

Analysing Poverty and Vulnerability in Afghanistan: An asset-based approach

1. Introduction

This study is based on a dataset of household interviews collected by Chaturvedi and Greeley (2007), across 1,019 households: comprising 616 clients, 304 non-clients and 99 dropouts of ten out of twelve partner microfinance institutions (MFIs) of the Microfinance Investment Support Facility for Afghanistan (MISFA). Their sampling data was randomly accumulated across seven provinces: Kabul, Nangarhar, Laghman, Herat, Balkh, Baghlan and Kunduz. The purpose of their research was to estimate a baseline database of clients and an initial impact assessment of the microfinance intervention in Afghanistan. By utilising this dataset, in this study, I attempt to analyse poverty and vulnerability, in terms of economic well-being, in Afghanistan through an asset-based approach. The crucial challenges of this study are to identify the most vulnerable people; to what extent and why they are vulnerable. I will discuss a framework of an asset-based approach, followed by construction of asset index, recognition of the poor and vulnerable, their coping strategies against shocks, and possible interventions, in order.

2. Asset-based approach framework

There may be three major questions and challenges to analyse poverty and vulnerability by using an asset-based approach: why the asset-based approach is required; how the approach can be practised; and what the asset-based analysis can suggest.

Firstly, in such a situation as Afghanistan, which lacks panel data or other household data of economic status to assess poverty and vulnerability, an asset-based approach may be useful. Carter and Barrett (2004) argue that if a set of panel data of income or expenditure is available, vulnerability to poverty can be defined by a decline in these economic measures over poverty line as well as static poverty; otherwise, without such panel data, vulnerability to poverty can be assessed by asset ownership. The theory is that once correlation between economic well-being and asset ownership is proved, it becomes possible to use assets as a measure of poverty and vulnerability. Moreover, it may be possible to estimate to what extent households are vulnerable by observing their ownership of asset endowments.

Moser (1998, p.37) believes that an asset-based analysis can capture poverty dynamics by identifying the capabilities of the poor to utilise their resources to decrease their vulnerability. Households with a different type or amount of assets can practise different coping strategies when they face shocks. Hence, an asset-based approach may work well in the context of Afghanistan since the country does not have a rigorous economic survey of households.

Secondly, the methods of conducting the asset-based approach are various and controversial. For instance, Moser and Felton (2007) construct an asset index with differential weights for each asset endowment. Their asset index is based on a combination of three parts, including prices, unit values and principal components analysis. Sorting every asset component into different categories, they compute weights of each segment of assets. Therefore, their asset index is generated with value judgement. On the other hand, Chaturvedi and Greeley point out that there are advantages and disadvantages in utilising weights. As Moser and Felton demonstrate, the use of weights, which are calculated through complicated processes, possibly leads to statistically more significant results. However, such value judgement can lead to another discussion of whether or not the weights are right in reality. From this doubtful perspective, Chaturvedi and Greeley do not apply weights for any assets in their asset index. Similarly, their method of a standard weight can also invite criticisms from the view of asset value, because TV sets and carpets, with different prices, are awarded the same weight in this case. Answering this criticism, they hypothesise that if a household owns more sophisticated assets, the household is more likely to possess basic assets as well. Thus, there are controversial debates about the methods of practising the asset-based approach.

Finally, the challenge of an asset-based approach seems to be what it provides through the analysis, as well as recognition of the poor and vulnerable. There are three major questions in this research. The first interest is what types of shocks are the most important. Although it is difficult to identify the most significant shocks from the one-year survey, the trend or frequency of shocks can be observed. Next, it is also of interest to capture how households with different levels of assets react when they face those shocks. It can be a crucial hypothesis that the choice of coping strategies differs by levels of asset ownership. The final question is why each household, particularly the vulnerable, tends to choose certain coping strategies. If

their environment or circumstances force them to choose the strategies, although they might not be good options for those households, there appears to be room for interventions. Therefore, the asset-based assessment of poverty and vulnerability may suggest the way of interventions through these analyses.

3. Construction of Asset Index

As an indicator of economic well-being, an asset index will be used in this study. The construction of the asset index mainly follows the asset indicator of Chaturvedi and Greeley (2007, p.21). However, their index seems to contain some imprecise elements through the illogical process of its construction. After a review of their asset index, the new asset indicator will be created, followed by an analysis of the correlation between the index and economic well-being.

a. Description of Chaturvedi and Greeley

Chaturvedi and Greeley constructed the asset index (Chaturvedi model) as an indicator of economic well-being, by using the same portfolio of twenty-four types of assets as adopted by the National Risk and Vulnerability Assessment 2005: including watches, carpets, gilims, radios, refrigerators, TV sets, VCRs, sewing-machines, rug weaving looms, carpentry tools, generators, thuraya, handcarts, bicycles, motorcycles, tractors, combine threshers, ploughs, cereal grinder mills, cars, trucks, livestock, computers and land. Besides, their statement showed that they employed a standard score for all assets in order to avoid value judgement by applying subjective weights for each asset; in other words, the more varied assets households own rather than possessing many of a single type of asset, the higher asset scores they have. After distributed asset scores, each household was divided into five groups by asset score ranges; the first range is up to 5; the second range is between 6 and 10; the third range is between 11 and 15; the fourth range is between 16 and 20; and the fifth range is between 21 and 24. Their idea of constructing the asset index seems to be clear and convincing.

b. Critics of the Chaturvedi Model

The construction process of the asset index by Chaturvedi and Greeley may possibly be misleading. As explained, the Chaturvedi Model was supposed to apply a standard scoring pattern for ownership of all asset endowments. However, despite an introduction in their paper, which states that all assets were assigned to an even score, they actually put differential values on categories of ‘computer’ and ‘land’. In accordance with the raw dataset and the calculation process of asset scoring of their study, the score of ‘computer’ is calculated by the actual number of computers which a household owns. Therefore, those who possess 4 computers received 4 asset points, which was supposed to be 1 point since the asset point should refer to possession. Similarly, the asset scores of ‘land’ are assigned by a more complicated way. There are four differential points for ‘landlessness’, ‘own and manage’, ‘only own’, and ‘only manage’, from 0 to 3 points respectively. Regarding their calculation, if a household manages their own agricultural land, they are awarded only 1 point, while those who only possess but do not manage their land receive 2 points, and those who solely manage someone else’s land receive 3 points. As the introduction states, the asset index is supposed to represent ownership of assets; hence, ‘landlessness’ should receive 0 points and ‘land ownership’ have 1 point. From this perspective, their illogical calculations may be spoiling the construction of rigorous asset index. Thus, there is a clear paradox between the introduction about the construction of asset index on their paper and their actual way of calculation. No explanation about these complex calculations above can be observed, and also, it is not very clear how to provide differential scores for these particular categories of ‘computer’ and ‘land’, from the perspective of an equalised scoring method.

c. Construction of new asset index

As discussed, the Chaturvedi Model was not rigorous, since their asset index was not perfectly determined by asset ownership; therefore, I would like to construct a more precise asset index (Table 1). The new asset index basically adopts the rule of the Chaturvedi Model, except for two of the following changes. One is that those households who possess more than one ‘computer’ receive 1 point, but without any ‘computer’, households are awarded 0 points, in the new asset index. The other change is that households in the categories of ‘own and manage’ and ‘only own’ have 1 point, while ‘landlessness’ and ‘only manage’ are awarded 0 points. As a result, these modifications in scoring patterns demonstrate slight effects on the asset

index, compared to the Chaturvedi Model (Table 2). According to Chaturvedi and Greeley, there were 31 per cent, 52.7 per cent and 15.7 per cent of households at the asset score ranges of 1, 2 and 3, respectively, but now, 33.1 per cent, 53.1 per cent and 13.5 per cent of those are ranked in each asset index. As seen in this result, there are no significant changes between two asset indicators, because owning a 'computer' was not popular at all among households, and the number of households categorised in 'only manage' are also very limited. However, it is still critically meaningful to construct this new asset index with these amendments, in order to create more rigorous asset indicators completely linking to asset ownership.

d. The new asset index as a measurement of economic well-being

For the purpose of analysing poverty and vulnerability, after constructing the new asset index, it is crucial to assess whether the index correlates to economic well-being. As an economic indicator, this study will utilise data of 'food shortage' and 'economic situation' from the dataset. 692 households answered whether they improved their livelihoods, and also experienced food shortage during the survey year. Looking at the asset score range between 1 and 3, due to lack of samples of 4 and 5, there is a significant correlation between the asset index and both 'food shortage' and 'economic situation' (Table 3).

Firstly, the correlation between 'food shortage' and the asset index may be observed. Regarding food shortage, the regions seem to have experienced a good year in general. Most households did not encounter any problems of food shortage as 84 per cent of those answered; however, there is a clear trend that households in the lower asset ranks more frequently faced food shortage. For instance, approximate 23 per cent of those households ranked at the bottom asset score range lacked food more than once, while 12 per cent and 6 per cent of those at the second and third bottom ranges respectively experienced food shortage. Moreover, frequency of food shortage which households face correlates to the asset index. Households were more likely to experience food shortage if they were in the lower asset ranks.

In the same way, 'economic situation' seems to correlate to the asset index. Considering economic status during the survey year, the majority of households generally reported their economic situation had improved since the previous year.

However, when one look at the economic situation by each asset score range, more households in the higher score ranges answered that their economic situations became better, whereas fewer households could manage to improve their livelihood circumstances. Notably, in the bottom score range, nearly 20 per cent of households reported that their livelihoods had worsened.

Thus, the asset index, levels of asset ownership, may positively correlate to economic well-being.

4. Analysing poverty and vulnerability

There may be three major challenges in poverty analysis noted by using the asset index including: identifying static poverty; vulnerability assessment; and possible interventions. Although households are currently not poor, their status might be close to the situation of the poor: those households possibly fall into poverty once they face shocks. Therefore, it is crucial to analyse types of frequent shock and coping strategies of those households, as well as analysing current poverty status.

a. Characteristics of the poor and vulnerable

Having argued the positive correlation between levels of asset ownership and economic well-being, I would like to define the bottom range of the asset index as the poorest populations. Also, the second bottom group seems to be vulnerable to falling into poverty as levels of asset ownership are very close to those of the poorest. Therefore, this study attempts to analyse the characteristics of those households.

There seems to be a trend of characteristics of households by levels of assets. As a bar chart and a table show, most households in the first score range tend to possess watches or clocks and gilims; the majority of the second score group are likely to have a radio, TV, carpet and sewing machine in addition to these basic goods; and those in the third group are liable to own more various assets such as a bicycle, livestock, a VCR or DVD, a handcart, land, and a generator (Figure 1; Table 4). Besides, there are differences in important types of assets between urban and rural regions, or provinces. For example, approximately double the number of

households in rural areas own livestock or land compared to those in urban areas. Furthermore, socioeconomic status of households possibly appears to be one of the determinants for households to stay in poverty.

Considering an issue of gender, over 90 per cent of female-headed households live below the second asset range, and more than one half of them belong to the bottom group, compared to 86 per cent and 32 per cent of male-headed households, respectively (Table 5). This uneven outcome by gender might be a result of lack of labour in households or social discrimination against women's rights due to the Islamic culture. Also, lack of able-bodied labour in households can contribute to this discussion since the country has many disable people due to war and conflict, although such appropriate information is not available in the dataset at this time. Therefore, the poor households tend to possess particular types of basic assets, and female-headed households are more likely to stay in poverty.

b. Importance of human diseases

Human diseases seem to contribute the single most common shock in the regions. According to the survey, over 10 per cent of households experienced human diseases, followed by about 6 per cent of loss of employment and up to 5 per cent of winter conditions; reduced salary; high food prices; death of household members; water shortages; bankruptcy of business; and so on (Table 6). One of the reasons why human diseases are the most frequent shock may be that diseases are often a consequence of other shocks. For example, loss of employment, severe winter conditions, reduced salary, or high food prices are liable to reduce food or other expenditure of households. Decreasing expenditure can be more problematic for the poor or worse-off households because their expenditure might have already been marginalised and cannot be reduced to sustain their ordinary life. Those people might need to cut out one meal a day or not to use medicine when they are ill. As a possible evidence of this argument, 12.5 and 11.5 per cent of households in the bottom and second bottom range respectively suffered from human diseases while a few families above third quintile reported the cases (Table 7). Therefore, other shocks have the capacity to cause human diseases by reducing expenditure of households, and the poor and worse-off households live closer to the risk of human diseases.

c. Coping strategies against human diseases

When it comes to the choices of coping strategies of the poor, it may be observed that those households are more vulnerable to fall into a vicious circle to poverty spiral for longer terms. Also, we may be able to find the trend of coping strategies for each asset level of households as well. As an example case of shocks, human diseases are chosen here due to the most frequent shock across the regions. When looking at how people cope with this type of shock, overall, 'Loans from family or friends' appears to be the most popular coping strategy as nearly one half of the whole households chose it, followed by 'decreased expenditure' and 'used savings or investments', which account for about 15 per cent each (Table 8). Moreover, there is a notable difference in coping strategies between different asset score ranges. More than 20 per cent of households at the poorest asset score range used their savings or investments and about 10 per cent of those chose to decrease expenditure, compared to about 11 per cent and 19 per cent at the second bottom quintile respectively.

There may be two major implications in this data. Firstly, the poorest households are more likely to have less capacity to reduce their expenditure. It can be possible to assume that those who have better economic status tend to purchase more non-basic goods. Therefore, those households may be able to reduce this unnecessary expenditure for their daily life, when human diseases or other shocks take place. On the other hand, it seems to be much more severe for the poorest populations to decrease their expenditure because they do not purchase many non-basic goods daily. Hence, the poorest households tend to use their savings rather than reduce expenditure; however, it can be also hypothesised that those households might not be able to use their savings and investments when the next shock comes, and would be forced to decrease expenditure or food. Because human diseases are not a rare type of shock among those people, the shock could continuously take place within the same households before they recover from diseases and earn to save money for the next crisis. For this reason, the poor households may be forced to choose unsustainable coping strategies by their

economic situations, since they are more liable to utilise their savings due to lack of capacity to reduce their expenditure on unnecessary goods.

Secondly, the poor households seem to need access to credit. The majority of the poor attempt to access credit, and almost all of the poor chose informal sources from whom to borrow money, such as family, friends or employers. According to the statistical data, more than one fourth of households at the first asset range could not be a client of MFIs, despite their willingness (Table 9). As those households answered 'Too risky', 'No time for programmes', 'The severe terms and conditions', or 'Rejected by the programme', they could not access even the MFIs, which might be moderate to offer loan to small clients. Because these reasons are not related to cultural, social or other reasons, but economy-related, those households may have wished to access credit. Considering this point, the neediest households for credit may not be able to access formal credit.

5. Recommendation: possible interventions

As possible interventions, there may be two major possibilities to reduce poverty and vulnerability. Firstly, increasing the access of the poor households to credit appears to be important. Once access to formal credit is secured for those households, they might not need to practise unsustainable coping strategies such as using their savings. This attempt can also be a safety net for better-off households. For this achievement, lower interest rates and more moderate regulations are required. Secondly, social protection interventions to enhance the capacity of households seem to be another possibility. The poorest households in a vicious circle of poverty tend not to have the capacity to choose a sustainable coping strategy. Therefore, cash or food transfer, or insurance might be concrete possibilities when they face shocks. Furthermore, characteristics of asset ownership and female-headed households may provide significant perspectives to target the poor and vulnerable populations.

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Table 1: Amendment of asset scoring patterns

	The Chaturvedi Model	New Asset index
Number of computer	Asset score	Asset score
0	0	0
1	1	1
2	2	
3	3	
4	4	

	The Chaturvedi Model	New Asset index
Land Status	Asset score	Asset score
Landlessness	0	0
Own & Manage	1	1
Only Own	2	
Only Manage	3	0

Source: Chaturvedi and Greeley (2007)

Table 2: Different results between models

The Chaturvedi Model						
	1	2	3	4	5	Total
Frequency	316	537	160	4	2	1019
Percentage	31	52.7	15.7	0.4	0.2	100

New Asset Index						
	1	2	3	4	5	Total
Frequency	337	541	138	2	1	1019
Percentage	33.1	53.1	13.5	0.2	0.1	100

Source: Own calculation using the dataset from Chaturvedi and Greeley (2007)

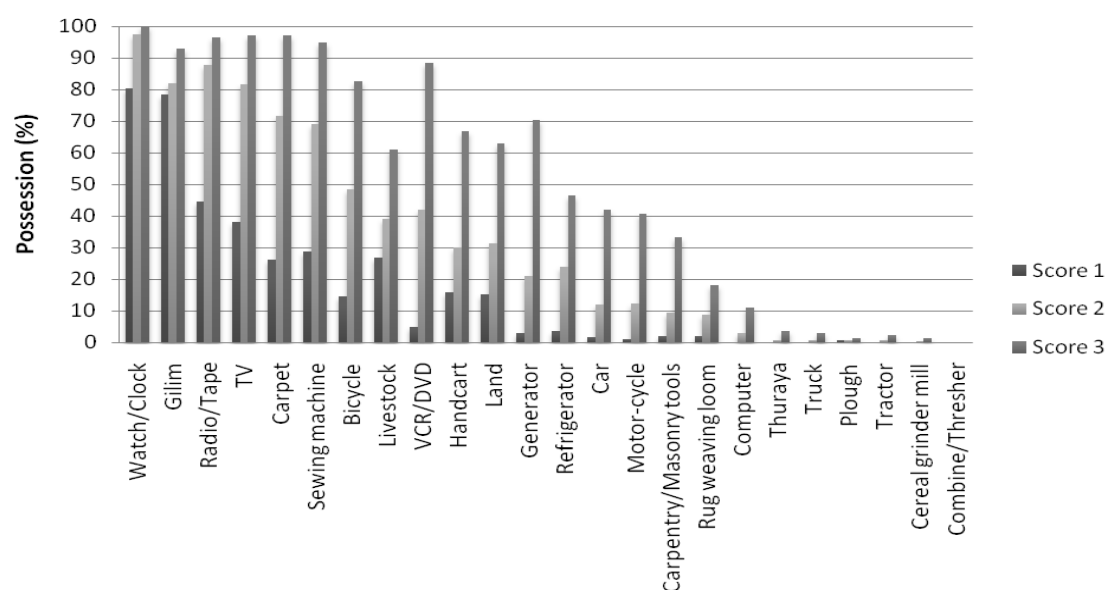
Note: Asset score ranges: the first range is up to 5; the second range is between 6 and 10; the third range is between 11 and 15; the fourth range is between 16 and 20; and the fifth range is between 21 and 24.

Table 3: Correlation between Economic well-being and the Asset Index

Economic situation	Asset score range					Total
	1	2	3	4	5	
Much better	0.6	4.4	3.6	0	0	3
Slightly better	53.1	64.9	76.8	50	100	62.6
Same	26.4	15.9	13	50	0	19
Slightly worse	16.6	13.1	6.5	0	0	13.3
Much worse	3.3	1.7	0	0	0	2
Total	100	100	100	100	100	100

Food shortage	Asset score range					Total
	1	2	3	4	5	
Never	77.1	87.6	94	100	0	84.4
Rarely (1 to 3 times)	16	7.2	6	0	0	10.4
Sometimes (3 to 6 times)	2.7	2.3	0	0	0	2.2
Often (A few times every month)	3.1	2.3	0	0	0	2.3
Mostly (Many times)	1.1	0.6	0	0	0	0.7
Total	100	100	100	100	100	100

Source: Own calculation using the dataset from Chaturvedi and Greeley (2007)

Figure 1: Asset Ownership by the asset score range

Source: Own calculation using the dataset from Chaturvedi and Greeley (2007)

Table 4: Asset Ownership by the asset score range

	Asset score range					Total
	1	2	3	4	5	
Watch/Clock	80.4	97.6	100	100	100	92.2
Gilim	78.6	82.1	92.8	100	100	82.4
Radio/Tape	44.5	87.8	96.4	100	100	74.7
TV	38	81.7	97.1	100	100	69.4
Carpet	26.1	71.7	97.1	100	100	60.2
Sewing machine	28.8	69.1	94.9	100	100	59.4
Bicycle	14.5	48.6	82.6	100	100	42.1
Livestock	27	39.2	60.9	100	100	38.3
VCR/DVD	5	42	88.4	50	100	36.1
Handcart	16	30.1	66.7	100	100	30.6
Land	15.1	31.4	63	100	0	30.4
Generator	3	21.1	70.3	100	100	22
Refrigerator	3.6	23.8	46.4	50	100	20.3
Car	1.8	12	42	0	100	12.8
Motor-cycle	0.9	12.2	40.6	50	100	12.5
Carpentry/Masonry tools	2.1	9.6	33.3	100	100	10.6
Rug weaving loom	2.1	8.9	18.1	100	100	8.1
Computer	0	3.1	10.9	0	100	3.2
Thuraya	0	0.7	3.6	50	0	1
Truck	0	0.7	2.9	0	100	0.9
Plough	0.6	0.6	1.4	50	100	0.9
Tractor	0	0.6	2.2	50	100	0.8
Cereal grinder mill	0	0.2	1.4	0	100	0.4
Combine/Thresher	0	0	0	0	100	0.1

Source: Own calculation using the dataset from Chaturvedi and Greeley (2007)

Table 5: Economic well-being by Gender of Household Heads

	Asset score range					Total
	1	2	3	4	5	
Female	19	13	3	0	0	35
Female (%)	53.4	37.1	8.6	0	0	100
Male	318	528	135	2	1	984
Male (%)	32.3	53.7	13.7	0.2	0.1	100

Source: Own calculation using the dataset from Chaturvedi and Greeley (2007)

Table 6: Frequency of shocks by types

	High level of Human diseases	Loss of employment	Winter conditions	Reduced salary
Sample numbers	109	65	46	43
Percentage	10.7	6.4	4.5	4.2
	High food prices	Death of other household member	Water shortage quantity	Bankruptcy of business
Sample numbers	42	37	32	28
Percentage	4.1	3.6	3.1	2.7
	Agriculture water shortage	Illness of a working household member		
Sample numbers	26	18		
Percentage	2.6	1.8		

Source: Own calculation using the dataset from Chaturvedi and Greeley (2007)

Note: 'Sample numbers' show the number of households which faced shocks. 'Percentage' = 'Sample numbers' / Total households (1019)*100

Table 7: Frequency of High level of Human diseases by the asset score range

	Asset score range					
	1	2	3	4	5	Total
Frequency	42	62	5	0	0	109
Percentage	12.5	11.5	3.6	0	0	10.7

Source: Own calculation using the dataset from Chaturvedi and Greeley (2007)

Table 8: Coping strategies against Human diseases by the asset index

	Asset score ranking					Total
	1	2	3	4	5	
Reduce food	2.4	1.6	0	0	0	1.8
Decreased expenditure	9.5	19.4	0	0	0	14.7
Used savings/investments	21.4	11.3	0	0	0	14.7
Loans from family/friends	52.4	41.9	60	0	0	46.8
Loans from employers/ money lenders	2.4	3.2	0	0	0	2.8
Loans from MFIs'	4.8	8.1	0	0	0	6.4
Purchased food on credit from traders	0	0	0	0	0	0
Sold/mortgaged assets	2.4	4.8	0	0	0	3.7
Sold/mortgaged productive assets	0	1.6	0	0	0	0.9
Out migrated	0	1.6	0	0	0	0.9
Increased/started child labour	0	0	0	0	0	0
Others	4.8	6.5	40	0	0	7.3

Source: Own calculation using the dataset from Chaturvedi and Greeley (2007)

Table 9: Reasons for being non-clients of MFIs

	Asset score range					Total
	1	2	3	4	5	
Not aware of programme	16.6	17.4	25	50	100	18.1
Do not require credit	48.3	60.3	69.4	50	0	56.8
Too risky	13.8	6.4	0	0	0	8.4
Culturally not acceptable	6.2	2.3	2.8	0	0	3.7
Women should not join such programmes	0	0.9	0	0	0	0.5
No time for programmes	0.7	1.4	0	0	0	1
The terms and conditions of programme are quite strict	13.8	11	2.8	0	0	11.2
Applied for the programme but was not accepted	0.7	0.5	0	0	0	0.5
Total (non-clients + dropouts)	100	100	100	100	100	100

Source: Own calculation using the dataset from Chaturvedi and Greeley (2007)