence from household data. *International Migration*, 58(4), 214-230. <https://doi.org/10.1111/imig.12681>
- Le, Q. H., & Nguyen, T. H. T. (2019). Impacts of migration on poverty reduction in Vietnam: a household level study. *Business and Economic Horizons (BEH)*, 15, 261-275. <https://doi.org/10.15208/beh.2019.16>
- Lekobane, K., & Seleka, T. B. (2014). Determinants of household welfare and poverty in Botswana, 2002/03 and 2009/10. <http://dx.doi.org/10.2139/ssrn.2819997>
- Mayer, S. E. (1997). *What money can't buy: Family income and children's life chances*. Harvard University Press.
- Mayer, S. E., & Jencks, C. (1989). Poverty and the Distribution of Material Hardship. *Journal of Human Resources*, 24(1), 88-114. <https://doi.org/10.2307/145934>
- Mayer, S. E., & Jencks, C. (1993). Recent trends in economic inequality in the United States: Income versus expenditures versus material well-being. In *Poverty and Prosperity in the USA in the Late Twentieth Century* (pp. 121-207). Palgrave Macmillan, London. DOI: 10.1007/978-1-349-22953-6_5
- McKay, A., & Lawson, D. (2003). Assessing the extent and nature of chronic poverty in low income countries: issues and evidence. *World development*, 31(3), 425-439. [https://doi.org/10.1016/S0305-750X\(02\)00221-8](https://doi.org/10.1016/S0305-750X(02)00221-8)
- Melkamu, M., & Mesfin, M. (2016). Interconnections Between Income and Expenditure Approach to Measure Poverty in Northern Rajasthan. *International Journal of Advanced Research in Management and Social Sciences*, 5(1), 89-106. https://www.academia.edu/download/41556709/25_Melkamu_and_Mesfin.pdf
- Meyer, B. D., & Sullivan, J. X. (2003). Measuring the well-being of the poor using income and consumption. V(38), 1180-1220. https://www.nber.org/system/files/working_papers/w9760/w9760.pdf
- Milanovic, B. (1999). Explaining the increase in inequality during transition. *Economics of transition*, 7(2), 299-341. <https://doi.org/10.1111/1468-0351.00016>
- Mohsen, A., Sadat, S. F., & Haidery, J. (2021). Effects of the macroeconomic variables on GDP growth of Afghanistan. *International Journal of Research and Analytical Reviews (IJRAR)*, 8(2).
- Mussa, R. (2014). Household expenditure components and the poverty and inequality relationship in Malawi. *African Development Review*, 26(1), 138-147. <https://doi.org/10.1111/1467-8268.12070>
- Nahar, F. H., & Arshad, M. N. M. (2017). Effects of remittances on poverty reduction: the case of Indonesia. *Journal of Indonesian Economy & Business*, 32(3). <https://pdfs.semanticscholar.org/b6ad/4d171f64965d8e92ab367d8190db01547e56.pdf>

- NRVA. (2009). NRVA Main Report: A Profile of Afghanistan. Kabul, Afghanistan. Accessed on 5 November 2022. <https://documents.wfp.org/stellent/groups/public/documents/ena/wfp213398.pdf>
- NRVA. (2012). Afghanistan Living Conditions Survey. Kabul, Afghanistan. Accessed on 5 November 2022. <https://www.ilo.org/surveyLib/index.php/catalog/7922/download/48991>
- NSIA. (2021). Income and Expenditure & Labor Force Surveys Report 2020. National Statistic and Information Authority, Kabul, Afghanistan. Accessed on September 6, 2022. <https://fscluster.org/sites/default/files/documents/income-and-lobar-force-survey-2020-15.pdf>
- Ogwumike, F. O., & Akinnibosun, M. K. (2013). Determinants of poverty among farming households in Nigeria. *Mediterranean Journal of Social Sciences*, 4(2), 365-373. <https://doi.org/10.5901/mjss.2013.v4n2p365>
- Olowa, O. W., Awoyemi, T. T., a Shittu, M. A., & Olowa, O. A. (2013). Effects of remittances on poverty among rural households in Nigeria. *European Journal of Sustainable Development*, 2(4), 263-284. <https://doi.org/10.14207/ejsd.2013.v2n4p263>
- Omid, M. H. S. (2020, June 20). Ministry Confirms 90% of Afghans Live Below Poverty Line. TOLO NEWS. <https://tolonews.com/business/ministry-confirms-90-afghans-live-below-poverty-line>
- Oyekale, A. S., Adepoju, A. O., & Balogun, A. M. (2012). Determinants of poverty among riverine rural households in Ogun State, Nigeria. *Studies of Tribes and Tribals*, 10(2), 99-105. <https://doi.org/10.1080/0972639x.2012.118.86647>
- Raji, M. O., Ayoade, O. B., & Usoro, A. (2006). The prospects and problems of adopting ICT for poverty eradication in Nigeria. *The Electronic Journal of Information Systems in Developing Countries*, 28. doi:10.1002/j.1681-4835.2006.tb00192.x
- Ravallion, M. (1992). Public-Private Sector Wage Differentials in Peru (Issue 42). <https://www.ophi.org.uk/wp-content/uploads/Ravallion-1992.pdf>
- Ravallion, M. (2001). Growth, inequality and poverty: looking beyond averages. *World development*, 29(11), 1803-1815. www.elsevier.com/locate/worlddev
- Rector, R. E., Johnson, K. A., & Youssef, S. E. (1999). The extent of material hardship and poverty in the United States. *Review of Social Economy*, 57(3), 351-387. <https://doi.org/10.1080/003.467.69900000007>
- Ringen, S. (1988). Direct and Indirect Measures of Poverty. *Journal of Social Policy*, 17(3), 351-365. <https://doi.org/10.1017/s004.727.9400016858>
- Ruggeri Laderchi, C., Saith, R., & Stewart, F. (2003). Does it matter that we do not agree on the definition of poverty? A comparison of four approaches. *Oxford Development Studies*, 31(3), 243-274. <https://doi.org/10.1080/136.008.1032000111698>
- Sanchez-Martinez, M., & Davis, P. (2014). A review of the economic theories of poverty. *National Institute of Economic and Social Research (NIESR) Discussion Papers*, (435). https://www.niesr.ac.uk/wp-content/uploads/2021/10/dp435_0-4.pdf
- Shroff, K. (2009). Impact of remittances on poverty in Mexico. *Yale College, USA*. <http://www.econ.yale.edu/~granis/web/PovertyWpaper.pdf>
- Slesnick, D. T. (1994). Consumption, needs and inequality. *International Economic Review*, 677-703. <https://doi.org/10.2307/2527080>
- Slesnick, D. T. (2002). [Book Review] Consumption and Social Welfare, living standards and their distribution in the United States. *Journal of Sociology and Social Welfare*, 29(4), 172-174.
- Temory, M. D. (2017). *Determinants of Household Income in Afghanistan: An Empirical Analysis* (Doctoral dissertation, Ruhr-Universität Bochum). <https://d-nb.info/116.750.4739/34>

- Tirkaso, W. T., & Hess, S. (2015). The role of ICT expenditure for cash crop production and income generation in Southern Ethiopia. *The Electronic Journal of Information Systems in Developing Countries*, 71(1), 1–14. doi:10.1002/(ISSN)1681-4835
- UNDP. (2021a, September 9). Afghanistan on the brink of universal poverty: UN. Al Jazeera and News Agencies.
- UNDP. (2021b). Economic Instability and Uncertainty in Afghanistan after August 15 A Rapid Appraisal. <https://www.af.undp.org/content/afghanistan/en/home/library/knowledge-products/UNDP-report.html>
- United Nations. (1995). The United Nations World Summit for Social Development: Copenhagen, 6–12 March 1995. https://digitallibrary.un.org/record/198966/files/A_CONF.166_9-EN.pdf?ln=en
- United Nations. (2021). Security Council Report: Monthly Forecast (March 2021). Accessed on September 5, 2022. https://www.securitycouncilreport.org/atf/cf/%7B65BFCF9B-6D27-4E9C-8CD3-CF6E4FF96FF9%7D/2021_03_forecast.pdf
- United Nations. (2005). Poverty Statistics: Concepts, Methods and Policy Use. United Nation. https://unstats.un.org/unsd/methods/poverty/pdf/un_book%20final%2030%20dec%2005.pdf
- United Nations. (2017). Basic consumption and income-based indicators of economic inequalities in Bosnia and Herzegovina: evidence from household budget surveys (13). https://unece.org/fileadmin/DAM/stats/documents/ece/ces/ge.15/2017/Expert-meeting-Montenegro-2017/Bosnia_paper_formatted.pdf
- WFP. (2021). Afghanistan Food Security Update #2. <https://reliefweb.int/report/afghanistan/afghanistan-food-security-update-2-22-september-2021>
- World Bank (2013). Afghanistan Economic Update: Poverty Reduction, and Economic Management. <https://openknowledge.worldbank.org/bitstream/handle/10986/16510/770830REVISED0box377289B00PUBLIC00.pdf?sequence=1&isAllowed=y>
- World Bank. (1990). World development report: Poverty. New York, NY: Oxford University Press.
- World Bank. (2005). Introduction to Poverty Analysis. <https://numerons.files.wordpress.com/2012/04/5poverty-manual-wb.pdf>
- World Bank. (2015). Afghanistan Poverty Status Update. <https://documents1.worldbank.org/curated/en/594.051.468180880731/pdf/100638-v2-WP-P145128-PUBLIC-Box393238B-Poverty-Status-Update-Report.pdf>