Multidimensional Poverty in Syria

A comparative research 2001, 2009

June 2014

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Preface

This is a product of a tripartite cooperation among the Central Bureau of Statistics, the Planning and International Cooperation Commission of the Syrian Arab Republic, and the United Nation Children Fund in Syria in 2012. A detailed analysis of the datasets from the Family Health Surveys on the living standards and child wellbeing in Syria has resulted in two reports - “The Multi-dimensional Poverty in Syria” and “The Multi-Dimensional Child Deprivation in Syria”.

It is for the first time in Syria that studies of this kind had been conducted using datasets from the Family Health Survey (2001) and the Family Household Health Survey (2009). These reports present the status and progression of poverty and deprivation from multiple dimensions, including education and health for the period 20012009-. Among others, these reports will serve as the baseline to measure the impact of the crisis on living conditions in Syria in the future.

The Central Bureau of Statistics takes this opportunity to thank all who contributed to this work.

Director of Central Bureau of Statistics
Dr. Ihssan Amer

UNICEF Acknowledgment

This report is a result of cooperation between the Central Bureau of Statics of Syria (CBS) and UNICEF Syria which aims to improve the understanding of poverty and deprivation in Syria. The CBS management and team worked closely with the authors by providing the raw datasets and in the development of the methodologies and assumptions, and in the construction and analysis of the datasets.
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Technical Committee

A technical committee was formulated with the decision number 813/m dated 282012/6/, to follow up on the study on “Living conditions and children welfare in Syria” with two dimensions (Multidimensional Poverty in Syria and Multidimensional Child Deprivation in Syria), the director of the Central Bureau of Statistics CBS was the head of the committee, with the membership of the following:

Dr. Ali Rustum	Director of Demographic and Social Statistics - CBS
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And	
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Executive Summary

This report analyzes the human development situation during the period 2001 to 2009 in Syria, based on people-centered development concept, to identify the main improvements and challenges of development strategy in terms of enhancing people capabilities and functionings. In this regard, the report constructed Multidimensional Poverty Index (MPI).

The report aims to measure incidence (H) and intensity (A) of poverty across dimensions, time, and regions; by using participatory approach and depending on the Multidimensional Poverty Index (MPI) methodology prepared by OPHI.

National MPI results

The report shows that Syria has seen improvements in human development dimensions measured by MPI during the period 2001- 2009. This improvement, especially in rural areas and some governorates, has not eliminated the imbalanced development between regions in Syria. Moreover, the relatively slow progress in education dimension reflects a serious challenge to the human capital accumulation. The stagnation of a number of health indicators, particularly during the last decade, highlights the institutional inefficiencies, which did not contribute in translating the quantitative expansion into qualitative development.

The results show that the MPI poverty in Syria has decreased by 41 per cent between 2001 and 2009, reflecting a notable improvement in human development situation of Syrians. The decrease of MPI was significant in rural areas, from 0.083 in 2001 to 0.047 in 2009, and much sharper than the MPI reduction in urban areas which had decreased significantly between 2001 and 2009 from 0.038 to 0.027.

Both components of MPI dropped during the studied period; that the poverty incidence witnessed a notable drop from 15 per cent in 2001 to 9 per cent in 2009, and this has been accompanied with a slight decrease in the MPI intensity from 40 per cent of the (weighted) indicators to 38 per cent during the same period. Similar to MPI poverty, MPI incidence and intensity in rural areas were higher than in urban areas in the two years covered in the study, yet, the gap has narrowed over the time.

Dimensions results

In terms of the MPI poverty dimensions; all indicators has witnessed a significantly absolute reduction except “years of schooling” which had increased significantly and “child mortality” which had no significant change. In 2009, “school enrollment”, “nutrition”, and “years of schooling” indicators still have had high MPI values.

Moreover, the results show that Education deprivation is the main relative contributor of MPI poverty over the period of study; while Health is the second relative contributor to MPI poverty, decreasing from 35 per cent in 2001 to 33 per cent in 2009. However, Standard of Living has witnessed a substantial decrease in its contribution to MPI, falling down from 23 per cent to 9 per cent during the same period. As a result, the policies to eradicate deprivation should adapt its priorities to focus more on Education and Health dimensions.

The MPI poverty results reflect, to a large extent, the development strategy that has been adopted during the studied period. The Standard of Living has improved due to the government focus on infrastructure and subsidies as part of its social policies to provide households with the basic needs including electricity, gas, drinking water, and proper sanitation. In addition, telecommunication revolution facilitated substantially the access to information. However, this strategy seemed to focus more on achieving quantitative goals rather than the quality.

In terms of Education and Health dimensions; and despite the fact that the government has increased

the number of schools and hospitals and opened these sectors widely to the private sector, the slow improvement in education and health dimensions could be explained by the institutional weaknesses which have been reflected in low productivity, high corruption, absence of monitoring and evaluation systems, and low quality of public services; in addition to gradual prices liberalization of public services which increased its cost on household.

Stagnancies in child mortality during the period 2001 and 2009 is an example of ineffective impacts of development policies. Additionally, the incentives for the basic education enrollment have been affected negatively by the weak performance of the labor market.

Governorates results

The MPI results at governorate level show that the imbalanced performances across regions are massive. In 2009, Eastern and Northern regions have had the highest deprived headcount ratio, while the coastal region has had the lowest ratio.

The highest MPI witnessed in Deir-ez-zor, Al-Rakka, Aleppo, Al-Hasakeh, and Idleb governorates respectively. In contrast, Al-Sweida, Tartous, Lattakia, and Damascus are the least deprived governorates respectively.

A significant reduction has occurred during 2001 2009 - in most governorates except Lattakia that had no significant changes in MPI. The deprivation lessening, however, did not alleviate the huge imbalances between governorates. In general, governorates in Eastern and North regions; and to a less extent Rural Damascus from Southern region are the most deprived governorates in Syria 2009.

The imbalanced development need to be tackled through inclusive development strategy at national level, and should give a special attention to invest in the most deprived regions.

Policy oriented conclusions

The first formal adoption of the money-metric poverty issue within development policies in Syria was at the 10th Five Year Plan 20062010-, where inequality and poverty issues were essential components of the development strategy (PICC, 2006).

The 10th FYP did not achieve its objectives in terms of money-metric poverty; on the contrary, the poverty increased. Moreover, the regional disparity increased, this indicates that the programs that were planned to reduce poverty in the most deprived regions did not succeed in achieving its goals (PICC, 2009).

The internal reasons that could hinder the plan were firstly, postponing the major institutional reforms, thus the institutions continued to suffer from weak participation and lack of efficiency and accountability; secondly, gradual implementing of cost recovery principle in public health and education services, reduction in basic food subsides, and partial liberalization of energies prices, especially in 2008, that caused unfavorable effects on household welfare; finally, the fiscal policy which was anti poor through its concentration on the indirect tax, reduction in the public investment, and postponing the application of programs that focus on increasing public expenditure efficiency.

The development policies in Syria did not adopt the modern concept of multidimensional poverty, even though different policies targeted it indirectly through the investment in health, education, and infrastructure. The 10th FYP however did not achieve its ambitious social objectives in terms of reducing illiteracy rates, child mortality rates, and child malnutrition.

The multidimensional poverty needs to be addressed within future inclusive development strategy aiming to achieve social justice, invest in people capabilities, and provide fair opportunities; particularly

that the current crisis in Syria has mounted the challenges of multidimensional poverty situation in Syria. The report creates a benchmark to evaluate the impact of the current crisis in Syria on the human development situation of Syrian people at the national and regions levels, which is the next important step of this research work.

Introduction

This report analyzes the human development situation during the period 2001 to 2009 in Syria, based on people-centered development concept, to identify the main improvements and challenges of development strategy in terms of enhancing people capabilities and functionings. In this regard, the report constructed multidimensional poverty index consists of different development dimensions across governorates in Syria; these results used to assess key policies that associated with deprivation.

The report uses a new methodology prepared by Oxford Poverty Human Development Initiative (OPHI, 2013); measuring Multidimensional Poverty Index (MPI, henceforth) which assesses the deprivation of Syrian people in terms of standard of living, health, and education dimensions using ten main indicators. The methodology has many advantages comparing to the Human Development Index, that MPI: uses micro data at the household level, as unit of analysis, depending on Family Health Surveys (FHS, henceforth), measures deprivations headcount and intensity, uses many adaptable detailed indicators, and adopts multi different poverty lines (cutoff points) measuring vulnerability and deprivation. Additionally, MPI allows an analysis of overall deprivation and at the same time uses Shapely decomposability approach to examine changes in each governorate and in each dimension, keeping the advantages of the dashboard approaches (Roche, 2013). Moreover, the report has had methodological advantages of using a dynamic analysis across two points of time 2001- 2009, and testing the statistical robustness of difference across years, and between regions in each year.

In general, the report shows that Syria has had an improvement in human development dimensions measured by MPI during the period 2001- 2009. This improvement, especially in rural areas and some governorates, has not eliminated the imbalanced development between regions in Syria. Moreover, the relatively slow progress in education dimension reflects a serious challenge to the human capital accumulation. The stagnation of a number of health indicators, particularly during the last decade, highlights the institutional inefficiencies, which did not contribute in translating the quantitative expansion into qualitative development.

The report is a benchmark to measure the impact of the crisis[1] in Syria on the human development, and it is a tool to draw lessons learned on the effectiveness of development strategy before the crisis which helps in diagnosing its roots.

The first section begins with an overview of multidimensional poverty concept, and measures, followed by an overview of development policies and poverty in Syria. Section two covers MPI in Syria including methodology, data and variables, MPI dynamic results at both national and governorate levels in all dimensions, and then the report concludes.

[1] The crisis is the term used in this report to express the situation in Syria since March 2011

I. Multidimensional Poverty Overview

This section reviews the main approaches that measure multidimensional poverty; while (Annex 1) highlights the main literature about the concept of multidimensional poverty. Additionally, the section reviews the key development policies and poverty status in Syria.

A. Multidimensional Poverty Measures

Poverty is usually measured based on the money-metric poverty concept which considers someone as poor if this person does not have enough resources. This implies that the used indicators for measuring poverty are only related to the prices and expenditures on goods and services.

From a general perspective, there are four sets of indicators that could be used to measure poverty. These are real expenditure per capita for adults, non-income indicators, distribution within households' indicators, and indicators of personal characteristics (Ravallion, 1996). These sets are related to the capability approach particularly in the non-income indicators that include, for instance, accessibility to public goods which affect directly the functionings and capabilities of individuals.

Several studies operationalize the capability approach by applying an empirical measurement of capability for functionings, taking into account the main objective of this approach in expanding valuable freedoms. These studies apply mainly quantitative methods in addition to some qualitative analysis that focuses on essential values from people's point of view. Many of these studies emphasize the use of participatory approach through which people can criticize and adjust dimensions and indicators selected to capture multidimensional poverty in their communities.

However, one would face several issues when applying the multidimensional poverty measurement. The main issues are the broader set of dimensions that could be included, and the minimum of each selected dimension under which the person is considered poor, in addition to the difficulty in determining substitution and complementary levels between the selected dimensions (Thorbecke, 2005). Thus, many researchers prefer to reduce the number of dimensions as much as possible to minimize the negative impact of these issues.

From a practical perspective, researchers choose the dimensions of multidimensional poverty by applying one or more of the following selection methods: using available data, making assumptions regarding the values of people, adopting an existing list of indicators and dimensions that was generated by consensus, using an ongoing deliberative participatory process; and suggesting dimensions based on empirical studies of people's values (Alkire, 2008).

In terms of deprivation threshold for the multidimensional poverty, there are two main methods; the first one is the "union" method in which the individual is considered deprived if she is deprived in one or more dimensions, and this leads to increase the poverty headcount. The second method is the "intersection" one in which the individual should be deprived in all dimensions to be considered as poor, and this leads to decrease the overall poverty rate (Alkire and Foster, 2007).

Several other indices are used to measure the multidimensional poverty. In 1982, Atkinson and Bourguignon analyzed the multidimensional welfare by focusing on a case in which the government is concerned with both monetary and non-monetary variables. In order to include these variables, they use an indirect utility function defined over the price vector in addition to the person's income (Atkinson and Bourguignon, 1982). This approach assumes that all attributes could be purchased; however, many non-monetary goods are not marketable such as public goods, including health and education.

Forster, Greer, and Thorbecke proposed in 1984 an aggregation function to measure poverty based on individual data (Foster et al., 1984), this index is called FGT measures. One of the simplest applications of FGT in measuring multidimensional

poverty headcount is the Unsatisfied Basic Needs (UBN) approach which calculates the number of deprived individuals and households using several indicators to cover a representative set of basic needs. However, this approach does not reflect the intensity of the deprivation in each of the selected dimensions and if the deprivation happens in more than one dimension (Battiston et al., 2009).

In 2003, Bourguignon and Chakravarty proposed multidimensional poverty measures which are generalized from the FGT family of measures. These measures aggregate relative deprivations implying a degree of substitution between dimensions assuming the same elasticity of substitutions between dimensions i.e. constant elasticity of substitution (CES) function. They considered that multidimensional poverty is a shortfall from a threshold on each dimension, however; substitutability and complementarity degrees between studied dimensions should be taken into consideration. Thereafter, they specify a poverty line for each dimension of poverty to consider that a person is poor if she falls below at least one of these various lines (Bourguignon and Chakravarty, 2003). The later researchers argue that this family of poverty indices could be applied on any number of dimensions, but with the assumption of CES, which seems to be unrealistic (Thorbecke, 2005).

Alkire and Foster propose a family of measures which is an extension of the FGT measures; these measures provide information on the number and levels of deprivations for poor households. This method is useful in analyzing the poverty depth and distribution (Alkire and Foster, 2007). In order to calculate the index, the approach applies a dual cut-off; the first one is for each of the selected dimensions, and the second cut-off is for the number of dimensions (k) required for the household to be considered poor i.e. a household is poor if it is deprive from (k) or more dimensions. Moreover, and since this approach could reflect the deprivations of households in terms of each selected dimension, it shows the composition of several aspects of poverty that households experience.

By comparing between the different multidimensional poverty measures mentioned above, one could notice that: the UBN approach neglects the intensity of poverty by dimensions and focuses only on poverty headcount, the Bourguignon and Chakravarty methods could not decompose the aggregate measure by dimensions to come up with a comprehensive analysis, and the Forster and Alkire approach does not allow for the interaction between dimensions, and does not show the dimensions' sensitivity towards changes in the levels of other associated dimensions (Battiston et al., 2009).

Thus, the UNB approach does not provide the sufficient information to conduct a comprehensive analysis of the multidimensional poverty. Using Alkire and Foster method is useful in terms of ability to decompose the selected dimensions by different groups or regions. Dimension decomposability seems to be important as a first step to understand multidimensional poverty at national level, and, later on, Bourguignon and Chakravarty method would deepen the understanding of poverty and the interrelations between its dimensions.

B. Brief on Development Policies and Poverty in Syria [2]

The first formal adoption of the poverty issue within development policies was at the 10th Five Year Plan 2006 - 2010, the core statement of the plan was the transforming toward social market economy, in reference to the importance of social side. The main long term objectives of the plan were: achieving a sustained pro-poor growth, improving equity, investing in human capital, and sustaining environment. The planned goals show that inequality and poverty issues are essential

[2] This section based to large extent on unpublished background paper «A Preliminary Preparation Background Paper of the Poverty Study 2010», Syrian Center for Development Research, 2010.

components of the development strategy (PICC, 2006).

The Plan included a part that diagnosed money metric poverty in Syria based on UNDP studies (UNDP, 2005). Furthermore, the plan identified its general goals for poverty reduction as adopting pro-poor macroeconomic policies, investing in human development, expanding opportunities, and developing the social protection networks for the poor (PICC, 2006). Moreover, the plan identified quantitative objectives like reducing the poverty headcount ration from 11.4 per cent in 2004 to 8.7 per cent by 2010 for the extreme poverty; and reducing the poverty headcount ratio from 30.1 per cent in 2004 to 22.6 per cent for the overall poverty.

The Mid-Term Review of the 10th FYP showed that the plan did not achieved its objectives in terms of poverty; on the contrary, the poverty increased during the first half of the time frame for implementing the plan, that the share of total population living below the upper poverty line increased from 30.2 per cent in 2004 to 33.6 per cent in 2007; and to a less extent, the share of the total population living below the lower poverty line also increased from 11.4 per cent in 2004 to 12.3 per cent in 2007. The estimations of the second half of the plan showed that the poverty has increased especially after the dramatic increase in prices in 2008. Moreover, the regional disparity increased, indicating that the programs of reducing poverty in the north and eastern regions did not succeed in achieving its goals; in addition poverty has increased in other regions such as Rural Damascus (PICC, 2009).

The increase of poverty could be explained by different external and internal factors, which diverted the implementation from the planned policies. The external factors included: the drought, regional political tensions, and the international financial crisis. While the internal reasons included firstly, postponing the major institutional reform, thus the institutions continued to suffer from weak participation and lack of efficiency and accountability; secondly gradual implementing of cost recovery principle in public health and education services, reduction in basic food subsides, and partial liberalization of energies prices, especially in 2008, causing unfavorable effects on household welfare; finally, the fiscal policy which was anti poor through its concentration on the indirect tax, reduction in the public investment, and postponing the programs that focus on increasing public expenditure efficiency (Nasser, 2009).

The quantitative expansion of providing universal public services such as health, education, and housing infrastructure including electricity, water, sanitation, and communication services during the studied period did not accompanied with improve in the quality of services due to the lack of institutional reform (PICC, 2009).

The development policies in Syria did not adopt the modern concept of multidimensional poverty, even though different policies targeted it indirectly through the investment in health, education, and infrastructure. The plan however did not achieve its ambitious social objectives in terms of reducing illiteracy rates, child mortality rates, and child malnutrition.

Alkire constructed Multidimensional Poverty Index in Syria to reflect the deprivation in ten component indicators covering three main dimensions weighted equally; health, education, and standard of living. The results, which are based on the 2006 Multiple Indicator Cluster Survey (MICS), show that the MPI is 0.021 giving Syria the rank of 34 out of 104 countries, the proportion of poor is 5.5 per cent, and the average intensity of deprivations is 37.5 per cent. Decomposing the index shows that “school attendance” and “child mortality” are the main two contributors to the overall deprivation index in Syria (Alkire, 2011).

This report takes further steps in measuring MPI using participatory approach to choose indicators and thresholds, applying MPI for two years and testing the significance of changes, decomposing the results to governorate level, and linking the results to development policies.

II. Multidimensional Poverty Index of Syria

This study aims to calculate the MPI for Syria in two years 2001 and 2009 using National Family Health Surveys data. The analysis focuses on the dynamics of MPI in Syria reflecting the impact of the national development policies in terms of health, education, and standard of living. The negative impact of the current crisis in Syria on the MPI in general and on its three main dimensions in particular needs to be tackled thoroughly in a separate study.

A.Methodology

Multidimensional Poverty Index (MPI) aims to measure deprivations in core human functionings and the means to achieve these functions. MPI identifies the poor household by using an aggregated measure constructed by Alkire and Foster (2007). This index has three dimensions and each one is equally weighted, and the component indicators within each dimension are equally weighted.

Table 1: MPI's three dimensions and the ten indicators

Dimensions	Indicators
Health	■ Child Mortality ■ Nutrition
Education	■ Years of Schooling ■ Child School Attendance
Standard of Living	■ Electricity ■ Drinking Water ■ Sanitation ■ Flooring ■ Cooking Fuel ■ Assets

Source: Authors assumptions based on MODA and MPI methodologies.

Each person within a family has the score of her family since the suffering of one person of a family living in one household affects other family members, and similarly the abilities of one person are usually considered as an advantage for the other members. Table (1) shows that MPI has three dimensions and ten indicators, the health and education dimensions have two indicators each; whereas, the standard of living dimension has six indicators.

MPI has two types of thresholds; the first one is (c) which is the threshold on each indicator level to identify the deprived/poor person. For example, within the health dimension, the threshold of the first indicator is to have had one or more children die, and for the second indicator the threshold is to have at least one family member who is malnourished. In terms of education, the thresholds are having no household member who has completed five years of schooling, and having at least one child who is not attending school.

The second threshold is (K), and the person i is considered deprived if $c_i \geq K$, where c_i is the sum of indicators for each person i multiplied by their weights:

$$c_i = \sum_{j=1}^{d} w_j I_j^{\,i}$$

$$c_i = w_1 I_1 + w_2 I_2 + \ldots + w_d I_d$$

And $I_j^{\,i} = 1$ if the person i is considered deprived from the indicator j.

To identify the multidimensionally poor, a cut-off of K = 33 per cent is adopted in the literature, which reflects the deprivation in two to six indicators. This threshold is usually used to distinguish between the poor and non-poor. In case a household score ci is equal or greater than K, this household and all its members are considered multidimensionally poor.

The MPI value is calculated by multiplying two measures: the multidimensional headcount ratio (H) and the intensity of poverty (A).

$$MPI = H * A$$

The headcount ratio, H, is the proportion of the population who are multidimensionally poor:

$$H = q/n$$

where q is the number of individuals who are multidimensionally poor and n is the total population.

The intensity of poverty (A) reflects the proportion of the weighted indicators, d, in which poor people are deprived. This proportion is calculated by summing up the deprivation scores of poor households only ci (k), divided by the total number of indicators (d = 10) and by the total number of poor persons (q):

$$A = \Sigma ci\ (k)\ /\ qd$$

Calculating the MPI, which is decomposable, provides an opportunity to identify the total deprivation in addition to the deprivation in each dimension by different groups and regions within the country. This leads to deepen the understanding of the multidimensional poverty phenomenon. This understanding, in turn, provides policy makers with the necessary information to come up with appropriate strategies and policies; and to design right mechanisms and tools to meet the national development objectives.

This study analyzes the MPI in Syria from different angles, first from its components (headcount and intensity), secondly from dimensions and indicators contribution to the MPI, thirdly the disaggregation across regions and governorates in Syria, lastly all angles studies across time 2001-2009 to measure MPI dynamics.

The report checks for the statistical significant differences between MPI across geographical regions and across time, and the sensitivity of the cutoff points.

B. Data and Variables

The report depends on two surveys of the Family and Health Surveys conducted in Syria in 2001 (9500 households) and 2009 (24883 households) (see Annex 2). The samples of these surveys are representative on the governorate and urban rural levels, the first stage of the samples was choosing the stratum and clusters, and the second stage was choosing randomly the households in each cluster. The variables' labels in the two surveys have been unified [3] .

In order to analyze multidimensional poverty in Syria during the studied period, the report constructed MPI of Syria based on ten indicators which have been adjusted in terms of constructing methodology and thresholds in a participatory approach with national experts to reflect the socioeconomic context in Syria and to deal with the lack of data in some aspects. The three dimensions and ten indicators are:

- Health (two indicators weighted equally):
  - Child mortality: if any child (aged under five years) has died during the last five years,
  - Nutrition: if any child up to five years old has one or more of "weight to age", "height to age", "weight to height" measures below the World Health Organization (WHO) standards by more than two standard errors (Leroy, 2011).
- Education (two indicators weighted equally):
  - Years of schooling: if no individual of the household has at least graduated from primary education (6 years of education completed),
  - School enrollment: if any individual of the household aged between 6 and 17 and is not attending school.
- Standard of Living (six indicators weighted equally):
  - Electricity: if electricity is not the main source of "lighting" in household,
  - Water: if the household source of water is not public network or public tap or bottled water, or the household treats the water to drink or family members need more than 30 minutes to reach the water source,
  - Sanitation: if the household's sanitation is not

connected to public network or covered pits, or the household has no toilet facilities, or the household has shared toilet facilities located outside its dwelling,

- Flooring: if the household's floor is not made of cement or tiles, and its ceiling is not made of cement or wood; the ceiling condition is not available for 2001.
- Cooking fuel: if the household does not use gas as cooking fuel,
- Assets: if the household has less than two of: phone (fixed or mobile), TV, refrigerator, motorcycle, and has no car or tractor or other house buildings or commercial and industrial buildings or industrial tools or commercial transportation vehicles or land with more than 5 donums, the later (land space) applied for 2009 only.

[3] For some differences between the surveys in terms of particular questions see Annex 3

III. Multidimensional Poverty Index (MPI) Results

The MPI results[4] are presented to cover several analytical angles which are time, geographical areas, MPI dimensions, and indicators; in addition to the MPI, headcount and intensity results.

A. MPI dynamics at national level

The results show that the MPI poverty in Syria has decreased from 0.061 to 0.036 in 2001 and 2009 respectively, reflecting a steady improvement in human development situation of Syrians. The decrease in MPI was significant in rural areas, from 0.083 in 2001 to 0.047 in 2009, and much sharper than the MPI poverty reduction in urban areas which had decreased significantly between 2001 and 2009 from 0.038 to 0.027. The higher MPI poverty in rural areas during the studied period reflects the imbalanced development in Syria.

Figure (1): MPI Results for Syria in 2001 and 2009

Source: FHS surveys 2001 and 2009 in Syria and authors' calculations.

The multidimensional headcount ratio in Syria has witnessed a notable drop from 15 per cent in 2001 to 9 per cent in 2009, and this has been accompanied with a decrease in the MPI intensity, that multidimensionally poor people in 2009 were deprived on average in 38 per cent of the (weighted) indicators comparing to 40 per cent in 2001 (Figure 1). Similar to MPI poverty, multidimensional headcount ratio and MPI intensity in rural areas were higher than in urban areas in the two years covered in the study, yet, the gap has narrowed over the time.

In terms of the MPI poverty dimensions' relative contributors, the results show that Education is the main relative contributor of MPI poverty over the period of study, and its contribution has increased substantially from 43 per cent in 2001 to 58 per cent in 2009. Health is the second relative contributor to MPI poverty, decreasing from 35 per cent in 2001 to 33 per cent in 2009. However, Standard of Living has witnessed a substantial decrease in its contribution to MPI, falling down from 23 per cent to 9 per cent, in 2001 and 2009 respectively (Figure 2).

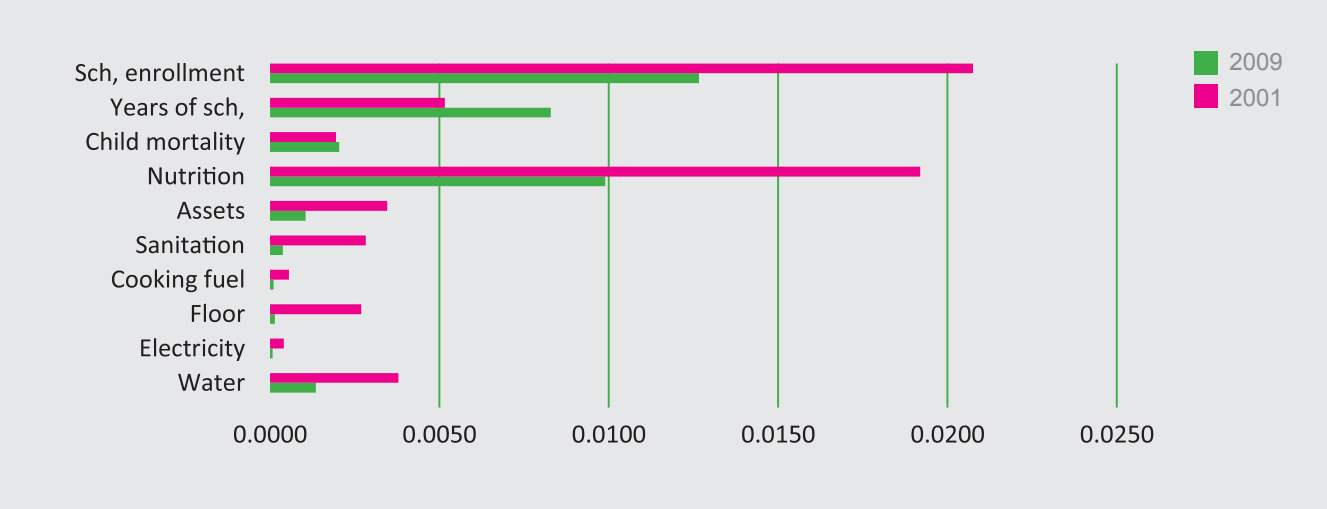
"

Education is the main relative contributor of MPI poverty over the period of study, and its contribution has increased substantially.

MPI values for each indicator over time show that all indicators had decreased significantly between 2001- 2009, all indicators has witnessed a significantly reduction except "years of schooling" which had increased significantly and "child mortality" which had no significant change. In 2009, "school enrollment", "nutrition", and "years of schooling" indicators still have had high MPI values, respectively.

[4] The report used Stata software version 12 (StataCorp., 2011) in the analysis of data and information, and the ADePT Maps software version 2.0 (World Bank, 2008) to generate related maps.

Figure (2): MPI Values for Syria by Indicators 2001 and 2009



Source: FHS surveys 2001 and 2009 in Syria and authors' calculations.

The MPI poverty results in Syria reflect to a large extent the development strategy that has been adopted during the studies period. The Standard of Living has improved due to the government focus on infrastructure and subsidies as part of its social policies to provide households with the basic needs including electricity, gas, drinking water, and proper sanitation. However, this strategy focused more on achieving quantitative goals rather than the quality as in the case of drinking water (PICC, 2009). Since 1991, the constraints were reduced on several imported consumption goods such as cars to contribute in the improvement of the Standard of Living; other factor contributed to the improvement of this dimension is the telecommunication revolution which has reflected in a surge of using mobile phones and broadcasting channels. However, the reduction of fuel subsidies which have started effectively since 2008 is expected to increase multidimensional poverty.

In terms of Education and Health dimensions despite the fact that the government has increased the number of schools and hospitals and opened these sectors widely to the private sector, the relative contribution of these dimensions and particularly Education in the MPI poverty has increased. This could be explained by the institutional weaknesses which have been reflected in low productivity, high corruption, absence of monitoring and evaluation systems, and low quality of public services (SCPR 2013a). Stagnancies in child mortality and fertility rates during the period 2001 and 2009 could reflect ineffective impacts of development strategies in Syria (PICC, 2009).

The incentives for the basic education enrollment have been affected negatively by the weak performance of the labor market. During the last decade, unexpectedly, the labor force participation rates dropped significantly for male and female in urban and rural areas, and the economy created only 400 thousand job opportunities instead of the planned 1.6 million (Nasser and Mehchy, 2012). Another factor related to household decisions towards Education and Health is the prices liberalization of public services which increased the cost of these services.

The MPI results at national level show that development strategies adopted in Syria during the

studied period have focused more on providing the access to basic needs and not on improving human capital and enhancing capabilities that are needed to achieve the required inclusive and people-centered development, this case can be described as « low equilibrium development»(SCPR 2013a).

B.MPI dynamics at governorate level [5]

The MPI results at governorate level show that the imbalanced performances across regions are massive. In 2009, Eastern and Northern regions have had the highest deprived headcount ratio, while the coastal region has had the lowest ratio. For instance, this ratio in Deir-ez-zor governorate from Eastern region equals to 239 per cent of the national ratio, whereas in Al-Sweida from Southern region it equals to 11 per cent. In addition to Deir-ez-zor, Al-Rakka, Aleppo, Al-Hasakeh, and Idleb are the most deprived governorates respectively. In contrast, Al-Sweida, Tartous, Lattakia, and Damascus are the least deprived governorates respectively in terms of headcount ratios (Figure 3).

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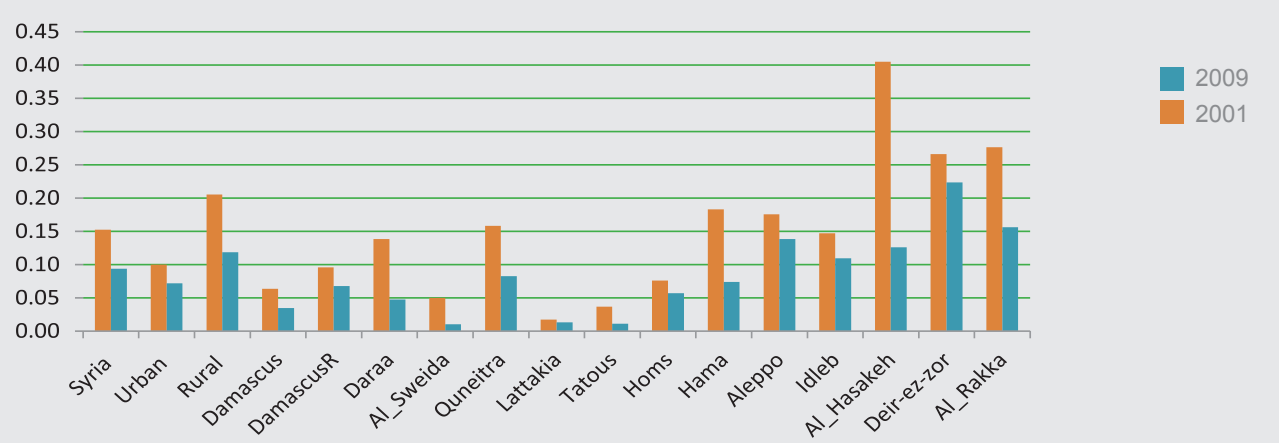
In 2009, Eastern and Northern regions have had the highest deprived headcount ratio, while the coastal region has had the lowest ratio.

The period 2001- 2009 witnessed a significant decline in (H) ratio in most governorates except a non-significant change in Lattakia. The improvements, however, did not eliminate the huge imbalances between regions and governorates. In terms of the Intensity (A) that is defined as the average proportion of weighted indicators of “human development domains” in which poor people are deprived, in 2009 the highest intensity of poverty were in Rural Damascus, Lattakia, and Al-Sweida, followed by, Deir-ez-zor, and Aleppo. However, the lowest intensity concentrated in Damascus, Hama, Homs, and Tartous (Figure 4). During the period 2001- 2009, poverty intensity (A) has reduced in most governorates, however it increased significantly in Lattakia, Tartous, and Rural Damascus. Moreover, no significant change occurred in Homs, Idleb, Deir-ez-zor, and Al-Sweida.

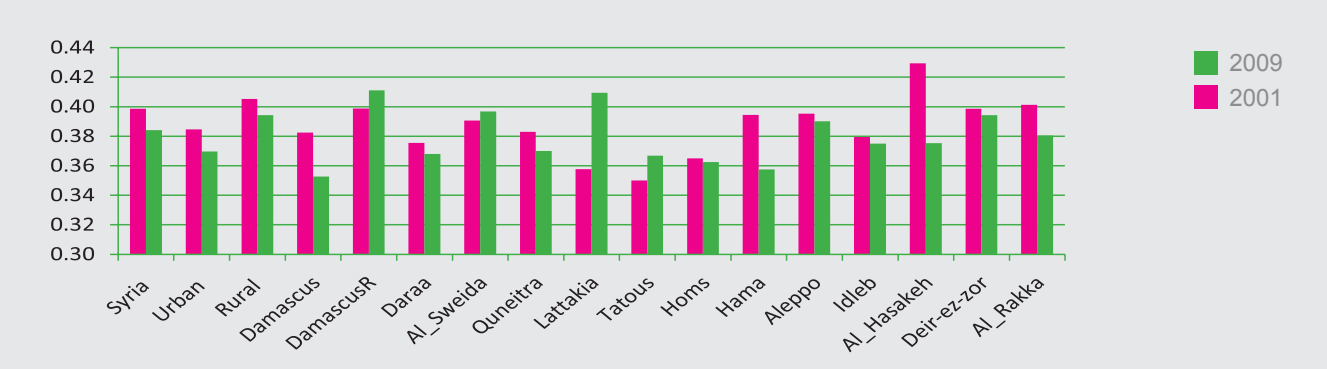
Figure (3): Headcount ratio (H) across governorates 2001- 2009



Source: FHS surveys 2001 and 2009 in Syria and authors' calculations.

[5] For detailed results of each governorate see Annex 4.

Figure (4): **Intensity (A) across governorates 2001- 2009**



Source: FHS surveys 2001 and 2009 in Syria and authors' calculations.

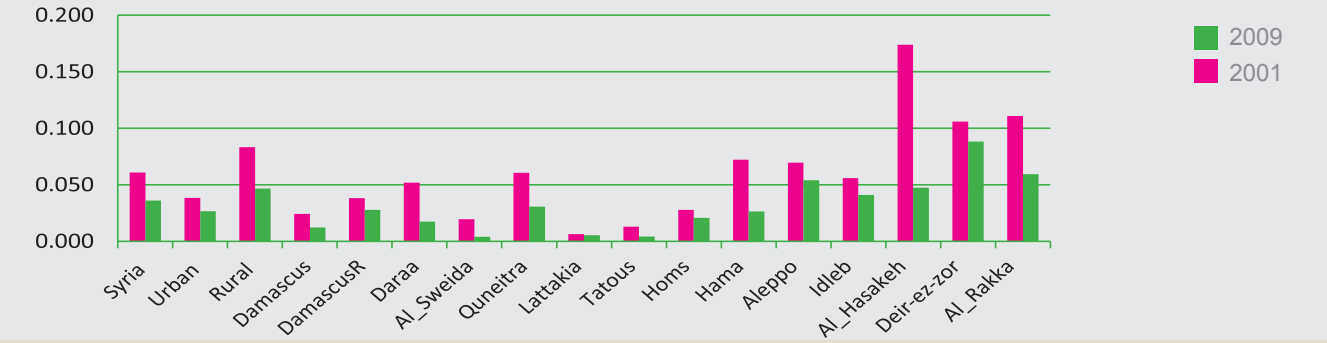
In general, the deprivation intensity was neither as imbalanced as headcount ratios, nor highly deep. The most suffering regions are those with high (H) and (A) at the same time, such as Deir-ez-zor and Aleppo. Moreover, the relative rank of intensity of Al-Sweida, Lattakia, and Rural Damascus was clearly worse than their relative (H) rank. While Hama and Al-Rakka are relatively better in terms of intensity than their (H) Rank.

MPI reflects the average percentage deprivation of Syrian individual from the "human development domains". The MPI results for Syria at governorates level show large imbalances across regions. In 2009, Eastern and Northern regions have had the highest MPI score mirroring a relative high deprivation, while the coastal region has had the lowest one. Governorates like Deir-ez-zor, Al-Rakka, Aleppo, Al-Hasakeh, and Idleb are the most deprived governorates respectively. In contrast, Al-Sweida, Tartous, Lattakia, and Damascus are the least deprived governorates respectively in terms of MPI (Figure 5).

A significant reduction has occurred during 2001-2009 in most governorates except Lattakia that had no significant changes in MPI. The deprivation lessening, however, did not alleviate the huge imbalances between governorates. In general, governorates in Eastern and North regions; and to a less extent Rural Damascus from Southern region are the most deprived governorates in Syria 2009.

"Governorates in Eastern and North regions; and to a less extent Rural Damascus from Southern region are the most deprived governorates in Syria 2009.

Figure (5): **MPI dynamics across governorates**



Source: FHS surveys 2001 and 2009 in Syria and authors' calculations.

C. MPI dimensions and indicators analysis across governorates and time

This section provides an analysis of each indicator in the MPI dimensions across governorates and time. This helps in diagnosing the main improvements and challenges of human development during the studied period across geographical regions. The following analysis illustrated the absolute and relative contribution of each indicator to the national MPI.

1. Standard of Living

The first dimension is the Standard of Living that represents the necessary infrastructure and services needed for not being deprived as a household. It consists of water, sanitation, cooking fuel, house floor, electricity, and assets. The assets indicator composes of access to information tools like telephone and TV, besides essential equipments like refrigerator and transports vehicles, and fixed assets like commercial buildings.

a) Water

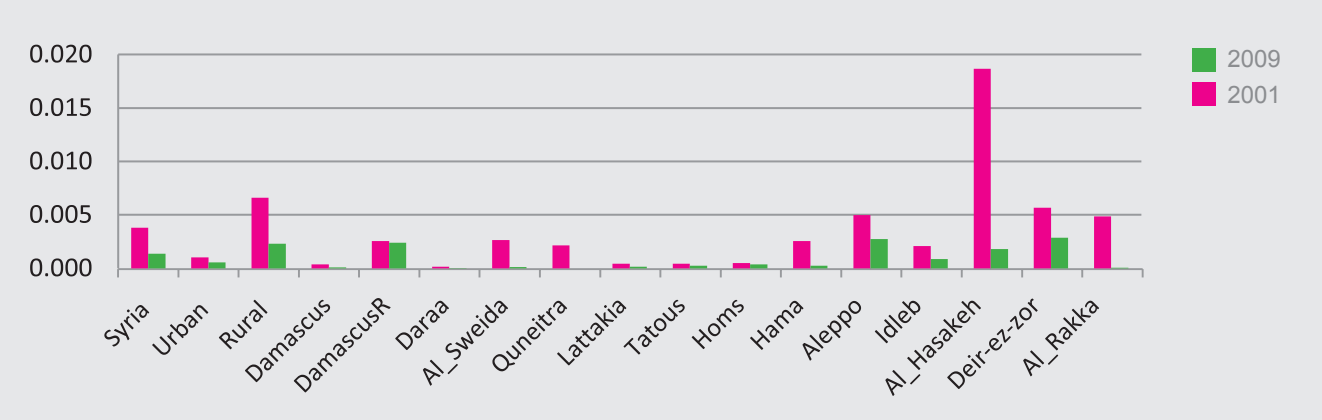
Drinking water indicator is defined as accessing to near and clean source of water that is a crucial element for the wellbeing of people's life. According to MPI results, the contribution of this indicator in Syria to the total deprivation is relatively low.

The main issue of water in Syria is the difference between inputs and outcomes of the related public projects, since the drinking water public pipelines cover a wide area of the country; however, the quality of water in many regions is low. Rural Damascus is a clear example where almost 60 per cent of its population is deprive from clean and near drinking water.

According to MPI, the water deprivation in 2009 is low in general; however, it differs between governorates, for instance Deir-ez-zor, Aleppo, Rural Damascus, and Al-Hasakeh are the most deprived governorates respectively. In contrast, Daraa, Al-Rakka, Damascus, and Al-Sweida are the least deprived governorates respectively.

Between 2001 and 2009, deprivation of water has declined significantly especially in rural areas; and Al-Rakka, Al-Sweida, Hama, and Al-Hasakeh. Yet, Rural Damascus, between 2001 and 2009 has shown no significant change (Figure 6).

Figure (6): Water absolute contribution to MPI across governorates 2001- 2009



Source: FHS surveys 2001 and 2009 in Syria and authors' calculations.

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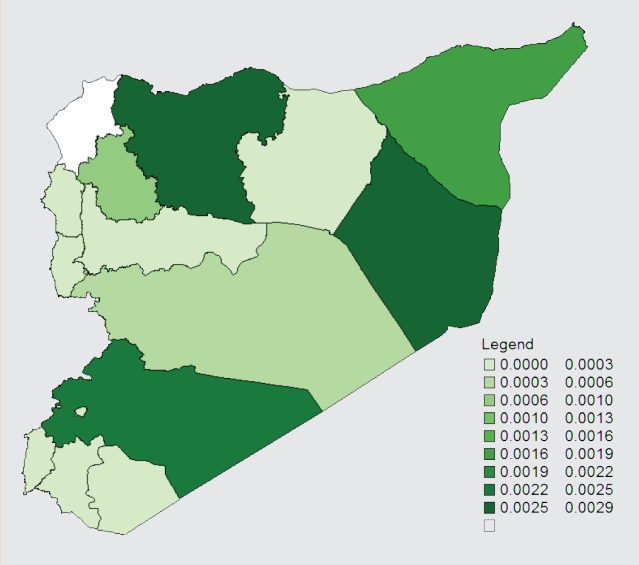
The concentration of water deprivation was in Eastern and Northern regions and in Rural Damascus

The relative contribution of water to the total MPI has reduced from 6 per cent in 2001 to 4 per cent in 2009. This reduction occurred in all governorates except Rural Damascus, Tartous, and Homs.
In 2009, the concentration of water deprivation was in Eastern and Northern regions and in Rural Damascus. The challenge is that Aleppo and Rural Damascus are the biggest governorates in terms of population (see the map).

Water MPI 2009

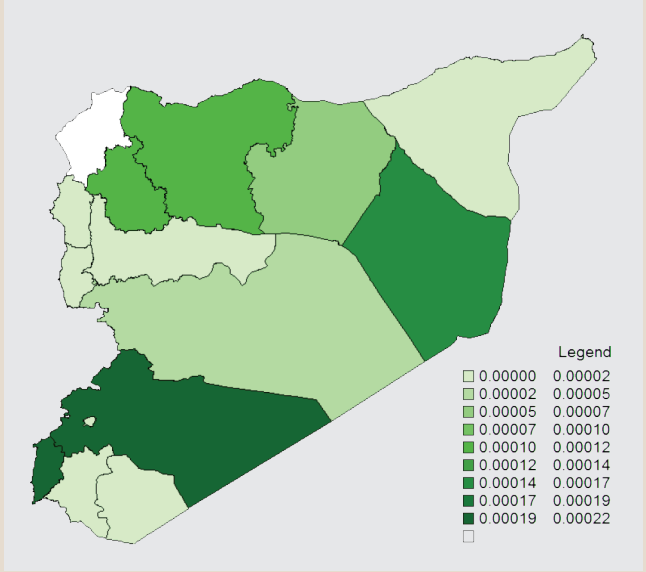


Source: FHS survey 2009 in Syria and authors' calculations.

b) Electricity

The contribution of electricity indicator as a component of Standard of Living dimension in MPI to the total deprivation in Syria is very low. The story of electricity reflects the improvement of infrastructure in all regions. The role of the state in providing the basic energy sources for households was essential in reducing the percentage of people who are deprived from electricity as a source of lighting from 1.6 per cent in 2001 to 0.3 per cent in 2009. Quneitra, Rural Damascus, Deir-ez-zor, and Aleppo are the most deprived governorates respectively, (see the map).

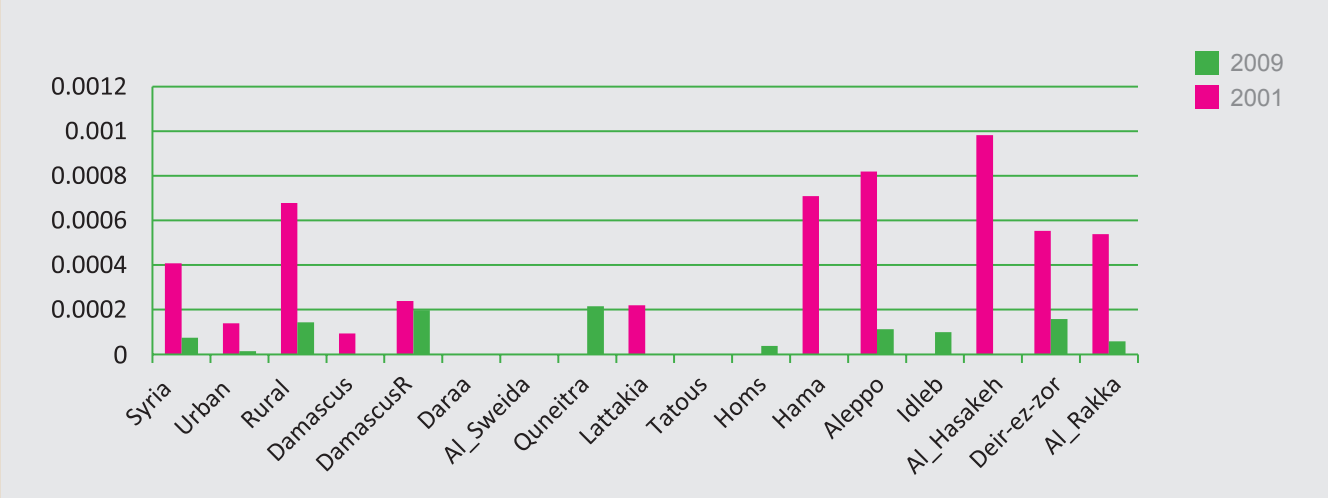
Electricity MPI 2009



Source: FHS survey 2009 in Syria and authors' calculations.

In terms of time dynamics, the period 2001-2009 witnessed a significant decline in electricity deprivation particularly in rural areas, and in Al-Hasakeh, Aleppo, and Al-Rakka, and this deprivation has slightly decreased in Rural Damascus Figure (7).
Relative contribution of the electricity indicator to the total MPI reduced from 0.7 per cent in 2001 and to 0.2 per cent in 2009 decreasing in all governorates except Rural Damascus.

Figure (7): Electricity absolute contribution to MPI across governorates 2001- 2009



Source: FHS surveys 2001 and 2009 in Syria and authors' calculations.

c) House floor

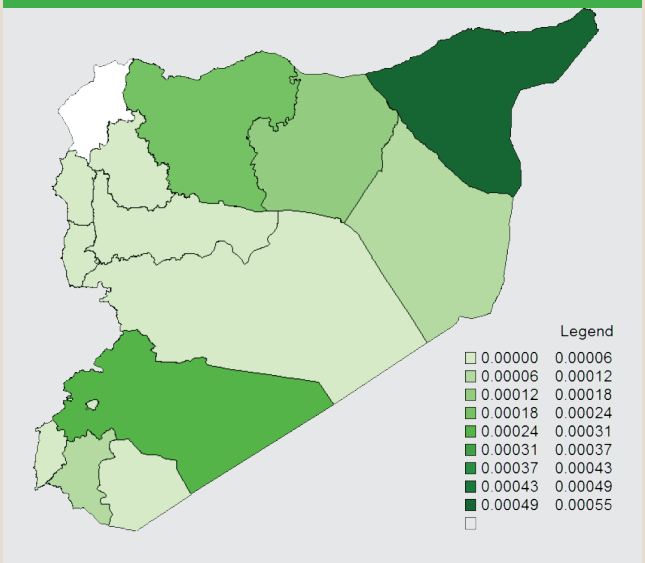
House floor and ceiling is a reflection of the housing conditions and welfare, and it also has an impact on health conditions. A dramatic reduction in floor deprivation during 2001- 2009 has been achieved. According to MPI, the floor deprivation in 2009 was very low in general; and Al-Hasakeh, Rural Damascus, Aleppo, and Al-Rakka governorates are the most deprived, (see the map).

The percentage of people who are deprived from appropriate floor, declined from 12.0 per cent in 2001 to 0.8 per cent in 2009, reflecting an improvement in the general housing conditions in Syria.

The floor MPI has declined sharply between 2001 and 2009 particularly in rural areas, and the reduction occurred mainly in the Eastern and Northern regions during this period.

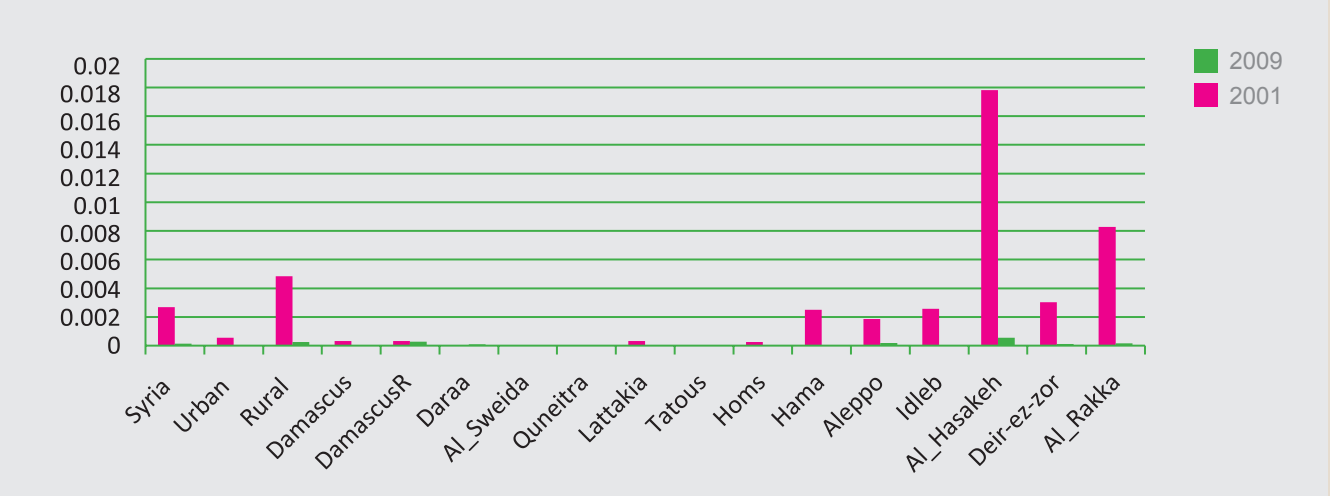
The relative contribution of the floor indicator to the total MPI dropped from 4.4 per cent in 2001 and to 0.4 per cent in 2009 and it has decreased in all governorates except Rural Damascus.

Floor MPI 2009



Source: FHS survey 2009 in Syria and authors' calculations.

Figure (8): House floor absolute contribution to MPI across governorates 2001- 2009



Source: FHS surveys 2001 and 2009 in Syria and authors' calculations.

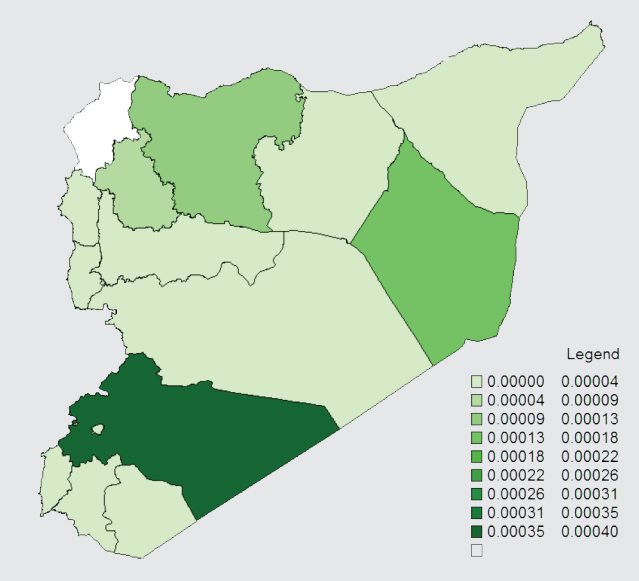
d) Cooking Fuel

Cooking fuel could be a proxy for households' welfare, and it could have several negative health implications if it is not appropriate. An improvement in providing appropriate cooking fuel during the 2001- 2009 has been achieved due to the increase in gas production and the subsidies of its prices; this has reduced the deprivation in this indicator and made the relative contribution to the total deprivation according to the MPI very low.

The percentage of people who are deprived from appropriate cooking fuel was 4 per cent in 2001, then declined sharply to 0.6 per cent in 2009. Moreover, according to MPI, the fuel deprivation in 2009 was very low in general; however, Rural Damascus, Deir-ez-zor, and Aleppo are the most deprived respectively, (see the map).In 2009 cooking fuel deprivation was very low in general, however, governorates like Rural Damascus, Deir-ez-zor, and Aleppo are the most deprived respectively.

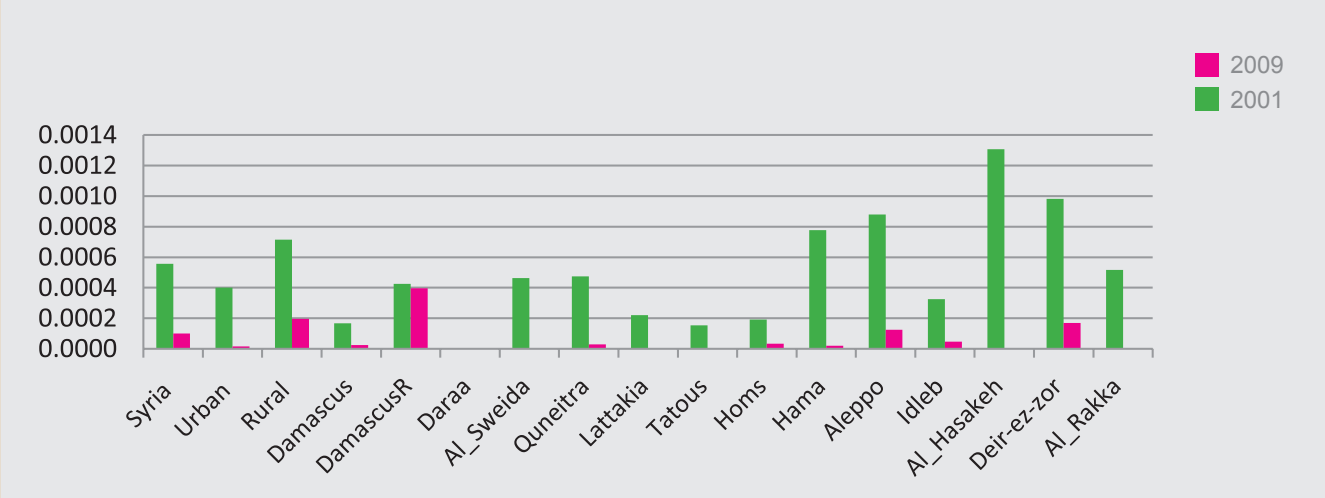
The dynamics of this indicator show that, between 2001 and 2009, it has sharply declined particularly in rural areas, and across Al-Hasakeh, Al-Rakka, and Hama governorates. The relative contribution of fuel to the total MPI reduced from 1.0 per cent in 2001 and to 0.3 per cent in 2009, and it has decreased in all governorates except Rural Damascus.

Cooking fuel MPI 2009



Source: FHS survey 2009 in Syria and authors' calculations.

Figure (9): Cooking fuel absolute contribution to MPI across governorates 2001- 2009



Source: FHS surveys 2001 and 2009 in Syria and authors' calculations.

In 2009 cooking fuel deprivation was very low in general; however, governorates like Rural Damascus, Deir-ez-zor, and Aleppo are the most deprived respectively.

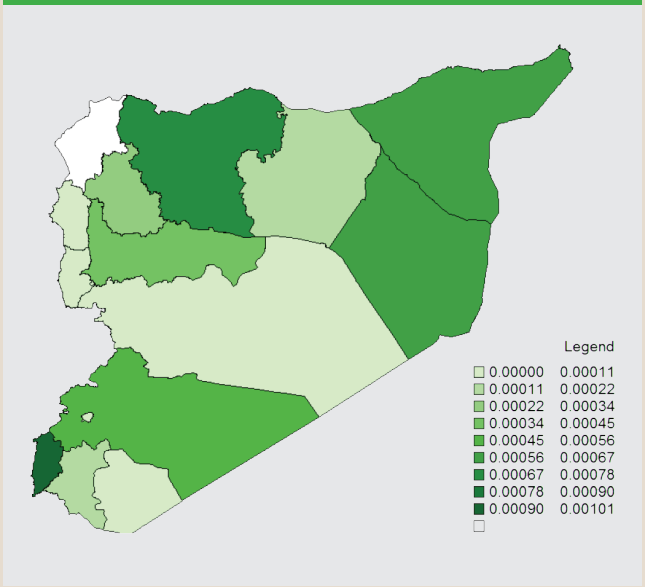
e) Sanitation

The improved sanitation is a proxy for better health conditions in the households and for good public services in communities. In Syria, between 2001 and 2009, the deprivation from an improved sanitation has declined; thus, the relative contribution to the total deprivation according to the MPI has become very low. The percentage of people who are deprived from sanitation was declined from 11.7 per cent in 2001, then reduced sharply to 1.8 per cent in 2009. According to MPI, the sanitation deprivation in 2009 was very low, and Quneitra, Aleppo, Al-Hasakeh, and Deir-ez-zor governorates are the most deprived respectively, (see the map).

The sanitation MPI, during the period 2001- 2009, has witnessed a sharp decline, particularly in rural areas and in Al-Sweida, Hama, and Al-Hasakeh.

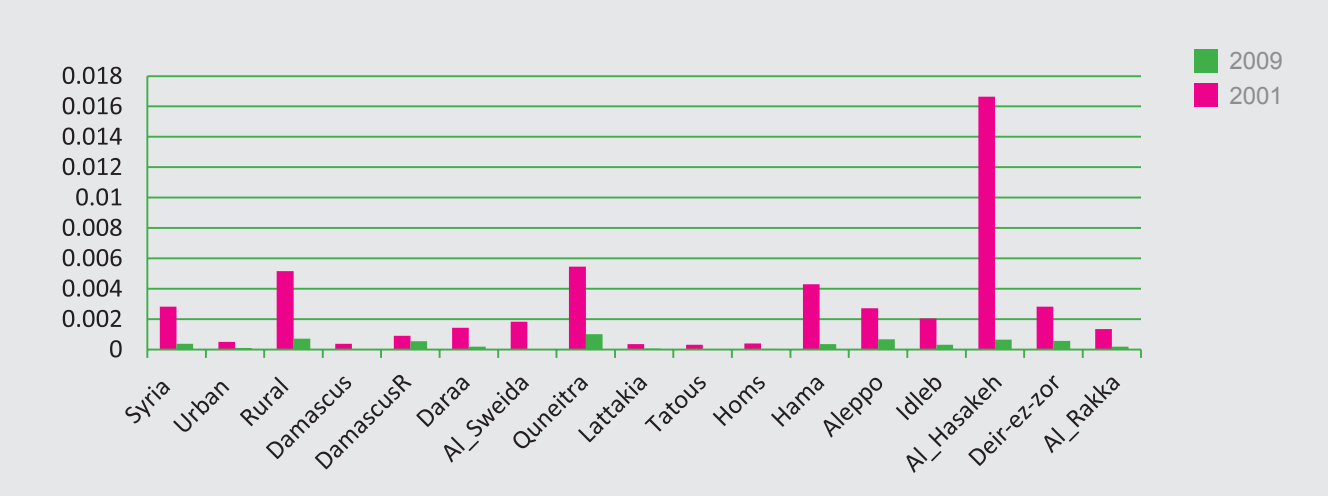
The relative contribution of sanitation to the total MPI has reduced from 4.6 per cent in 2001 and to 1.1 per cent in 2009, and it has decreased in all governorates.

Sanitation MPI 2009



Source: FHS survey 2009 in Syria and authors' calculations.

Figure (10): Sanitation absolute contribution to MPI across governorates 2001- 2009



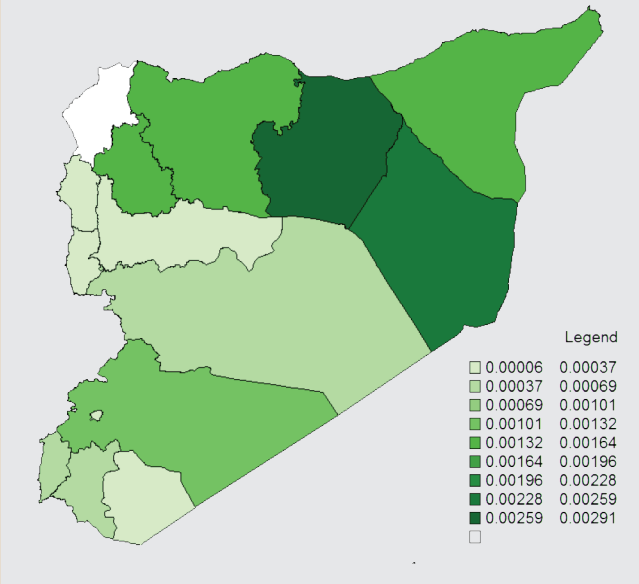
Source: FHS surveys 2001 and 2009 in Syria and authors' calculations.

f) Assets

Assets indicator as a component of the MPI is a composite index reflecting the welfare of the households and including the ownership of a car or a firm or an agriculture land, in addition to access to information through telephone and TV. Improvement in assets deprivation during the 2001- 2009 has been achieved, thus the relative contribution to the total deprivation according to the MPI became relatively low. The improvement in assets mirrors more appropriate housing conditions, and better infrastructure in all Syrian regions. The percentage of people who are deprived from assets was 27.5 per cent in 2001, then declined sharply to 9.8 per cent in 2009. This sharp reduction during the last decade is due to the notable development of access to information in Syria benefiting from the high acceleration in the number of mobile phone users and to the expanded landline infrastructure. Moreover, goods like TV, refrigerators and cars have become more available in local markets after alleviating several restrictions and limitation on trades and manufacturers. Between 2001 and 2009, this deprivation witnessed a notable decline, particularly in Hama and Al-Hasakeh.

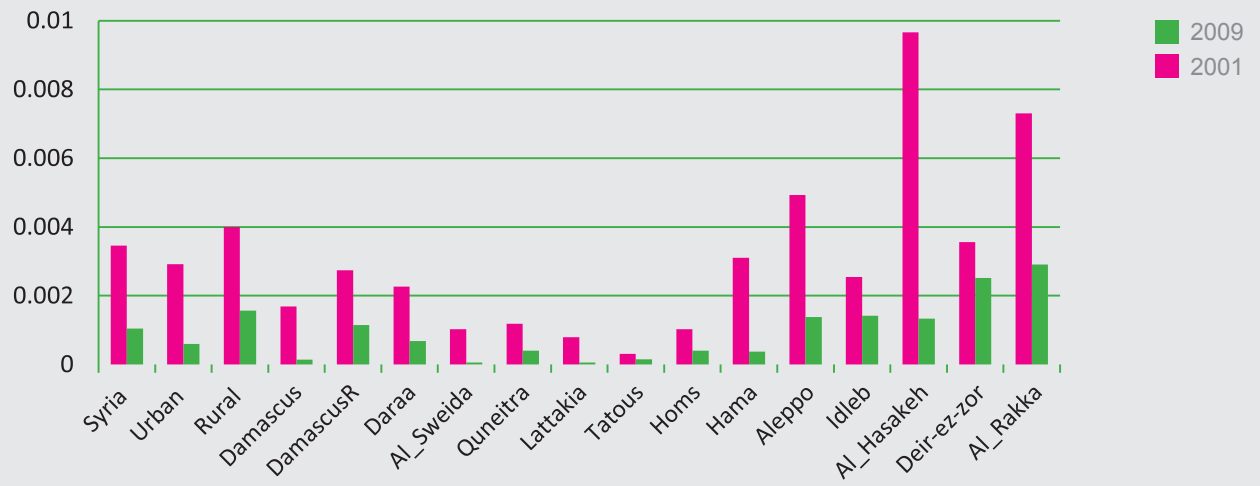
The MPI assets deprivation in 2009 was low in general, and Al-Rakka, Deir-ez-zor, Idleb, and Aleppo were the most deprived governorates respectively, (see the map below).

Assets MPI 2009



Source: FHS survey 2009 in Syria and authors' calculations.

Figure (11): Assets absolute contribution to MPI across governorates 2001- 2009



Source: FHS surveys 2001 and 2009 in Syria and authors' calculations.

The relative contribution of assets to the total MPI has declined from 5.7 per cent in 2001 and to 2.9 per cent in 2009, and it has decreased in all governorates, except in Tartous.

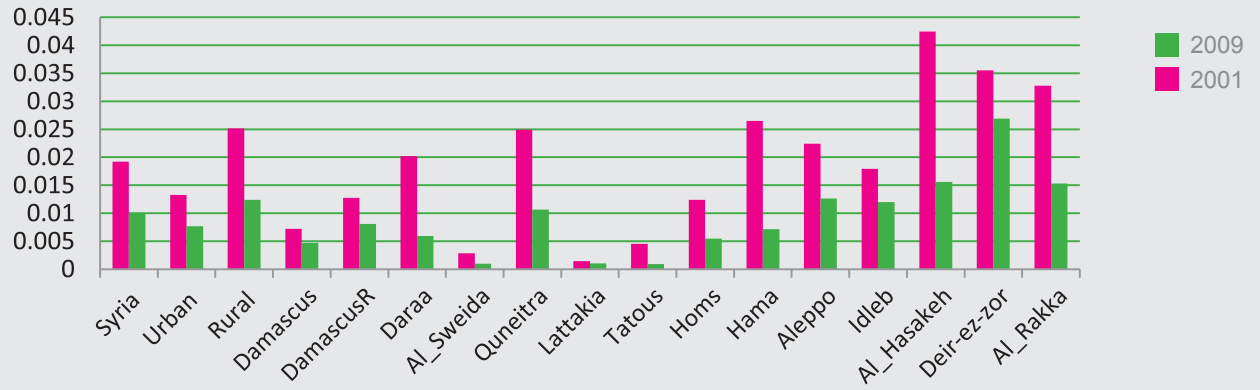
2. Health

The multidimensional poverty second dimension is Health which consists of two indicators; the first one is child nutrition that can have a life-long impact in terms of mental and physical developments. The second indicator is child mortality as most child deaths are preventable by having availability and accessibility to maternal and child health services.

a) Child Nutrition

The child nutrition indicator represents the outcome of many factors that affect nutrition of children. In general, and during the period 2001-2009, child nutrition deprivation has decreased;

Figure (12): Child nutrition absolute contribution to MPI across governorates 2001- 2009



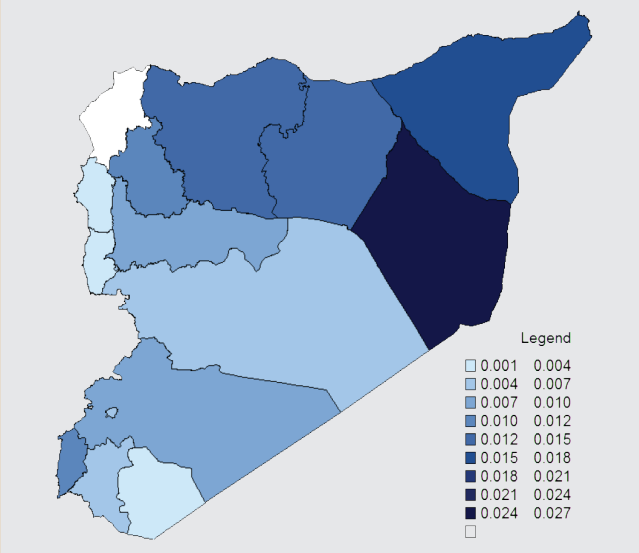
Source: FHS surveys 2001 and 2009 in Syria and authors' calculations.

however, the relative contribution of this indicator to the total deprivation according to the MPI was still high in 2009.

> *According to MPI, the child nutrition deprivation in 2009 was relatively high, and Deir-ez-zor, Al-Hasakeh, Al-Rakka, Aleppo, and Idleb are the most deprived governorates respectively.*

The story of child nutrition reflects the improvements in welfare, infrastructure, public services, and education in all regions. The percentage of people who are deprived in terms of child nutrition was 26.7 per cent in 2001 and declined to 21.2 per cent in 2009. Between 2001 and 2009 child nutrition MPI has witnessed a sharp decline particularly in rural areas, and in Hama, Tartous, and Daraa governorates.
According to MPI, the child nutrition deprivation in 2009 was relatively high, and Deir-ez-zor, Al-Hasakeh, Al-Rakka, Aleppo, and Idleb are the most deprived governorates respectively, (see the map).
Relative contribution of child nutrition to the total MPI has declined from 32 per cent in 2001 and declined to 28 per cent in 2009. This relative contribution has decreased in all governorates, except Al Sweida, Al-Hasakeh, and Damascus. Moreover, despite the fact that Eastern and Northern regions are producing main strategic crops in Syria, the child nutrition deprivation has concentrated in these areas during the studied period.

Nutrition MPI 2009

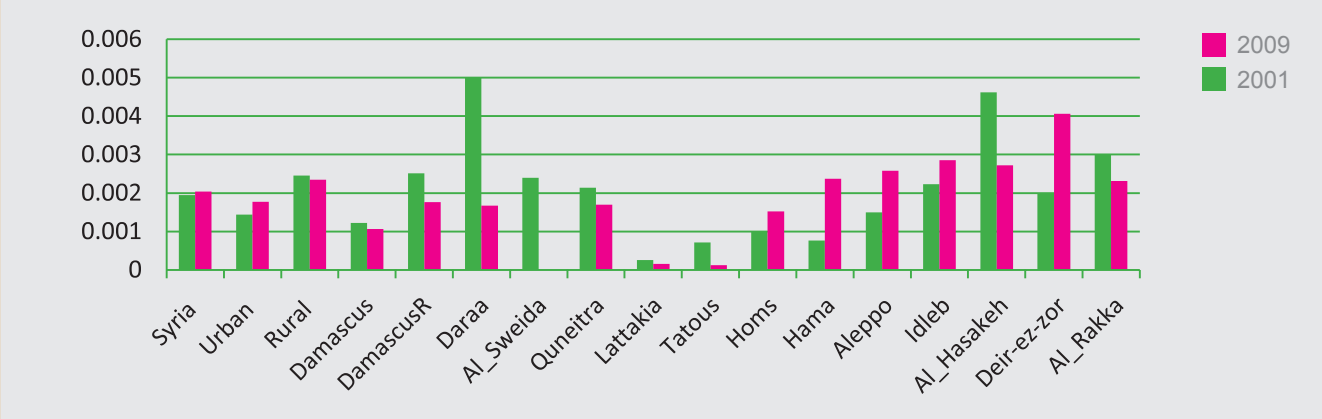


Source: FHS survey 2009 in Syria and authors' calculations.

b) Child Mortality

Child mortality is one of key proxies of the available health services for maternity and childhood. It

Figure (13): **Child mortality absolute contribution to MPI across governorates 2001- 2009**



Source: FHS surveys 2001 and 2009 in Syria and authors' calculations.

reflects parent,s educational and income levels, and livelihood conditions. Deprivation in terms of child mortality in Syria has not changed between 2001 and 2009.

The percentage of people who live in families with child mortality was 1.7 per cent in 2001 and increased to 2.0 per cent in 2009. The dynamics of this indicator during the period 2001- 2009 has witnessed an increase in child mortality MPI particularly in urban areas, and in Hama, Deir-ez-zor, Aleppo, Homs, and Idleb governorates.
According to MPI the child mortality deprivation in 2009 was relatively low; Deir-ez-zor, Idleb, Al-Hasakeh, Aleppo, and Hama governorates are the most deprived respectively, (see the map below). Relative contribution of child mortality to the total MPI has increased from 3.2 per cent in 2001 to 5.7 per cent in 2009. Between 2001 and 2009, this relative contribution has increased in all governorates except Tartous, Lattakia, Rural Damascus, and Al-Sweida. The setbacks between 2001 and 2009 could be explained by the inefficient institutions that were not able to translate the increasing health expenditure into a better life for children in Syria.

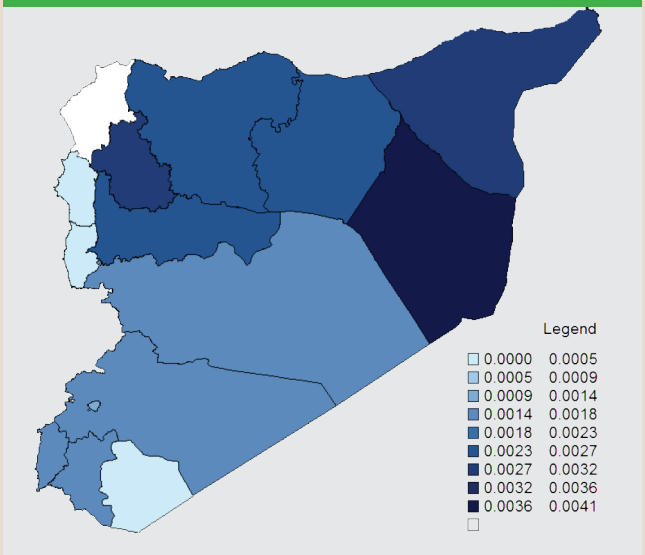
3. Education

The multidimensional poverty third dimension is Education which has two indicators. The first one is years of schooling that could be a proxy for the knowledge level in households. The second indicator is school enrollment that looks if children are attending schools or not as a projection of the household and region educational level in the future. It is worth noting that these two indicators cannot provide information on the quality of educational systems.

a) Years of schooling

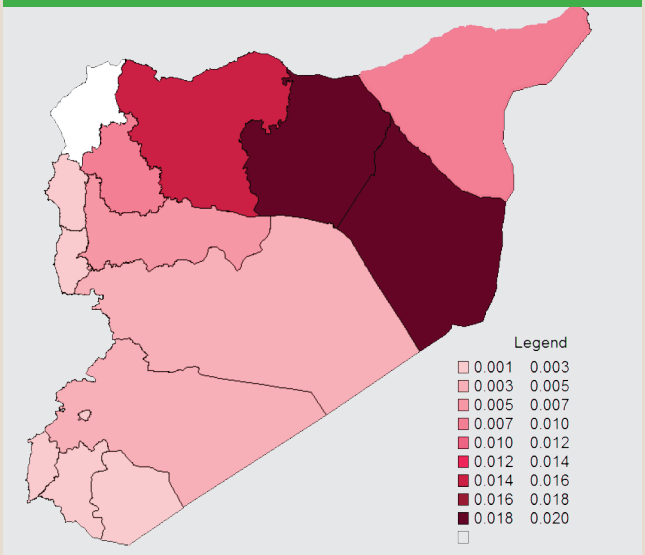
Years of schooling indicator mirrors difficulties for household members to obtain the primary education certificate. These difficulties include culture constraints, income poverty, and accessibility to education facilities. In Syria, the deprivation in years of schooling has witnessed a drawback during the period 2001- 2009.
The percentage of people who are deprived in

Mortality MPI 2009



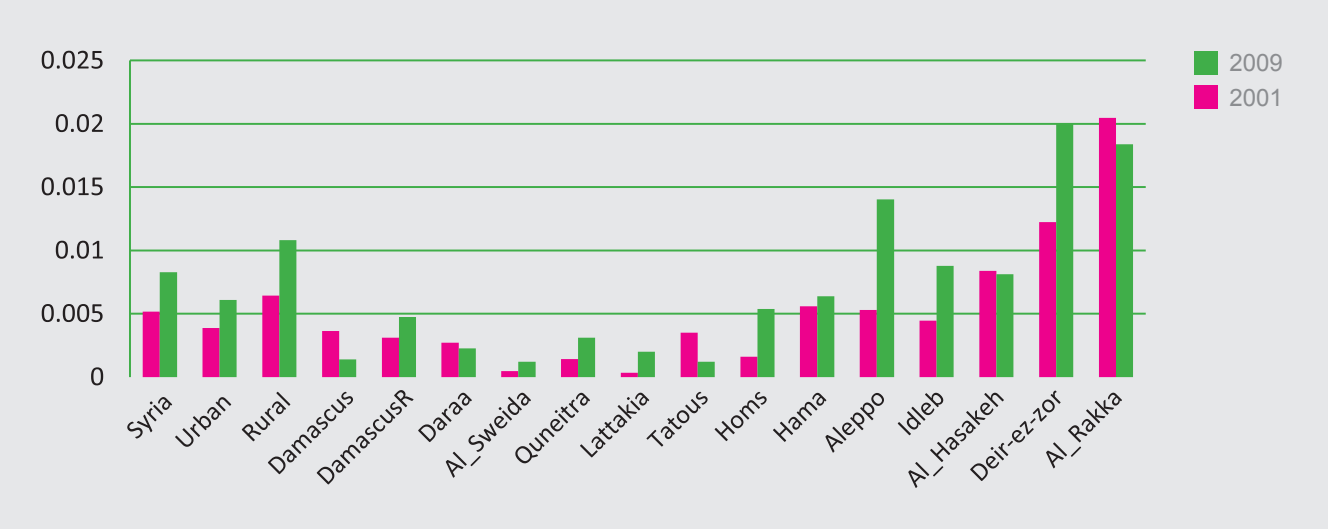
Source: FHS survey 2009 in Syria and authors' calculations.

Years of schooling MPI 2009



Source: FHS survey 2009 in Syria and authors' calculations.

Figure (14): Years of schooling absolute contribution to MPI across governorates 2001- 2009



Source: FHS surveys 2001 and 2009 in Syria and authors' calculations.

terms of years of schooling increased from 4.2 per cent in 2001 to 7.2 per cent in 2009. This reflects the increasing dropout phenomenon in the Syrian educational system.

In terms of time dynamics, between 2001 and 2009, the deprivation in this indicator has increased in urban, rural, and all governorates except Tartous, Damascus, Daraa, Al-Rakka, and Al-Hasakeh that have witnessed a decrease.

"

The alarming increase in the years of schooling deprivation between 2001 and 2009 needs a deep and comprehensive analysis.

According to MPI, the years of schooling deprivation in 2009 was relatively high, and Deir-ez-zor, Al-Rakka, Aleppo, Idleb, and Al-Hasakeh governorates are the most deprived respectively, (see the map).

Relative contribution of years of schooling to the total MPI has increased substantially from 8.5 per cent in 2001 to 23 per cent in 2009, and it has increased in all governorates except Damascus. The alarming increase in the years of schooling deprivation between 2001 and 2009 needs a deep and comprehensive analysis.

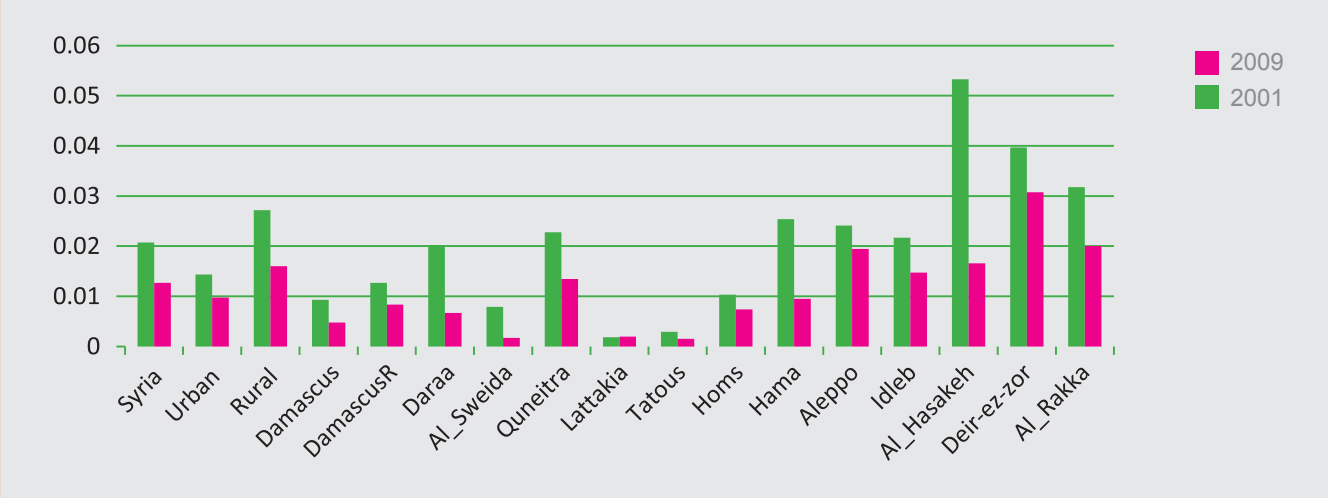
There could be several reasons including the internal or external migration of educated people and the increasing dropout rate. This increase has a negative impact on the labor force structure in terms of educational level, and it reflects the weak national development strategy particularly in the low developed areas.

b) School Enrollment

The results show significant reduction in school enrollment deprivation between 2001 and 2009. The percentage of people who are deprived in terms of school enrollment was 35.0 per cent in 2001 then decreased to 24.0 per cent in 2009. Between 2001 and 2009, enrollment of schooling MPI has decreased in urban and rural areas, and across all governorates except Lattakia.

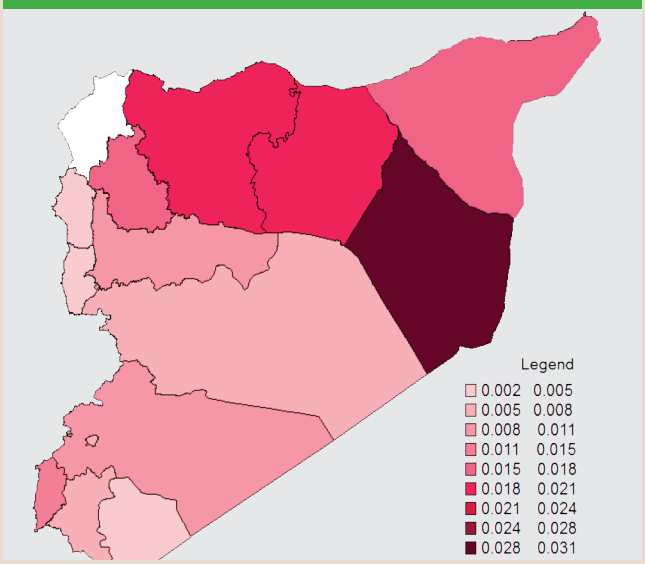
According to MPI, the school enrollment deprivation in 2009 was relatively high, Deir-ez-zor, Al-Rakka, Aleppo, Al-Hasakeh, and Idleb governorates are

Figure (15): School enrollment absolute contribution to MPI across governorates 2001- 2009



Source: FHS surveys 2001 and 2009 in Syria and authors' calculations.

School Enrollment MPI 2009



Source: FHS survey 2009 in Syria and authors' calculations.

the most deprived respectively, (see the map). Relative contribution of enrollment of schooling to the total MPI increased from 34.1 per cent in 2001 to 35.2 per cent in 2009, and it has increased during 2001- 2009 in most governorates.

Conclusion and Policy Recommendations

The results show that the MPI poverty in Syria has decreased from 0.061 to 0.036 in 2001 and 2009 respectively, reflecting a steady improvement in human development situation of Syrians. The decrease in MPI was significant in rural areas, from 0.083 in 2001 to 0.047 in 2009, and much sharper than the MPI poverty reduction in urban areas which had decreased significantly between 2001 and 2009 from 0.038 to 0.027. The persistent gap in poverty reduction between urban and rural areas during the studied period reflects the imbalanced development in Syria. Moreover, using the MPI shows that imbalances across regions are massive; in 2009, Eastern and Northern regions have had the highest MPI score, while the coastal region has had the lowest one. The multidimensional headcount ratio in Syria has witnessed a notable drop from 15 per cent in 2001 to 9 per cent in 2009, and this has been accompanied with a decrease in the MPI intensity, that multidimensionally poor people in 2009 were deprived on average in 38 per cent of the (weighted) indicators comparing to 40 per cent in 2001. Similar to MPI poverty, multidimensional headcount ratio and MPI intensity in rural areas were higher than in urban areas in the two years covered in the study, yet, the gap has narrowed over the time.

In terms of the MPI poverty dimensions' relative contributors, the results show that Education is the main relative contributor of MPI poverty over the period of study, and its contribution has increased substantially. Health is the second relative contributor to MPI poverty, decreasing from 35 per cent in 2001 to 33 per cent in 2009. However, Standard of Living has witnessed a substantial decrease in its contribution to MPI, falling down from 23 per cent to 9 per cent, in 2001 and 2009 respectively.

MPI values for each indicator over time show that all indicators had decreased significantly between 2001- 2009, all indicators has witnessed a significant reduction except in "years of schooling" indicator, which had increased significantly and "child mortality" which had no significant change. In 2009, "school enrollment", "nutrition", and "years of schooling" indicators still have had high MPI values, respectively.

The Standard of Living has been substantially improved due to the government focus on infrastructure and subsidies as a part of its social policies to assure basic needs including electricity, gas, drinking water, and proper sanitation for all citizens, yet, this strategy seemed to focus more on achieving "quantitative" goals rather than the quality as in the case of drinking water.

The MPI results for Syria at governorates level show large imbalances across regions. In 2009, Eastern and Northern regions have had the highest MPI score mirroring a relative high deprivation, while the coastal region has had the lowest one. Governorates like Deir-ez-zor, Al-Rakka, Aleppo, Al-Hasakeh, and Idleb were found to be the most deprived governorates respectively. In contrast, Al-Sweida, Tartous, Lattakia, and Damascus are the least deprived governorates respectively.

Despite the fact that the government has increased the number of hospitals and schools and opened these sectors widely to the private sector, the relative contribution of Education in the MPI has increased significantly. This could be explained by the institutional weaknesses which were reflected in low productivity, high corruption, absence of monitoring and evaluation systems, low quality of public services (SCPR 2013a). Moreover, stagnancy in child mortality during the period 2001 and 2009 is an evidence of ineffective impacts of development strategies in Syria.

Nutrition deprivation, as well, was found to be a persistent major challenge for the Syrian households; that malnutrition is an accumulated and complex condition and nutrition status of children is strong indicator of their current and future wellbeing. It is an indicator of status of their mothers, and later their families economically and socially. Such deprivation is usually associated with lack of healthy and suitable food for the mother and the child, proper maternity and child health

care, in addition to the poor parents, educational attainments, material poverty, restricted access to resources by women, and community culture.

In general, prices liberalization of the public health and education services started to deteriorate the people well being in Syria as the state started to shift its role as a main provider of universal public services without creating appropriate alternatives. The imbalanced development needs to be tackled through an inclusive development strategy at the national level to provide equal opportunities to all people in different regions in building their capabilities and participating in the development process effectively.

This report analyzed the human development situation in Syria during the period 2001-2009 using the MPI approach, contributing to the explanation of the developmental roots of the current crisis in Syria including the imbalanced development and the weak institutional performance. It can be followed by an analysis of vulnerable people according to MPI, and disaggregating the analysis to smaller geographic areas. Additionally, the report creates a benchmark to evaluate the impact of the current crisis in Syria on the human development situation of Syrian people at the national and regions levels, which is the next important step of this research work.

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Annex(1):Multidimensional Poverty Concept

Poverty analysis needs to reflect not only economic shocks but also social and political changes in the society. Thus, poverty should be conceptualized in a comprehensive way to highlight all aspects of deprivations; moreover, defining poverty is a need to measure it, but one should be aware that broad definitions lead to more difficulties in measurements (Thorbecke, 2005).

Poverty can be defined as the deprivation of one's ability to live as a free and dignified human being with the full potential to achieve one's desired goals in life. However, this definition is very broad and seeks to capture various dimensions of poverty. Thus, there is a need to encompass in a balanced manner different aspects of poverty (ESA, 2009).

The standard way in assessing the poverty level of an individual is the income or consumption approach. The reason behind adopting this approach is that, in general, if a person has enough money, she has enough purchasing power to obtain the needed attributes for the chosen function. However, the main disadvantage of the money-metric approach, as mentioned by the welfarists, is that the market imperfections and the lack of perfect correlations between different dimensions of wellbeing make the focus on one indicator unsatisfactory (Battiston et al., 2009). The non-welfarists championed by Amartya Sen argue that the relevant space of wellbeing should be the set of functionings that the individual is able to achieve, and that poverty needs to take a multidimensional approach. This perspective has implications on poverty measurement since the need for a multidimensional view of poverty guides the search for an adequate indicator of human poverty that covers different aspects (Anand and Sen, 1997).

Sen's capabilities and functionings' approach focuses on the freedom of a person to choose her functions, and in order to do this, an individual requires having a set of attributes to reach the minimum level of well-being. The capability approach is about what people are able to be or to do, and it differs from the resource-based approaches which focus only on what people have. Sen mentioned that there is a need to shift the focus from the means of living such as income to the actual opportunities a person has (Sen, 2009). Indeed, the growth-based paradigm that has been adopted in poverty reduction strategies in the past three decades, proved to be inefficient particularly after the global financial crisis and the international increase in food and energy prices (ESA, 2009). Moreover, this paradigm considers growth as a key objective of the development, which leads to poverty reduction and expands people choices (Srinivasan, 1994); however, the inequality of income distribution and institutional constraints excluded a large part of population from the benefits of economic growth.

The capability approach includes two main concepts; the first one is the functionings which refer to the various things a person may succeed in doing or being (e.g. being healthy), this is related to a person's achievements in terms of objective well-being. The second concept is the capabilities which refer to the real (not only formal) freedom of a person to achieve her functions (e.g. ability to be healthy) (Sen, 1999). Since this approach is more than focusing on money-metric poverty, it could be well reflected in the multidimensional nature of poverty analysis (Hick, 2012). This kind of analysis is required and inescapable as many vulnerable households are suffering from issues not related directly to the lack of resources such as poor health and educational infrastructure.

From a normative perspective, the capability approach focuses on different and important dimensions of poverty including health and education rather than investigating only one direct side which is related to resources. This approach widens researchers' capacity to use various types of data including quantitative, qualitative, and even subjective data (Alkire, 2008). Moreover, the capability approach provides a space for participatory methods to be applied and through

which critical issues could be highlighted in terms of economic, social, and political institutions.

In general, the capability approach can provide a framework to investigate and analyze the poverty from a multidimensional perspective (Hick, 2012), and this would support researchers and policy makers to identify the dimensions in which the society suffers more from deprivations. Consequently, issued policies can be more specified and efficient in reducing poverty and multiple deprivations.

Annex (2): FHS and the Samples Characteristics

The Family and Health Surveys in 2001 and in 2009 designed to be representative on the governorates/place of residence, the 2001 survey included 9500 households and the 2009 survey included 24883 households. The surveys used multi stages stratum cluster random samples in both years; and samples were cross sectional so there is no panel data.

Number of Observations (person)			
		FHS 2001	FHS 2009
		All	All
Syria	**Total**	53075	127733
Urban/Rural	**Urban**	26654	61349
	Rural	26421	66384
Governorates	**Damascus**	5318	8680
	DamascusR	6808	19318
	Daraa	2335	8405
	Al_Sweida	1103	4573
	Quneitra	234	5569
	Lattakia	2739	6445
	Tartous	2268	5539
	Homs	4466	7293
	Hama	3871	7682
	Aleppo	11515	16837
	Idleb	3113	8664
	Al_Hasakeh	4069	10516
	Deir-ez-zor	2965	9852
	Al_Rakka	2271	8360

Source: FHS surveys 2001 and 2009 in Syria.

Annex (3): The differences between variables across years

Dimension	indicator	sub indicators	2009	2001
Standard of living	House floor	Type of ceiling material	✓	×
	Assets	Cellular phone	✓	×
	Assets	Space of Farms: Total (Dunam)	✓	×

✓ : available, ×: not available

Annex (4): MPI by indicators across governorates and time

This is a brief of MPI by indicators across the fourteen Syrian governorates and time. For each governorate, the following points are mentioned:

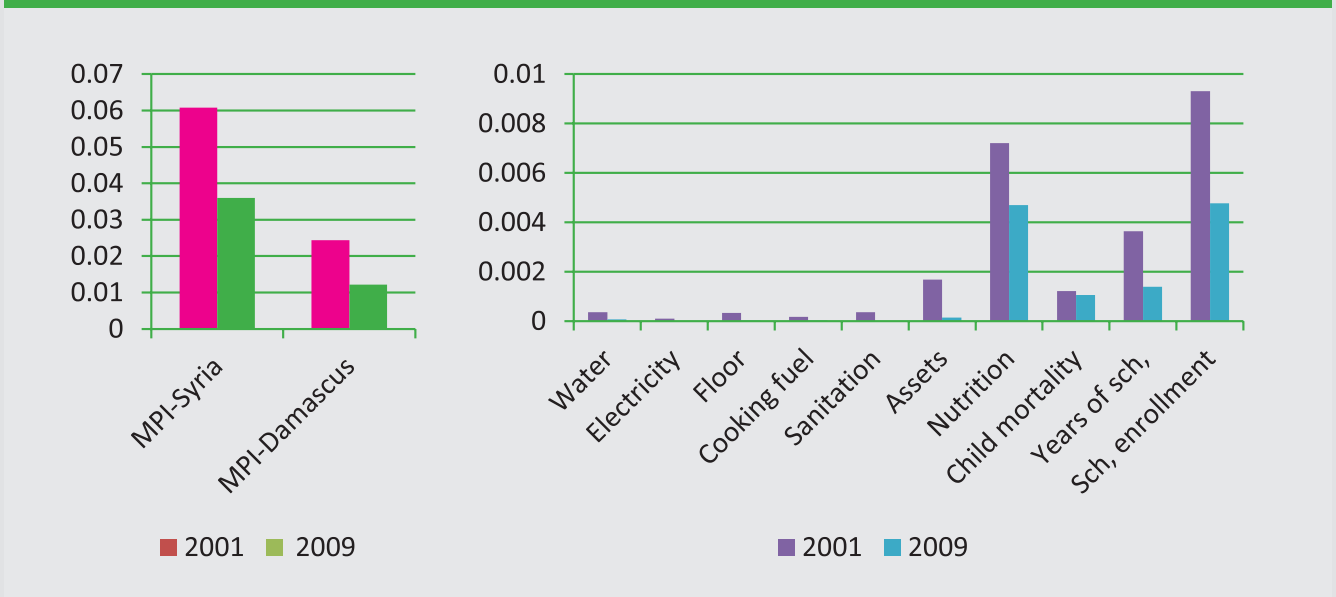
- The region of each governorate (Southern, Northern, Eastern, Middle, and Coastal),
- The rank of each governorate MPI in 2009 among other Syrian governorates, while 1st is the least deprived governorate and 14th is the worst,
- The significance of the positive or negative changes in MPI performance across time in each governorate. This is distributed over time period between 2001 and 2009,
- The main and key MPI indicators that contributed to the deprivation of each governorate across time.

The report considered the governorates ranked 1 to 5 as low deprived, 6 to 9 as medium deprived, and 10 to 14 as highly deprived

• Damascus (Capital):

- Region: Southern
- Rank: 4 (Low MPI deprivation)
- MPI performance across time: 2001 - 2009 : Significant improvement
- Key contributors to deprivation: School enrollment and nutrition.

Damascus MPI (i)Total | **(ii) Absolute contribution of indicators across time**



Source: FHS surveys 2001 and 2009 in Syria and authors' calculations.

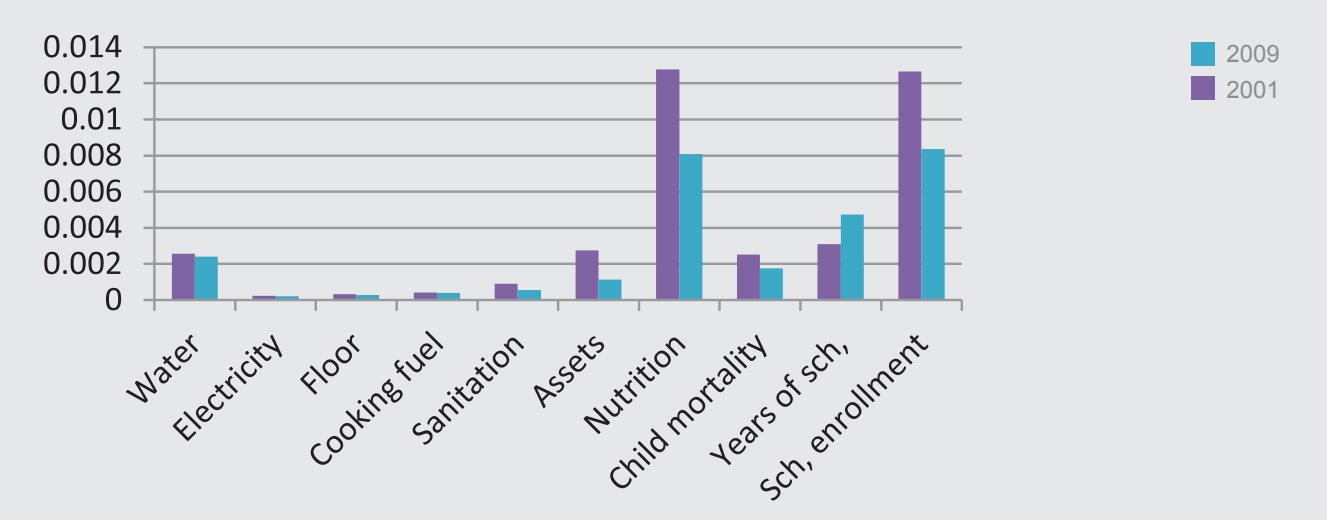
• Rural Damascus:

- Region: Southern
- Rank : 8 (Medium MPI deprivation)
- MPI performance across time:
  2001 - 2009 : Significant improvement
- Key contributors to deprivation: School enrollment, nutrition, and years of schooling.

Rural Damascus MPI:

(i) MPI Total

(ii) Absolute contribution of indicators across time



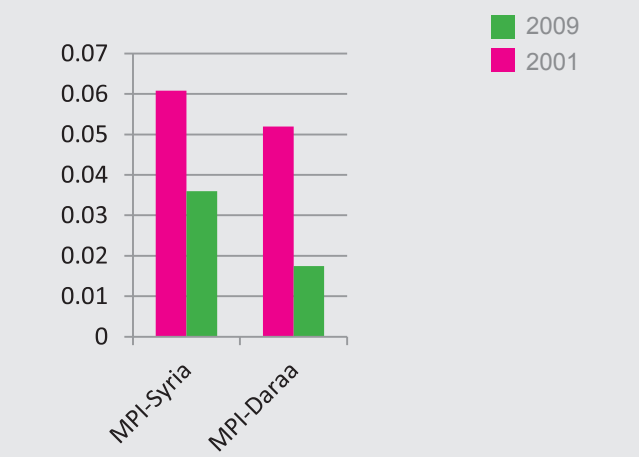
Source: FHS surveys 2001 and 2009 in Syria and authors' calculations.

• Daraa:

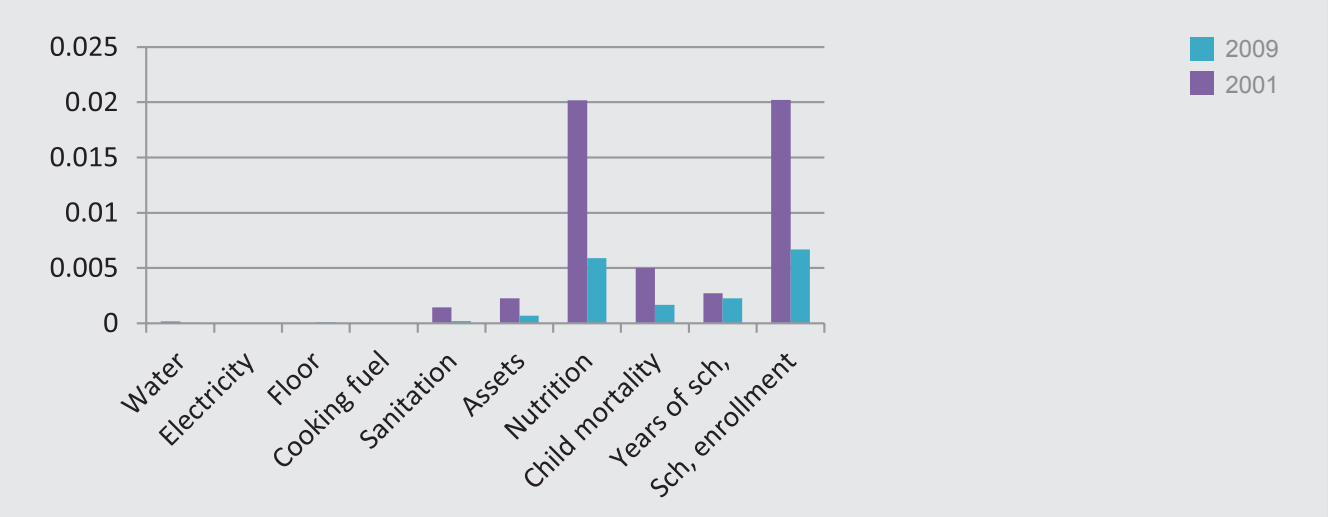
- Region: Southern
- Rank: 5 (Low MPI deprivation)
- MPI performance across time:
  2001- 2009: Significant improvement
- Key contributors to deprivation: School enrollment and nutrition.

Daraa MPI:

(i) MPI Total



(ii) Absolute contribution of indicators across time



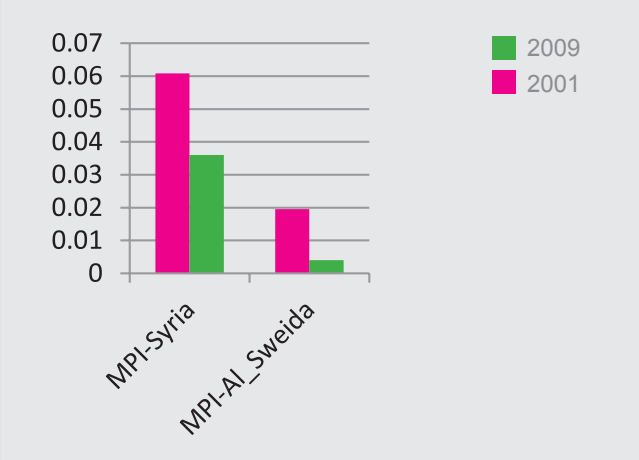
Source: FHS surveys 2001 and 2009 in Syria and authors' calculations.

• Al-Sweida:

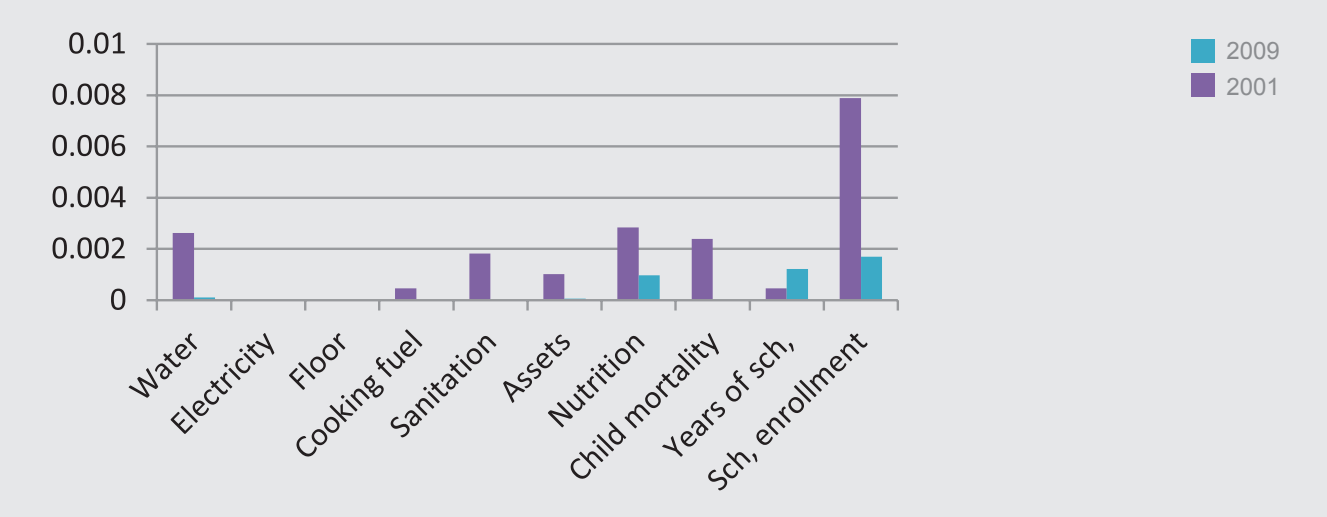
- Region: Southern
- Rank: 1 (the best performance)
- MPI performance across time:
  2001- 2009: Significant improvement
- Key contributors to deprivation: School enrollment and years of schooling.

AL-Sweida MPI:

(i) MPI Total



(ii) Absolute contribution of indicators across time



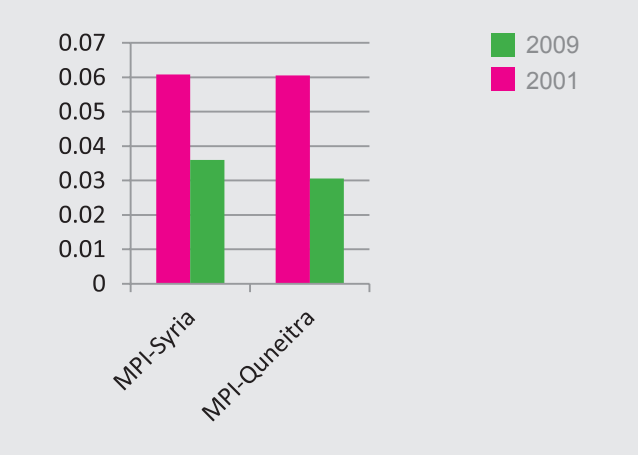
Source: FHS surveys 2001 and 2009 in Syria and authors' calculations.

• Quneitra:

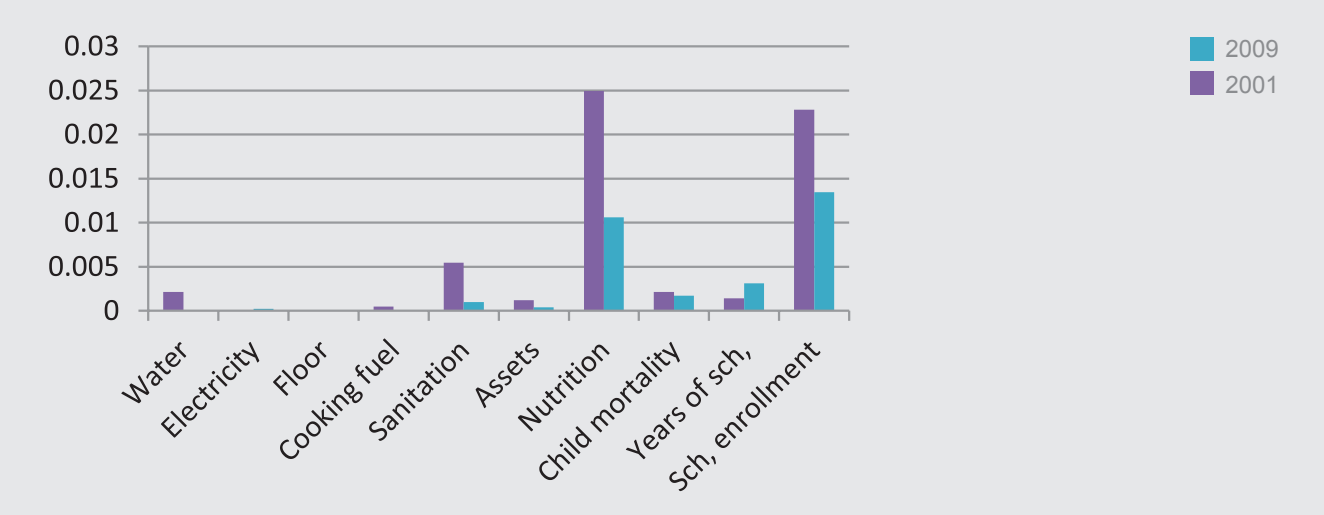
- Region: Southern
- Rank: 9 (Medium MPI deprivation)
- MPI performance across time:
  2001- 2009: Significant improvement
- Key contributors to deprivation: School enrollment and nutrition.

Quneitra MPI:

(i) MPI Total



(ii) Absolute contribution of indicators across time



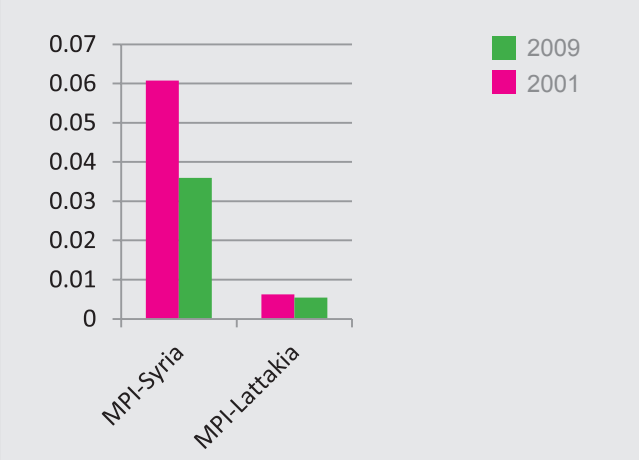
Source: FHS surveys 2001 and 2009 in Syria and authors' calculations.

• Lattakia:

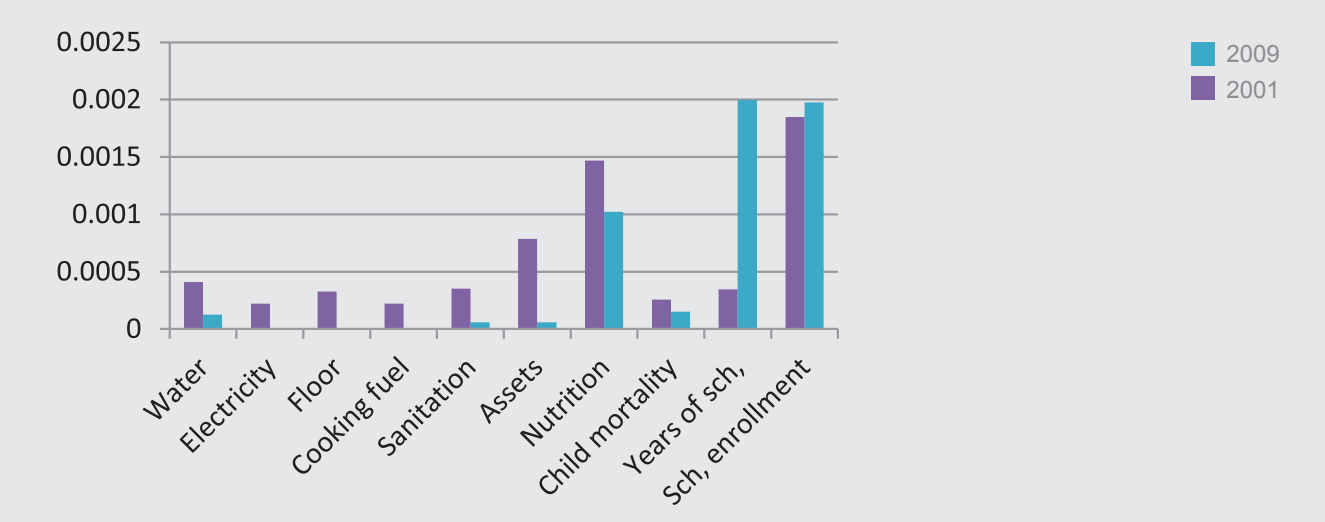
- Region: Coastal
- Rank: 3 (Low MPI deprivation)
- MPI performance across time:
  2001- 2009: No significant change
- Key contributors to deprivation: Years of schooling, and school enrollment.

Lattakia MPI:

(i) MPI Total



(ii) Absolute contribution of indicators across time



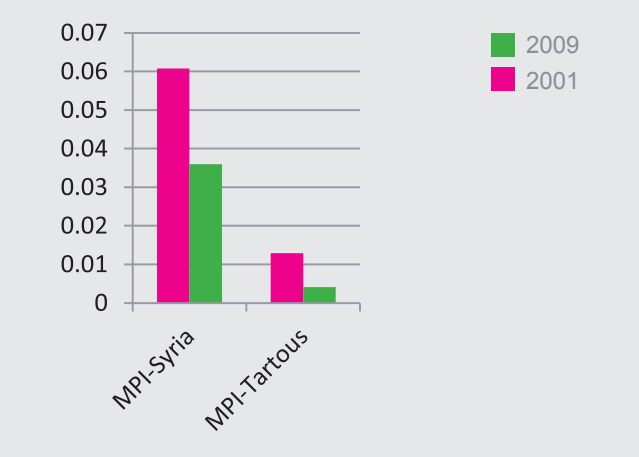
Source: FHS surveys 2001 and 2009 in Syria and authors' calculations.

• Tartous:

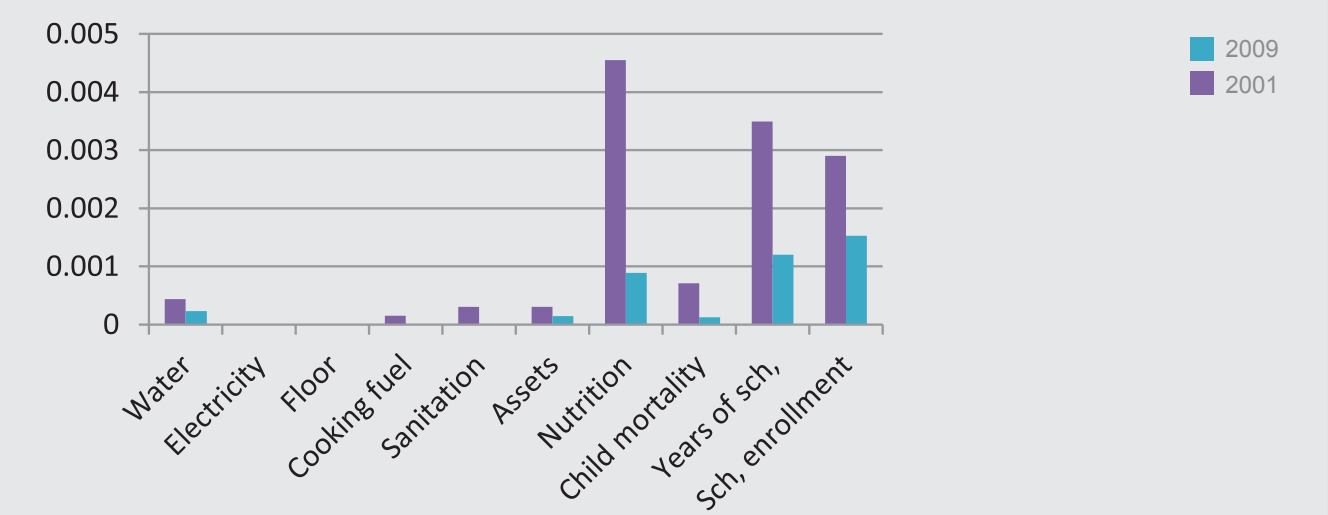
- Region: Coastal
- Rank: 2 (Low MPI deprivation)
- MPI performance across time:
  2001- 2009: Significant improvement
- Key contributors to deprivation: School enrollment and Years of schooling.

Tartous MPI:

(i) MPI Total



(ii) Absolute contribution of indicators across time



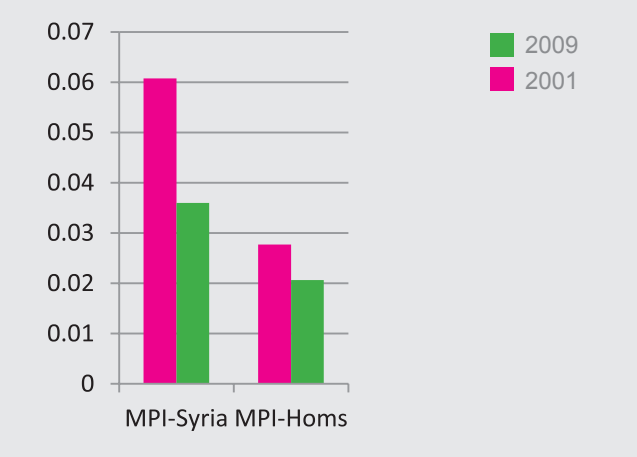
Source: FHS surveys 2001 and 2009 in Syria and authors' calculations.

• Homs:

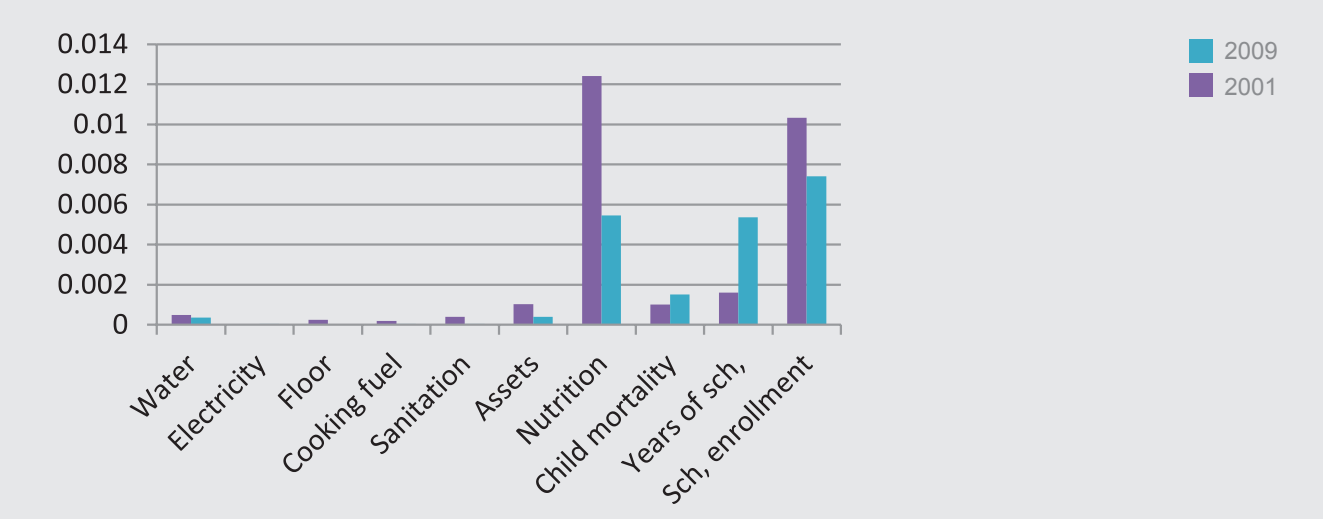
- Region: Middle
- Rank: 6 (Medium MPI deprivation)
- MPI performance across time:
  2001- 2009: Significant improvement
- Key contributors to deprivation: School enrollment, nutrition, and years of schooling.

Homs MPI:

(i) MPI Total



(ii) Absolute contribution of indicators across time



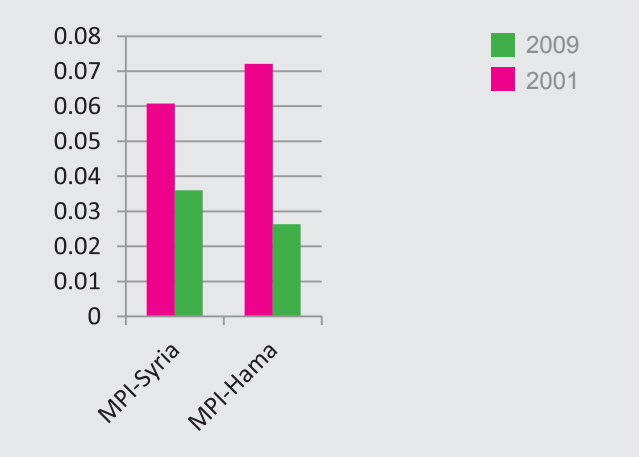
Source: FHS surveys 2001 and 2009 in Syria and authors' calculations.

• Hama:

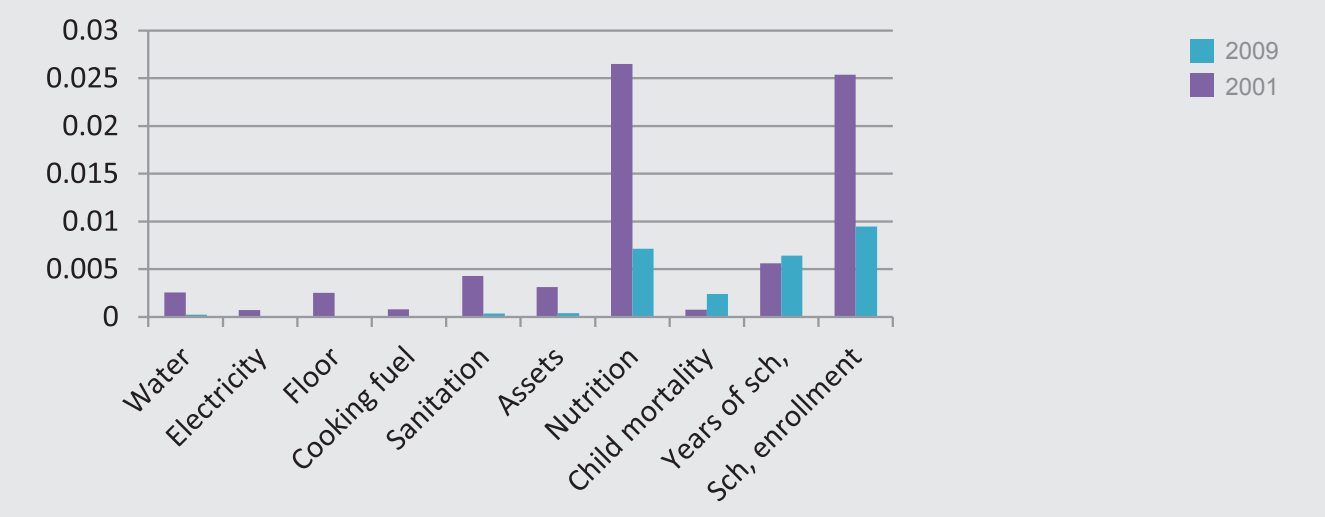
- Region: Middle
- Rank: 7 (Medium MPI deprivation)
- MPI performance across time:
  2001- 2009: Significant improvement
- Key contributors to deprivation: School enrollment, nutrition, and years of schooling.

Hama MPI:

(i) MPI Total



(ii) Absolute contribution of indicators across time



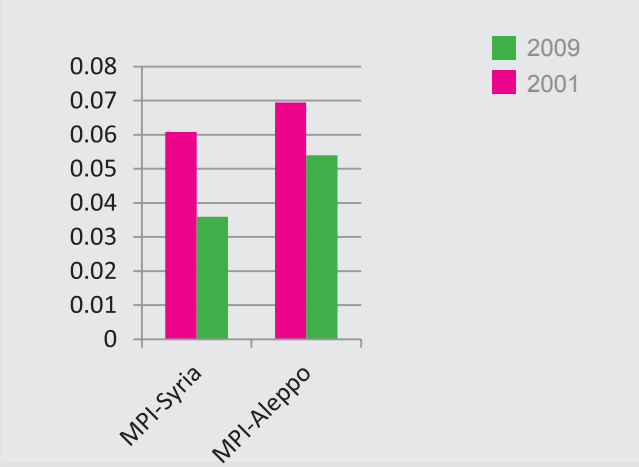
Source: FHS surveys 2001 and 2009 in Syria and authors' calculations.

• Aleppo:

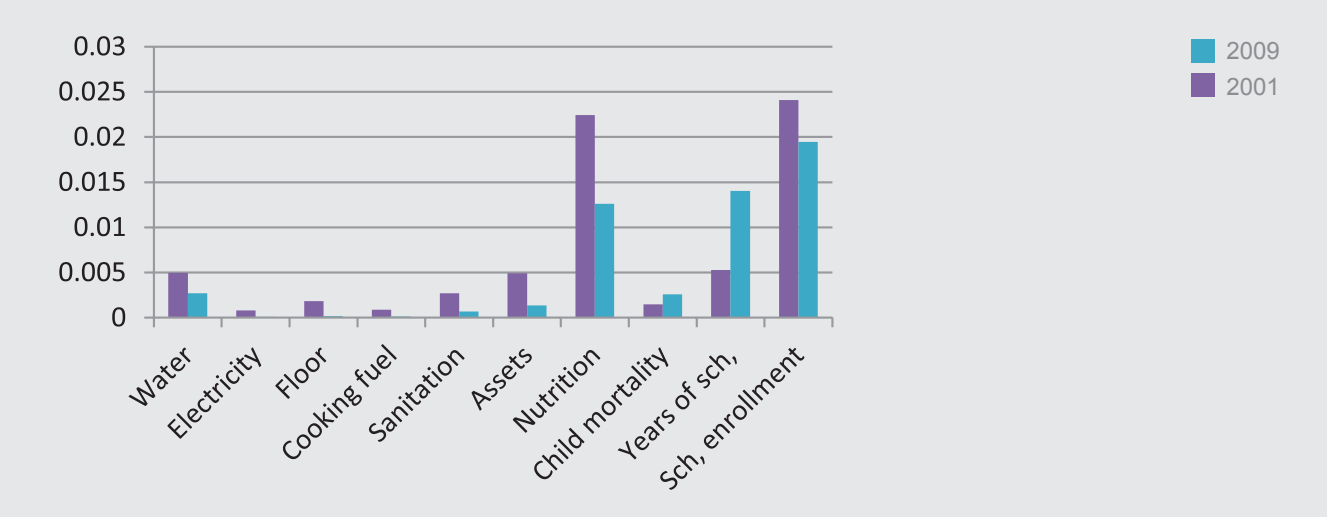
- Region: Northern
- Rank: 12 (High MPI deprivation)
- MPI performance across time:
  2001- 2009: Significant improvement
- Key contributors to deprivation: School enrollment, years of schooling, and nutrition.

Aleppo MPI:

(i) MPI Total



(ii) Absolute contribution of indicators across time



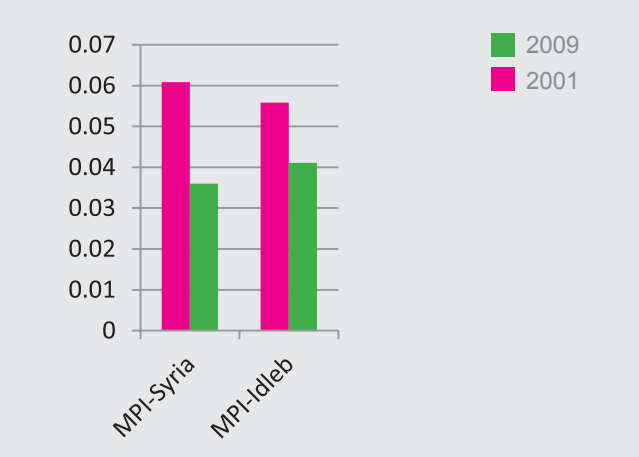
Source: FHS surveys 2001 and 2009 in Syria and authors' calculations.

• Idleb:

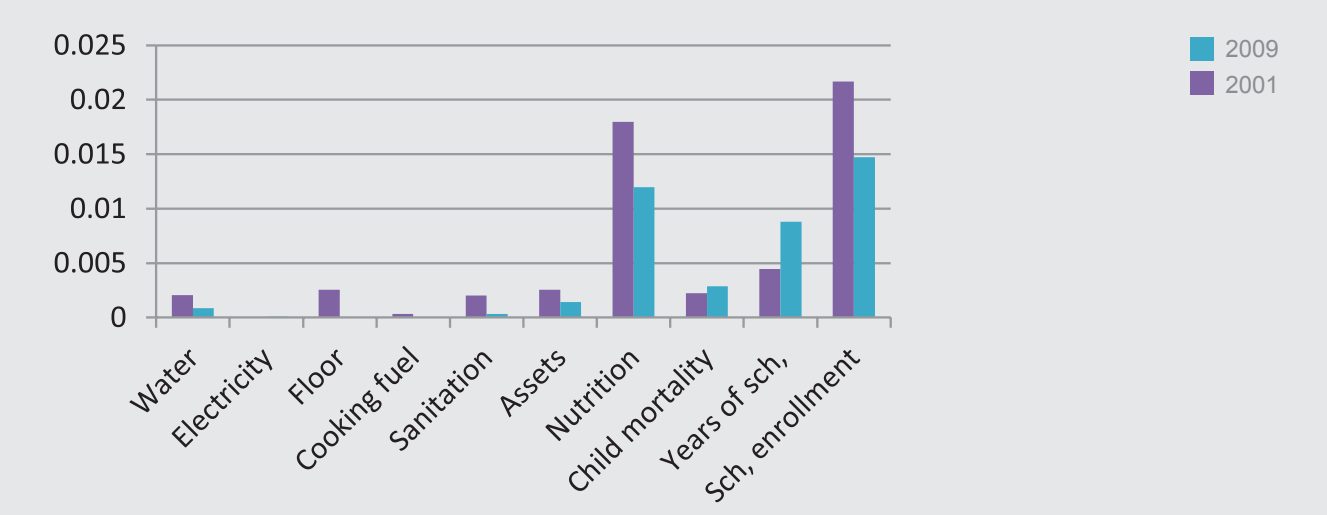
- Region: Northern
- Rank: 10 (High MPI deprivation)
- MPI performance across time:
  2001- 2009: Significant improvement
- Key contributors to deprivation: School enrollment, nutrition, and years of schooling.

Idleb MPI:

(i) MPI Total



(ii) Absolute contribution of indicators across time



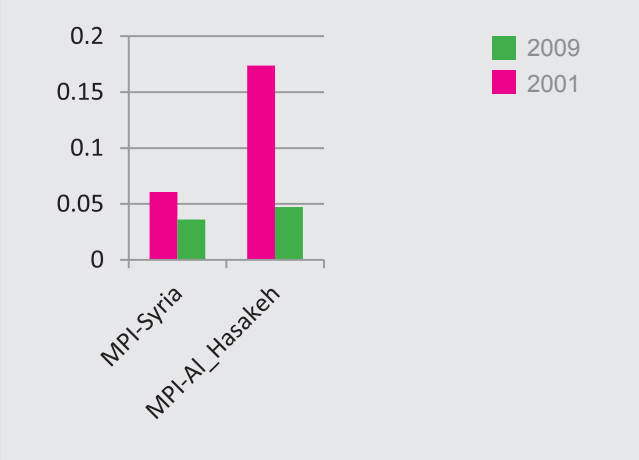
Source: FHS surveys 2001 and 2009 in Syria and authors' calculations.

• AL Hasakeh:

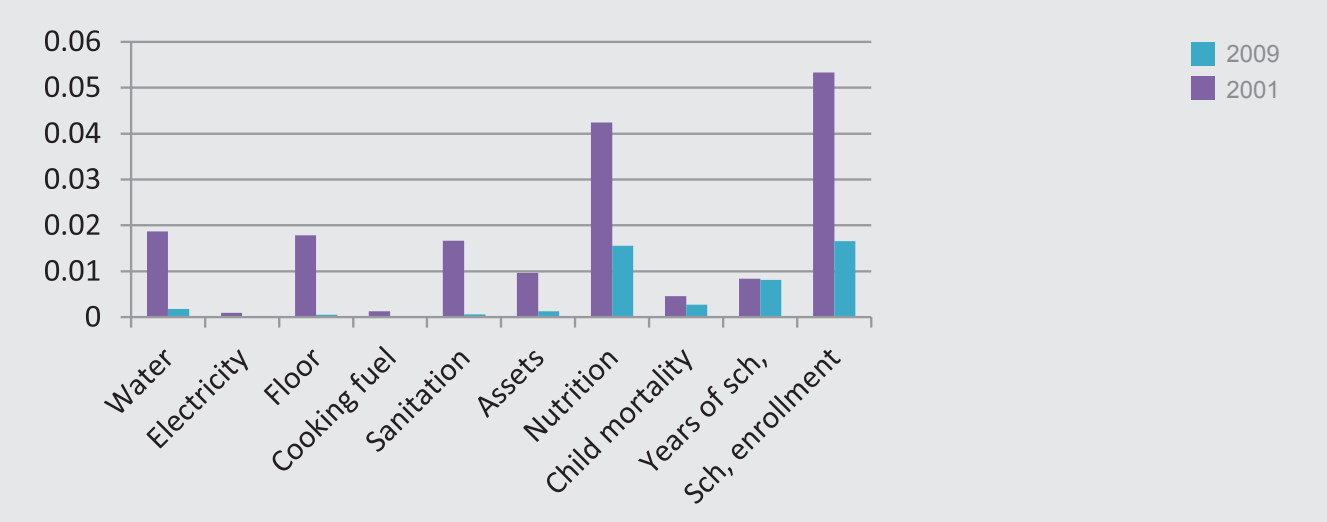
- Region: Eastern
- Rank: 11 (High MPI deprivation)
- MPI performance across time:
  2001- 2009: Significant improvement
- Key contributors to deprivation: School enrollment, nutrition, and years of schooling.

Al-Hasakeh MPI:

(i) MPI Total



(ii) Absolute contribution of indicators across time



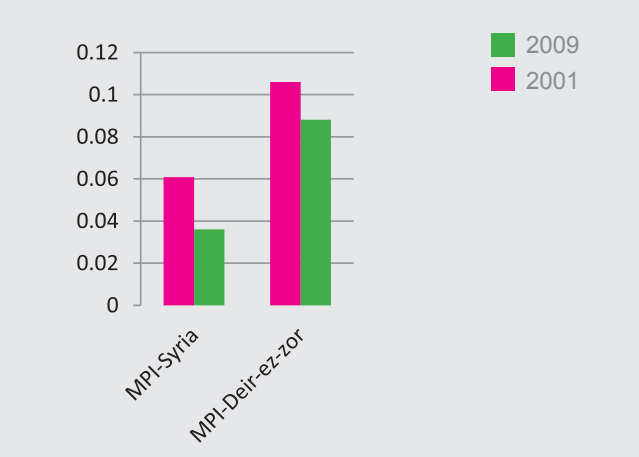
Source: FHS surveys 2001 and 2009 in Syria and authors' calculations.

• Deir-ez-zor:

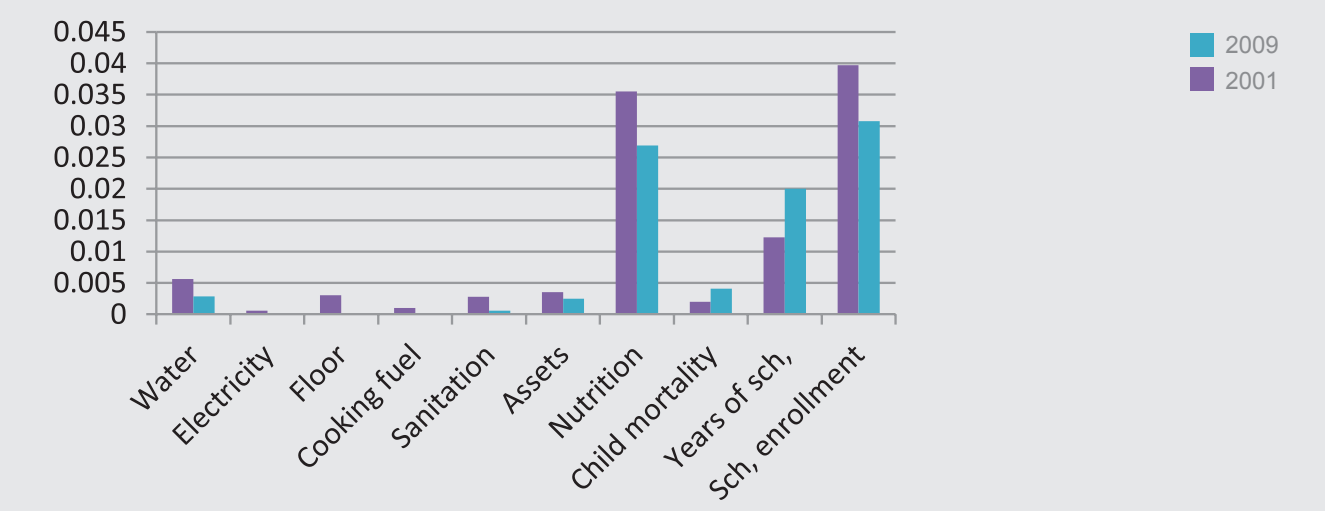
- Region: Eastern
- Rank: 14 (the worst performance)
- MPI performance across time:
  2001 - 2009: Significant improvement
- Key contributors to deprivation: School enrollment, nutrition, and years of schooling.

Deir-ez-zor MPI:

Deir-ez-zor MPI: (i) MPI Total



(ii) Absolute contribution of indicators across time



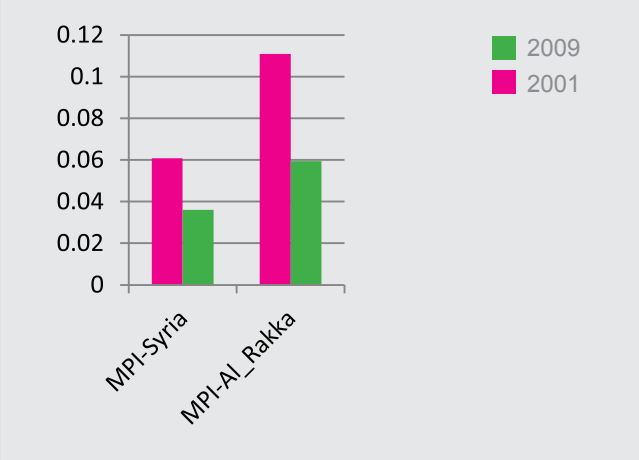
Source: FHS surveys 2001 and 2009 in Syria and authors' calculations.

• Al-Rakka:

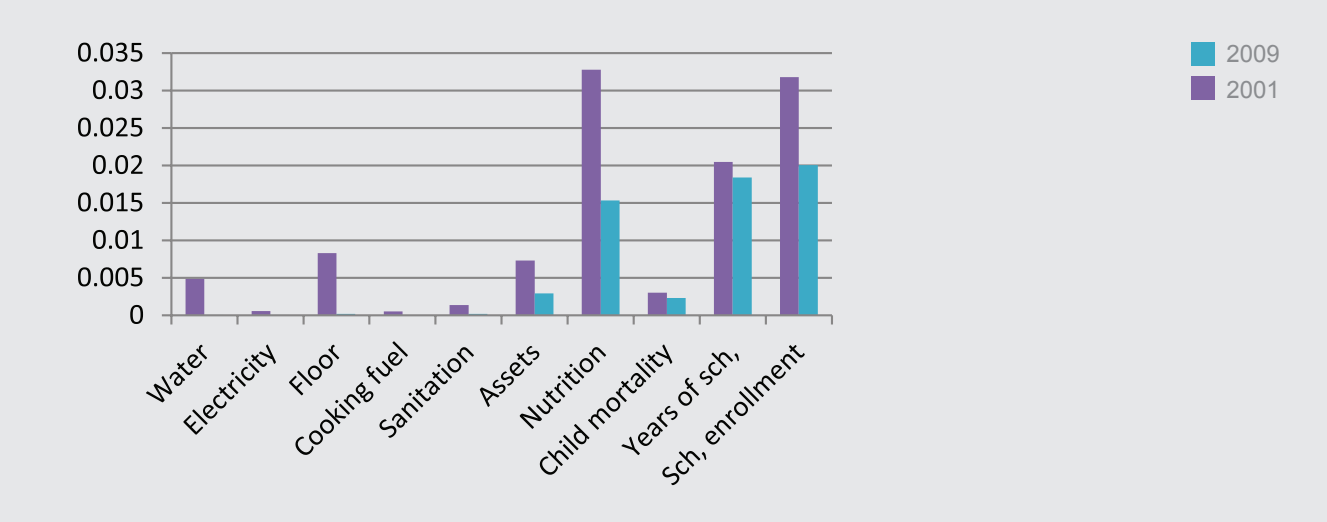
- Region: Eastern
- Rank: 13 (High MPI deprivation)
- MPI performance across time:
  2001 - 2009: Significant improvement
- Key contributors to deprivation: School enrollment, years of schooling, and nutrition.

Al-Rakka MPI:

Homs MPI: (i) MPI Total



(ii) Absolute contribution of indicators across time



Source: FHS surveys 2001 and 2009 in Syria and authors' calculations.