2019

Vulnerability Assessment and Targeting Review

Multipurpose Cash Assistance in Iraq

UNHCR — The UN Refugee Agency

CWG — Cash Working Group

DRC — Danish Refugee Council

International Rescue Committee

Mercy Corps

NRC — Norwegian Refugee Council

OXFAM

Acknowledgement

This technical review was undertaken by a team of analysts convened by the Cash Working Group in Iraq. The team included Safwan Aziz Khan from UNHCR, Iraq, Oliver Westerman from the Cash Consortium for Iraq, and Vladimir Jovanic from the Danish Refugee Council. The CWG acknowledges the support it received from DFID, UNHCR, CCI, and REACH during the review process. The CWG is also grateful to Abdulkhaliq Saeed, Information Management Officer, CCI, for data support.

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Acronyms

CCI – Cash Consortium of Iraq

CTP – Cash Transfer Programming

CWG – Cash Working Group, Iraq

HRP – Humanitarian Response Plan

ICCG – Inter Cluster Coordination Group

IER – Income Expenditure Ratio

MCNA – Multi Cluster Needs Assessment

MPCA – Multi Purpose Cash Assistance

OLS – Ordinary Least Squares Regression

PMT – Proxy Means Testing

Introduction

Cash transfer programming (CTP) has been used in Iraq since 2014, initially for Syrian refugees living in- and out-of-camp settings across northern Iraq and the KRI. In late-2014 and early 2015, the internal displacement following the conflict with the so-called Islamic State (IS) led to cash and voucher programmes being implemented at a larger scale by NGOs, UNHCR, and WFP. The Iraq Cash Working Group (CWG) was formed in 2014 as a 'semi-cluster' to coordinate the growing unconditional, unrestricted cash response, which had come to be referred to as multi-purpose cash assistance (MPCA). MPCA was increasingly recognised as not only an effective and appropriate response modality in Iraq, but one that is preferred by beneficiaries. The CWG was given a seat at the Inter-Cluster Coordination Group (ICCG) and, following advocacy by MPCA actors, developed a standalone MPCA chapter for the 2015 HRP. MPCA has had a chapter in the Iraq HRP every year since.

In 2015 there was growing recognition of the efficacy of MPCA as an emergency response modality in Iraq. However, the community as a whole lacked a common understanding of how to accurately identify and assist the most vulnerable households. This was a problem the CCI, by leveraging its internal resources and expertise, was able to address. The tools subsequently developed by the CCI for MPCA assessment, scoring, and verification were endorsed by the CWG and widely used by other MPCA actors. A core tool used by MPCA actors in Iraq is the Vulnerability Assessment (VA). The VA was designed around a vulnerability model that uses socio-economic indicators to arrive at an overall vulnerability score.

A rapidly changing humanitarian context, however, necessitated revision of the current vulnerability model. Taking advantage of latest data available from a country-wide household assessment that was endorsed by all the humanitarian clusters in the country, the CWG constituted a technical task force to review vulnerability assessment and targeting as it pertained to MPCA. The task force was jointly led by UNHCR and CCI.

Challenges in understanding vulnerability and improving targeting

Historically, CTP has faced two key challenges in determining eligibility and targeting. The first of these is the lack of a commonly agreed understanding of 'vulnerability'. In discussions with field staff, for example, several criteria are cited when questioned about who they would consider 'vulnerable', and therefore, eligible for assistance. None of the criteria, however, has unanimous agreement. The second challenge, even if the first is resolved, is about reporting. Assuming some criteria are agreed upon (such as female headed household, or presence of a chronically ill person in the household), there remains the problem of accurate reporting. Given the need to direct assistance to those who are most in need, reporting acquires increasing significance for targeting. The incentive to misreport on criteria (reporting the presence of a chronically ill person in the household, for example, when there is none, so as to be able to get cash assistance) means that those who report incorrectly would get assistance, at the cost of those who might be more in need of it.

Additionally, the increasing recognition for finding long-term solutions for IDPs has led to yet another challenge: that of finding programmatic transitions to long-term support systems. MPCA has traditionally been an emergency cash injection, which, given its short duration, works at best as a momentary financial cushion for those affected by conflict and facing internal displacement. While several households strive to find livelihood solutions for themselves, there is little certainty about those who are the most vulnerable among them and whether they will have long-term support to escape the conditions that contribute to their deprivation. In this context, working with social protection schemes becomes a key enabler for humanitarian-development transitions. Definitional problems arise again, as different social

protection schemes have different definitions of 'vulnerability', which may not be the same as those commonly used in a strictly humanitarian setting.

Proxy Means Testing

The Proxy Means Test is an econometric method employed to estimate income or consumption when there is a lack of information on either of these indicators. PMTs are often used for welfare analysis and targeting policies[1].

There are three main steps in employing a PMT approach to vulnerability. The first is establishing which indicator is to be used as a proxy for vulnerability. In most policies related to poverty alleviation, consumption, rather than income, is the indicator of choice to serve as a proxy for poverty. Once that is established, data is collected on a range of household characteristics and features, including household consumption. Econometric methods are then applied to see which of the household characteristics and features are most significantly associated with the indicator for vulnerability (or poverty) e.g. consumption.

The use of a PMT methodology helped address the three challenges for CTP programming in the humanitarian sector mentioned above. First, by following a widely used proxy for poverty analysis i.e. consumption, it led to a common understanding of vulnerability in the context of humanitarian cash assistance. Second, because the method *estimates* consumption, it does not rely on reported consumption to make programme choices, thereby precluding the problem of misreporting by potential beneficiaries. And finally, of crucial significance for long-term solutions, is its close alignment with the method used for identifying poor households for cash assistance by the Ministry of Labour and Social Affairs in Iraq. Closer methodological alignment between targeting policies of the government and the humanitarian sector can help in finding a systematic way for referring the humanitarian caseload for government assistance.

The Current Model

Developed in 2016 for the CCI, the current vulnerability assessment model aimed to address some of the aforementioned challenges. It did so by establishing a definition of vulnerability in terms of reported household incomes and expenditures. Existing CCI household data gathered during assessments (programme intake data) was used for a proxy means test that would help in understanding which of the household characteristics and behaviours — captured through a range of proxy indicators - were most significantly associated with the adopted definition of vulnerability, the ratio of income to expenditure (IER). A lower IER value implied higher vulnerability, as expenditure exceeded income.

The final model derived from the analysis has two cut-off points, the lowest determining eligibility for a one-off transfer of MPCA, the highest for three transfers of MPCA for the most vulnerable households. The full current model, with indicators and the corresponding score, is shown in **Table 1** below. The scores were derived from coefficients of the regression analysis and converted to whole numbers for programmatic intelligibility.

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[1] *Measuring income and poverty using Proxy Means Tests.* Social Protection & Labor team, Dhaka. The World Bank. Available at: https://olc.worldbank.org/sites/default/files/1.pdf

Table 1: Current MPCA Vulnerability Model

Indicator	Score
Zero household members working	10
Toilet shared with other relatives	9
Missing civil documents	8
Female-headed household	7
Standard house	6
Temporary job/daily labour	5
Disability OR chronic illness prevents working	4
Coping strategy index score	3/2/1

Revising the Model

In April 2018 the CCI's Technical Working Group (TWG) initiated conversations around reviewing and updating the current vulnerability model. The impetus for a review of the vulnerability model stemmed from three considerations:

I. The context in Iraq has changed – since December 2017, the number of returnees outpaced the number of newly displaced households. This trend was also evident in the assessed humanitarian caseload, in addition to an observed trend towards greater household vulnerability, with significantly more households being eligible for three rounds of MPCA;

II. The current model was developed using data gathered during household assessments that inevitably contained biases towards the CCI areas of intervention, which meant a bias towards the lower deciles of the population, and a bias towards IDPs. While it was the best data available at the time, and in most governorates had a large sample (N=1,000+), certain governorates were underrepresented and carried a large standard error (Anbar and Diyala), and the CCI's census-like approach to assessing for MPCA eligibility meant that the sampling was non-random and thus not generalisable to an entire population. Fresh analysis on statistically significant data would produce a more robust model;

III. A more strategic consideration was to seek closer methodological alignment with the targeting model employed by the World Bank for identifying poor households for cash transfers under Iraq's Ministry of Labour and Social Affairs' (MoLSA) social safety net programme. Building linkages and referrals to government social safety nets (SSNs) is a longer-term strategic priority for the national CWG, and closer alignment over targeting is an important step in strengthening those linkages.

The TWG agreed the above considerations warranted a revision. After internal discussions on potential approaches to data collection and methodology, the CCI informed the CWG of the planed review and revision in late May 2018 after meetings with REACH over the use of Multi-Cluster Needs Assessment (MCNA) data. The CWG supported the initiative, and suggested that collaboration with UNHCR would benefit the exercise.

The New Model

I.   Approach

The methodological approach adopted for the new model was the same as that used for both the current MPCA eligibility model and the MoLSA model: a PMT was applied on recent, quality data that reflected the changes in context and household circumstances across Iraq. It also refined how 'vulnerability' is defined for humanitarian cash assistance in Iraq, aligning the definition closer to the one used for poverty analysis elsewhere, including the World Bank. In the new model, vulnerability is defined in terms of household monthly per capita consumption, proxied by household expenditure.[2] Multivariate regression analysis was undertaken to see which household characteristics and behavioural indicators were most significantly associated with consumption. The analysis yielded a formula with a weighted set of variables that together *predict* household vulnerability, or the inability to consume the goods and services needed to survive. The rationale for a PMT approach can be broken down further as follows:

I.   MPCA is a modality that aims to enable households to meet a variety of basic needs in crisis, and the targeting methodology must reflect this (as opposed to food or shelter interventions, for example, which necessarily have more focused criteria).

II.   Further unpacking this: households in need of MPCA would vary in size, with heads of households that are female and male, of varying ages, in possession of varying degrees of financial, human, and social capital and different means of accessing incomes and livelihoods.

III. It was expected that if good data was available to conduct the initial analysis – either recent census data or methodologically robust household survey data, low inclusion and exclusion errors would be possible, as would an accurate poverty marker.

In brief, by taking into account a whole range of humanitarian specific indicators, the PMT approach allowed addressing and analysing the socio-economic complexity of MPCA target populations in a better, more systematic manner.[3] Another key advantage of the PMT approach was improved targeting: because it uses various proxy indicators to estimate the vulnerability indicator (consumption) instead of relying on that information as it is reported, it circumvents the problem of misreporting by potential beneficiaries.[4]

To better account for socio-economic variance across Iraq, regional vulnerability models were developed rather than one national model. This also allowed for closer alignment with the World Bank / MoLSA PMT, which also has regional models.

II.   Data Collection and Methodology

The data used for the analysis was collected as part of REACH Initiative's Multi-Cluster Needs Assessment (MCNA) Round VI, conducted between July and September 2018. CWG partners supported the exercise with enumerators

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[2] Household expenditure included expenditure on items associated with meeting basic needs, including food, rent, shelter, health and medicine, utilities, water, clothing, communication, transport, and education. Expenditure on servicing debt, savings and investments in productive assets were excluded from the consumption variable.

[3] For a recent overview of different targeting approaches adopted in urban environments, but one that does not include means testing, see Patel, R.B., King, J., Phelps, L. and Sanderson, D. (2017) 'What practices are used to identify and prioritize vulnerable populations affected by urban humanitarian emergencies? A systematic review', Humanitarian Evidence Programme, Oxford, Oxfam GB.

[4] There are, however, inclusion and exclusion errors, a subject we turn to later in this review.

and field assessment teams. [5] A total of 12,472 households were surveyed across Iraq, composed of 70,097 individuals.

The MCNA surveyed households in fully accessible districts and governorates, encompassing 72 districts in total, 62 of which were sampled at the district level and 14 of which were sampled at the governorate level. The MCNA sample was drawn with a 90% confidence level and 10% margin of error for each of the assessed population groups. The population groups targeted within each district are internally displaced persons (IDPs), returnees, and non-displaced households. A multi-stage cluster sampling approach was employed for each sub-group, with IOM datasets used as the sampling frames.

Within each sampled location, geo-points were randomly generated and provided to data collectors through a mapping application, to ensure all households in the area stood an equal chance of being surveyed. An eligible household (falling within the sampled strata) nearest to the geo-point was surveyed. In certain areas, the target sample size was not met, due either to a lack of access, or the target population no longer residing in the area. The findings in these areas were indicative only, and were not included in the analysis.

The MCNA data was used primarily for its quality: as noted, the samples were representative at the governorate and district levels and, with the exception of two governorates in southern Iraq, all areas of intervention of current MPCA were included in the sample. Further, the survey tool had full cluster input during the design phase and contained all necessary demographic indicators. In sum, humanitarian actors were able to support the exercise and then leverage a robust dataset for analysis by the technical task force.[6]

III.   Preparing the Dataset

To prepare the dataset for analysis, four steps were followed. First, the household- and individual-level survey responses were merged; the responses were separated in the MCNA dataset due to the looping function of the data collection tool used. Second, where needed, additional variables were constructed from the primary data. These included a series of categorical and continuous variables.[7]

Third, the dataset was truncated by removing the in-camp IDP household responses[8], leaving a total sample of 8,767 households, partitioned into four regional datasets: the North (including all primary conflict-affected areas), the Kurdistan Region of Iraq (KRI), the Centre, and the South. Finally, each regional dataset was weighted at the regional level, across all target population groups. Regional datasets were developed to improve the resolution and accuracy of the analysis by accounting for regional variations in population characteristics, and to harmonise the analytical framework with that of the World Bank.

IV.   Conducting the Analysis

Multivariate Ordinary Least Squares (OLS) regression analysis was used on all the weighted regional datasets, using stepwise variable selection, which automatically removes the variables that are not significant (i.e., $p => 0.05$). The log10 of monthly household per capita consumption was used as the dependent variable.[9] In the MCNA data, debt payments constitute a part of the expenditure variable that is used as a proxy for consumption. Monthly expenditure on 'debt' and 'productive assets' was removed from the per capita consumption calculation, resulting in a more accurate

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[5] Multiple humanitarian actors contributed to the MCNA. The full list can be found in the MCNA Iraq Round VI report, linked in the text.

[6] Much of the text in this section was taken from the methodology note contained in the MCNA dataset.

[7] Categorical variables refer to questions that have categorical responses (yes or no, e.g., female headed household or not, type of housing, etc.); continuous refer to those that have numerical responses (such as household size, dependency ratio, etc.)

8 In-camp IDPs were removed from the analysis because MPCA programming is not typically implemented in camp settings by CWG partners in Iraq, and vulnerability profiles in camps are usually different.

9 Log10 form variables are used because they have a normal distribution, a necessary condition to apply OLS regressions.

consumption variable: the goods and services that contribute to a household's current well-being (as opposed to future well-being). Dependent variable selection was also discussed with the technical team at the World Bank, who offered a peer review during the course of the analysis. The full list of dependent and independent variables included in the regressions is shown in **Annex 1** (the variables created but dropped from the analyses are italicised).

Initial regressions yielded multiple models that were anomalous, in that the variables these analyses produced were counterintuitive and were deemed unreliable or otherwise had little explanatory power as determined by low R-squared values (R-square being the 'goodness of fit', or the percentage of variance in response data explained by the model).

Another issue was related to household debt as a continuous variable, which was consistently showed a positive coefficient sign – implying higher consumption for those households who had higher debt. While this is intuitively correct, households in Iraq accrue debts as a coping strategy, often obtaining food or other goods on credit or through cash loans due to a lack of opportunities for employment. The continuous debt variable was removed from the independent variable list and replaced with a categorical variable for whether the household is holding debt. This helped in testing if households holding debt, regardless of the amount, are likely to have significantly less consumption than those who don't hold debt. The analysis also included testing alternate models with categorical variables in place of some other continuous variables. For example, household size was replaced with a variable called 'large household', created as a dummy for all households who had 6 or more members. Similarly, the variable for dependency ratio was replaced with a dummy if the dependency ratio exceeded 1. The explanatory power of the models failed to show any improvement with these changes. In the final analysis, continuous variables were used as they were.[10]

 The analysis included testing variables that have previously been used as criteria for MPCA. For example, the status of a household being female-headed failed to show as statistically significant in any of the regressions, in any of the regions. Despite analysis of CCI data showing that female-headed households tend to be more vulnerable than male-headed households (typically having lower incomes but similar levels of monthly expenditure), it being absent as a predictor was accepted providing the other significant variables sufficiently capture the behaviours exhibited by and characteristics found among vulnerable female-headed households. This would be tested at a later stage. However, a large percentage of households predicted as vulnerable by the final models did turn out to have a female head (see below).

After multiple tests, each regional dataset underwent two final iterations. The first was a stepwise OLS regression using all the independent variables noted in **Annex 1**. Following this, a simple OLS regression was run on all the variables found significant in the stepwise regressions, excluding the insignificant variables and those with spurious coefficient signs. Finally, due to the comparatively small sample in the southern governorates, the Centre and South datasets were merged, to create one Centre-South model. Due to the increased number of observations, this resulted in a model with very similar variables to the previously separate Centre and South models, but with better explanatory power.

Regional Models

The final regional models with the significant variables and coefficients are shown in **Table 2** below (the governorates contained within each model are noted in **Annex 2**). The coefficient values corresponds to the degree of association between the dependent variable and each of the independent variables, which capture various household characteristics and behaviours. The sign of each coefficient indicates the direction of association. For example, the

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[10] The only exception was household debt, which was included as a dummy variable instead of its continuous form (i.e. amount of debt).

negative coefficient for household size implies that a higher household size is associated with lower per capita consumption (or conversely, a smaller household size is associated with higher per capita consumption).[11]

Table 2: Regional MPCA Vulnerability Models

North (R Squared = 18%)		KRI (R Squared = 29%)	
Variable	Coefficient	Variable	Coefficient
Forced marriage (NCS)	-0.3006	Food from social events (NCS)	-0.1634
Has standard dwelling/shelter	+0.2304	Child dropout from school (NCS)	-0.1004
Food from social events (NCS)	-0.1748	Has standard dwelling/shelter	+0.0887
Child labour (NCS)	-0.0730	Household hosting PLW	-0.0579
Has secure water source	+0.0713	Reduce non-food spending (NCS)	-0.0410
Shared latrine	-0.0567	Household size	-0.0362
Reduce non-food spending (NCS)	-0.0447	Employment rate	+0.002
Household hosting PLW	-0.0392		
Household size	-0.0391		
Head of household has difficulty working	+0.0313		
Spend savings (NCS)	-0.0311		
CSI score is 'Low'	+0.0159		
Employment rate	+0.002		

Centre-South (R Squared = 37%)	
Variable	Coefficient
FCS category 'Poor' or 'Borderline'	-0.1035
Has standard dwelling/shelter	+0.1031
Has regular income	+0.0553
Household size	-0.0595
Employment rate	+0.002

The final regional MPCA models contain a diverse combination of the short- and long-term behaviours and characteristics exhibited by and found among vulnerable households in Iraq, including food- and livelihoods-related coping strategies, household demographics, and protection, shelter and WASH indicators. That coping strategies feature prominently in the models is encouraging, given that a key outcome of MPCA in Iraq is to reduce the use of coping strategies. The regional PMT formulas that predict household per capita consumption are shown below:

North Expenditure Per Capita = 5.010 + (-.3006*Forced Marriage) + (.2304*Has standard dwelling/shelter) + (-.1748*Food from social events) + (-.0730*Child Labor) + (.0713*Has secure water source) + (-.0567*Shared latrine) + (-.0447*Reduce spending on non-food items) + (-.0392*Household hosting PLW) + (-.0391*Household size) + (.0313*Head of Household has difficulty working) + (-.0311*Spend savings) + (.0159*CSI score is 'Low') + (.0018*Employment rate)

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[11] Viewed in terms of vulnerability, lower consumption implies higher vulnerability.

KRI Expenditure Per Capita = 5.127 + (-.163*NCS – Food from social events) + (-.100*Child dropout from school) + (.089* Has standard dwelling/shelter) + (-.058* Household hosting PLW) + (-.041*Reduce spending on non-food items) +– (-.036*Household size) + (.002*Employment rate)

Centre-South Expenditure Per Capita = 5.131 + (.103* Has standard dwelling/shelter) + (.055*Has regular income) + (-.059*Household size) + (-.104*FCS category 'Poor' or 'Borderline') + (.002HH employment rate)

The predicted consumption obtained from the PMT formulas above are used for vulnerability assessment and targeting. A distribution analysis was undertaken on predicted consumption in the MCNA data. This allowed to set a poverty-marker, households below which would be considered vulnerable. A further distribution analysis was done for the sample of households that were found vulnerable. This helped in setting consumption values that should correspond with different MPCA modalities (1, 2, or 3 payments). Those with the lowest per capita monthly consumption would be eligible for 3 payments, those in a higher consumption bracket for 2 payments and those just below the poverty marker for 1 payment.

Inclusion and Exclusion Errors

Each regional model was then tested for inclusion and exclusion errors. Inclusion errors (also referred to as 'leakage') refer to households found eligible according to predicted consumption in our model, but would not be according to actual consumption reported in survey data. Exclusion errors (also referred to as 'undercoverage') refer to households found ineligible according to predicted consumption, but would be eligible according to actual consumption. Testing for inclusion and exclusion requires identifying a poverty marker – e.g. the poorest 30% of households – in actual consumption and calculating the proportion of households below that threshold who would be included or excluded according to predicted consumption.

Inclusion and exclusion errors were tested at both the 35th and 40th percentiles, in line with the World Bank-estimated poverty rates across Iraq noted above. At the 35th percentile, the $\log_{10}$ of actual consumption was 4.82, or IQD 66,833 per person per month (approximately $1.87 per person per day). At the 40th percentile, the $\log_{10}$ of actual consumption was 4.86, or IQD 73,250 (approximately $2.05 per person per day). The 35th percentile was selected due to being closer to the median between the poverty rates across our regional models. The inclusion and exclusion errors at the 35th percentile for each regional model are shown in **Figure 4** below.

Table 3: Inclusion and Exclusion Errors (35th Percentile)

	Inclusion Error	Exclusion Error
North	4.4%	28.8%
KRI	2.9%	32.4%
Centre-South	3.8%	16.0%

The error rates were found to be comparatively low: inclusion errors of less than 5% are well below those found in PMTs developed for public safety nets in other countries, and exclusion errors of less than 33% are also less than the

40 – 70% found in other PMT targeting models[12]. The exclusion error rates of 16 – 32% lend confidence that the models will target the majority in need of MPCA in the areas of intervention. Finally, the models were also tested for female-headed household inclusion using the same method. The analysis found that, nationally, 62% of female-headed households would be included in the models according to predicted consumption. This confirmed that although being female-headed is not itself a statistically significant characteristic, other associated characteristics and behaviours exhibited by female-headed households are well-captured in the models.

Summary

In summary, sourcing robust and representative household data has allowed for the development of vulnerability assessment models that allow improved targeting and better capture the differences in socioeconomic vulnerability across regions.

The low inclusion and exclusion errors lend confidence that the models will allow the humanitarian cash community to accurately target the most vulnerable among the conflict-affected populations.

Further, the exercise has enabled continued MPCA sector harmonisation and bolstered humanitarian-development transitional efforts. The models received unanimous endorsement from the wider cash community via the CWG. The models will be built into the revised household vulnerability assessment (through automated scoring), which is currently being piloted by CWG partners.

The continued usage of the PMT targeting methodology, and the development of three regional targeting models, has cemented stronger linkages with the World Bank and GoI, furthering the responsible transition from humanitarian MPCA to social protection systems in the longer term. The next step is to finalise the 'pseudo-PMT' formula, which will indicate how many vulnerable households eligible for MPCA would also qualify for government assistance.

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[12] See, for example, Sharif, I. (2009) 'Building a Targeting System for Bangladesh based on Proxy Means Testing', SP Discussion Paper No. 0914, World Bank Group; and Kidd, S. and Wylde, E. (2011) 'Targeting the Poorest: An Assessment of the Proxy Means Test Methodology', Australian Aid.

Annexes

Annex 1: Independent Variables

Categorical Variables

Head of household is female	FCS: Borderline or Acceptable	NCS: Engaged in illegal activities (Female)
Head of household experiences difficulty working due to disability or chronic illness	Household is missing civil documentation	NCS: Child labour
Household hosts individuals with difficulty working due to disability or chronic illness	Negative Coping Strategy (NCS): Selling Assets	NCS: Whole family migrated
Household has pregnant or lactating women	NCS: Spending Savings	NCS: Food from social events
Coping Strategy Index (CSI) score: Low	NCS: Acquiring goods using debt	NCS: Child Marriage
CSI score: Medium	NCS: Selling transport	NCS: Forced marriage (adults)
CSI score: High	NCS: Child dropped out of school	Household is without secured water source
Food Consumption Score (FCS): Poor	NCS: Reduced spending on non-food items	Household is without access to a private or shared water tank
FCS: Borderline	NCS: Changed dwelling/shelter	Household shares latrine
FCS: Acceptable	NCS: Engaged in illegal activities (Male)	Household is without standard dwelling/shelter
Household is without a regular income	Household holds debt	
Large household (more than 6 members)	*Dependency ratio is greater than 1*	

Continuous Variables

Household size	Dependency ratio
Household employment rate	*Household debt*

Annex 2: Regional Models & Governorates

Centre-South	KRI	North
Babylon	Dohuk	Anbar
Baghdad	Erbil	Diyala
Kerbala	Sulaimanyiah	Kirkuk
Najaf		Ninewa
Wassit		Salah al-Din
Missan		
Qadissiya		
Thi-Qar		