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# Non-Agricultural Rural Activities
# Preliminary Results from selected area of Syria

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# Introduction

In recent years, there was growing attention to the importance of non-agricultural rural activity (NARA), albeit NARA sector has traditionally been viewed as a low-productive sector, which produces low quality goods. The importance of this sector derives from the recognition that the rural non-agricultural sector can contribute to economic growth, rural employment, poverty reduction, and more spatially balanced population distribution. In fact, policymakers pay due attention to the importance of promoting rural non-farm employment opportunities, since, in many developing countries, agricultural alone can no longer absorb the rapidly growing rural population, and uncontrolled labour migration to urban areas, which often brings only higher social costs.

It may be seen that not only is the non-agricultural sector an important source of income to rural households, but different types of activities appear to be of differing relevance to the poor. Indeed, very few people collect their income from one source, hold all their wealth in the form of any single asset, or use their assets in just one activity. There are several reasons for this: risk reduction, realization of economies of scope, diminishing returns to factor use in any given application, response to crisis, liquidity constraints, etc. It is important to know if the potential contribution of non-farm activity to development is efficient in converting resources into output relative to its urban counterpart or agriculture.

Some activities in the non-farm sector provide workers with low returns even relative to casual agricultural wage labour, especial for women. Though, such employment is important from welfare point of view, because first, non-farm employment income may contribute to reduce aggregate income inequality. Second, non-farm income offer some means to economic security for a certain group of population who are unable to participate in the agricultural labour market. The peaks and troughs in labour demand from agricultural leave many people in rural areas seasonally unemployment. As a result, mush of non-farm employment is secondary. In the slack season, there may not be any agricultural employment so even a low productivity occupation can be useful in rising and smoothing income over the year.

Rural areas in Syria, like other developing countries, are still dominated by agricultural activities. Though, farming is no longer being the unique sector that operates in rural areas, other economic functions such as manufacturing, services, tourism, etc supplement the agricultural sector. The diversification of activities in rural areas involves a complex interaction between economic sectors in rural areas, and investigates how they affect each other. In this context, it is important to assess the relevance of NARA for agricultural and rural development and their contribution to policy relevant objectives such as the contribution to rural households' income, and to the resilience of rural households to exogenous and endogenous shocks.

In pursuing this objective, the paper reports some preliminary results of a broader study carried out by the Project GCP/006/SYR/ITA and the National Agricultural Policy Center NAPC (Moussaoui, for coming) in selected areas of rural Syria.

The paper is organized as following: section one illustrates the importance of income diversification in rural areas showing the factors that coerce rural household to diversify their activities. Second section describe the role of households' assets that consolidate household to participate in different livelihood activities and define the extent in which household can diversify the income sources. Third section shows the preliminary results of rural household income sources describing the analytical results of income decomposition.

# 1. Rural livelihood diversification

## *1.1. Importance of income diversification*

Diversification is a means by which individual reduce, or may alleviate, their risk exposure and vulnerability. People diversify by adopting a range of activities in rural areas. Thus income sources may include farm income, off-farm income (waged agricultural income) and non-farm income (non-agricultural income sources, such as non-farm wages and self-employment).

Livelihood diversification is important for both poor and non-poor household, but with different motivations. Poor households tend to diversify their income to survive, while better-off households usually diversify to accumulate more income.

Many reasons induce rural diversification out of farming. Risk reduction in the face of climatic, epidemiological, market variability, and resource constraints may play an important role in rural activity diversification, but it is not the only reason. Sometimes people diversify to compensate the declining returns to labor or land, some other times to smooth labour use over the year. But not all individual willing to diversify or able to do it. For instance, usually the poor do not have the means to hurdle investment or skills entry barriers to non-farm activities. This is why income diversification generally increases with total household income (Reardon, 1997).

Like other many countries, people in rural areas of Syria are increasingly becoming less reliant on agricultural activities and a rising dependence on non-farm income sources has been observed. Findings of the NAPC Farming System Study (Wattenbach, 2005) indicate that non-farm employment growth in rural area has generally been rapid during the last decade certainly more so than farm employment growth. Moreover, land scarcity and increasing land fragmentation imply that the non-farm sector has to be developed to absorb more of the growing population, and development of non-farm income opportunities may be an alternative development strategy for those households.

To what extent that rural households diversify their income source is strongly affected by the cropping pattern, household assets, availability of opportunities, and household type (poor/non-poor) and family size. While, in general, services and commerce represent a greater share of rural non-farm activities, the relative importance of the rural non-farm categories tends to vary greatly within regions depending on local conditions and on the level of poverty of the households (Table1 and 2).

**Table 1:** Comparison between income sources of poor HHS by Farming System (percentage)

| Main Farming System | Farming system | Share of HH | Relative importance of income sources | | | | |
|---|---|---|---|---|---|---|---|
| | | | Agricultural | | | Non-farm | Remittance |
| | | | On-farm | | Off-farm | | |
| | | | crop | Livestock | | | |
| Coastal intensive irrigated | North | 75 | 60 | 10 | 0 | 30 | 0 |
| | South | 70 | 24 | 0 | 43 | 33 | 0 |
| Hilly & Mountain | Hilly | 60 | 20 | 5 | 35 | 30 | 10 |
| | Mount. | 60 | 20 | 0 | 40 | 40 | 0 |
| North. & north-east plains | Irrigated | 40 | 35 | 3 | 47 | 15 | 0 |
| | Mixed | 50 | 40 | 15 | 30 | 15 | 0 |
| Al-Ghab & central plains | Al-Ghab | 80 | 40 | 5 | 50 | 5 | 0 |
| | Irrigated | 50 | 20 | 5 | 15 | 45 | 15 |
| Southern mount. & plains | Mountain | 30 | 20 | 30 | 0 | 0 | 50 |
| | Plain | 12 | 10 | 0 | 10 | 80 | 0 |
| Pastoral & agro-pastoral | Agro-pastoral | 70 | 10 | 20 | 50 | 0 | 20 |
| | Pastoral | 60 | 0 | 10 | 60 | 10 | 20 |

Source: Wattenback, 2005

**Table 2:** Comparison between livelihood sources of better-off HHs by Farming System (%)

| Main Farming System | Farming system | Share of HH | Relative importance of income sources | | | | |
|---|---|---|---|---|---|---|---|
| | | | On-farm | | Off-farm | non-agric. | trade |
| | | | crop | livestock | | | |
| Coastal intensive irrigated | North | 11 | 100 | 0 | 0 | 0 | 0 |
| | South | 11 | 25 | 10 | 0 | 35 | 30 |
| Hilly & Mountain | Hilly | 12 | 40 | 10 | 0 | 40 | 10 |
| | Mount. | 10 | 40 | 10 | 0 | 40 | 10 |
| North. & north-East plains | Irrigated | 10 | 65 | 26 | 4 | 0 | 5 |
| | Mixed | 10 | 70 | 30 | 0 | 0 | 0 |
| Al-Ghab & central plains | Al-Ghab | 3 | 75 | 0 | 0 | 25 | 0 |
| | Irrigated | 10 | 60 | 0 | 0 | 0 | 40 |
| Southern mountains & plains | Mountain | 10 | 60 | 20 | 0 | 20 | 0 |
| | Rainfed plain | 55 | 40 | 20 | 0 | 40 | 0 |
| | Irrigated plain | 10 | 40 | 40 | 0 | 20 | 0 |
| Pastoral & agro-pastoral | Agro- Pastoral | 30 | 10 | 20 | 0 | 20 | 50 |
| | Pastoral | 10 | 0 | 80 | 0 | 0 | 20 |

Source: Wattenback, 2005

Poor households diversify their income source from different sources, namely crop cultivation, livestock breeding, and non-farm activities. Doing so is because of each source no longer is sufficient to meet the family needs. For instance, land size is on average in which poor households can cultivate crops to meet their needs from vegetable, wheat, olive oil, etc. in contrast, better-off households hold enough land size to be as a main source of agricultural income and/or to invest agricultural production in non-farm activities (e.g. trade in Al-Ghab) as shown in figure 1 and 2.

**Figure 1**: the share of income source of Coastal irrigated



The share of HH income sources of the total

Coastal intensive irrigated

% of HH ■ crop □ Livestock □ Off-farm ■ Non-farm ■ Remittance
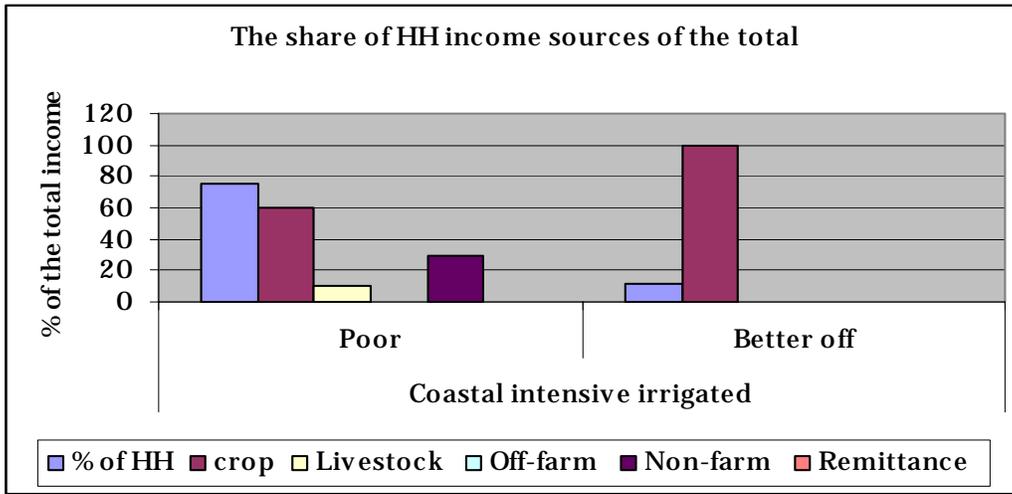
**Figure 2**: the share of income source of household of Al-Ghab irrigated area



The share of HH income source of the total

Al-Ghab irrigated

% of HH ■ crop □ Livestock □ Off-farm ■ Non-farm ■ Remittance ■ trade
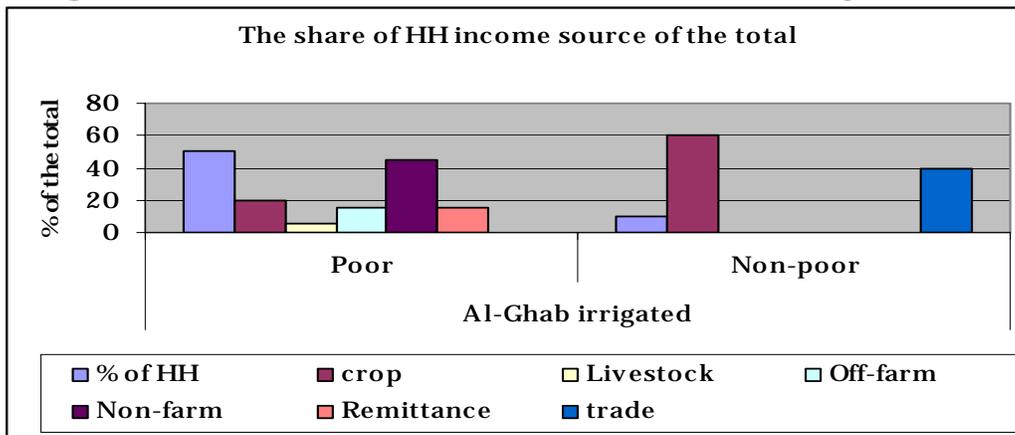
## 2. Household assets and access to income generating activities

Many analytical studies and empirical analyses of rural income-generating activities show that the households' asset position plays an important role in determining the participation in activities as well as the intensity of involvement. Therefore, the NARA study (Moussaoui, forthcoming) adopted the so-called sustainable livelihood approach (SLA, cf. DFID). According to the SLA framework (Figure1), households' assets includes five types of capital, namely: natural (e.g. land, water deficits, and soil fertility), physical (equipment, livestock, etc.), financial (saving, credit, remittances), human (education, health, skills, and age), and social assets (household participation in different organizations). While physical assets can be though of as stocks that may depreciate over time or accumulate through investment, most analyses consider assets as fixed in a given period and examine how a household's asset endowment influences the household livelihood behaviour (strategies) and the extent in which household may participate in rural income-generating activities (*Winters et al*, 2006).

**Figure1:** the Sustainable livelihood framework
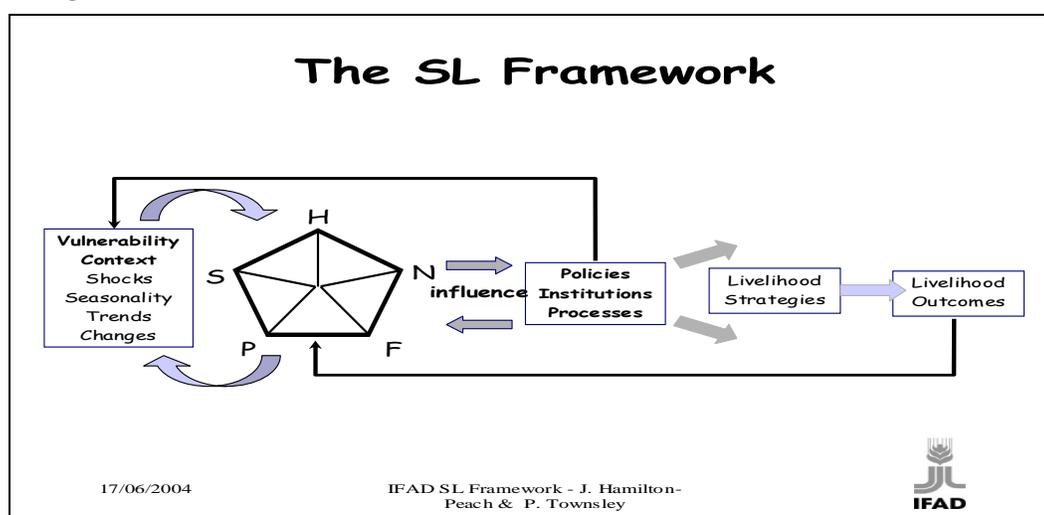


Given an initial asset endowment, a household's alternative of activities is viewed as depending on the context in which the household operates as well as his preferences. The context in which households operate helps determine the welfare-generating potential of assets and prospects for improved well-being. The political, legal, and regulatory contexts affect how assets are managed and whether successful livelihood strategies can be undertaken. The context includes the prices of inputs, production factors and outputs, market orientation and the degree of market failure, transactions costs, shocks (e.g. drought), government policies, institutions, infrastructure, and social networks.

Matching and understanding the correlation between household assets, strategies, and context as well as the corresponding incomes lead to better views for policy maker to formulate development policies in rural areas.

The description of household's assets taken here is referring to primary data gathered from a field survey of 100 households from the non-farm pilot study conducted by of the NAPC in 2006 in two selected areas, namely Drakish (Tartous Governorate) and Al-Rasstan (Homs Governorate).

A set of variables has been employed to measure the impact of assets position on households' participation in a certain income-generating activities. Such assets include human capital (education level and age of household head), natural capital (land size, cropping patter, and land

fertility), and financial capital (access to formal and informal credit, stocks, saving, etc.). Physical and social capital did not show significant differences among households. Therefore, they are not reported in this analysis.

*2.1. Human Capital*

Education level has a positive return on the income level as well as on the participation of rural household in non-farm activities. Table 3 shows the share of household members who are involved in different work sector and the corresponding education level at the sample level in the two selected areas. The data show that households whose members have higher education level are more able to enter non-farm sector. It was noticeable that a higher educational attainment shifts households out of farming such as the case in Tartous area, though some observations indicate that some of non-farming earning have been invested in farming production (e.g. for input purchasing and agricultural operation improvement).

**Table 3:** Education Level and the Share of Participation in Work Secto**r**

| Area | Education level | | | % of participation in income generating activities | | |
|---|---|---|---|---|---|---|
| | Low | Medium | High | Agricultural Activities | Wage non-farm | Remittance |
| **Talbisseh (Homs)** | 69% | 27% | 4% | 64% | 25% | 1% |

Source: NARA field survey data

Low education level refers to primary and preparatory school,
Medium includes secondary school, and
High level refers to institutes and degrees

Education levels play also role in increasing the probability of employment in the higher wage permanent employment non-farm sub-sectors (Table 4). The opposite is often observed for employment in the casual non-agricultural wage sector especially in construction sub-sector. Other observations confirm that return to education within the rural non-farm sector tend to rise sharply with higher education levels comparing to the case within the agricultural sector.

**Table 4:** Education level vs. income per day of different sector of activities

| Area | Education level | | | Income per day SP/ day | | | |
|---|---|---|---|---|---|---|---|
| | Low | Medium | High | on farm | Off-farm | SE | WE |
| **Talbisseh (Homs)** | 69% | 27% | 4% | 280 | 230 | 214 | 260 |
| **Hemmin (Tartous)** | 49% | 36% | 16% | 200 | 340 | 250 | 390 |

Source: NARA field survey data

*2.2. Natural capital*

Land is the most important productive asset of rural household. Nevertheless, due to inheritance divisions, rising land fragmentation has been observed. Land ownership as well as land size determines the household participation in full time agricultural activities or diversification of its activities and engaging in the non-farm sector (Table 5). Moreover, the cropping pattern seems to play a crucial role in the household decision to diversify its economic activities. The results indicate that in Homs field crops are clearly dominating in the cropping pattern, while perennial trees are the main farming in Tartous (olive trees). In many case, greater land size and labor-intensive crop farming, such as cotton and sugar beet, limits participation and the return to other activities mainly agricultural-wage and non-farm activities.

Moreover, land quality (fertility) is affecting land return and, in turn, household participation in different activities. Observations from Tartous household sample, for instance, show that most farmers are suffering from poor land quality (table 5). Therefore, landowners are forced to look for activities out of farming due to land low return.

**Table 5**: Natural Assets of poor and non-poor households in the two pilot study areas

| Item | Homs/Talbisseh | | | Tartous/Hemmin | | |
|---|---|---|---|---|---|---|
| | poor | Non-poor | total | poor | Non-poor | total |
| **HH counts** | | | | | | |
| Number of HH | 13 | 37 | 50 | 20 | 30 | 50 |
| No of land owners | 7 | 33 | 40 | 14 | 30 | 44 |
| % of land owners | 54% | 89% | 80% | 70% | 100% | 88% |
| **Household's natural assets** | | | | | | |
| **Average land size (dunum)** | 4.2 | 14.6 | 11.9 | 3.8 | 9.4 | 7.2 |
| **Land fertility level** | | | | | | |
| Bad | 14% | 3% | 6% | 64% | 37% | 45% |
| Medium | 29% | 27% | 28% | 29% | 60% | 50% |
| Good | 57% | 70% | 68% | 7% | 3% | 5% |
| **Land ownership (% of land under)** | | | | | | |
| Private ownership | 55% | 64% | 62% | 97% | 91% | 92% |
| Rental ownership | 45% | 11% | 14% | 3% | -- | 1% |
| Reform land | -- | 25% | 24% | -- | 9% | 7% |
| **Water accessibility (% of HH)** | | | | | | |
| Well possession | 86% | 67% | 70% | 7% | 33% | 25% |
| Private ownership | 71% | 64% | 65% | 7% | 33% | 25% |
| Rental ownership | 14% | 3% | 5% | -- | -- | -- |
| Common ownership | 29% | 9% | 13% | 14% | -- | -- |
| Public network | 43% | 70% | 65% | -- | -- | -- |
| **Cropping system** | | | | | | |
| Average area of spring crops/ du | 3.0 | 10.5 | 8.6 | -- | -- | -- |
| Average area of winter crops/ du | 1.1 | 10.6 | 8.2 | 0.5 | 1.5 | 1.1 |
| Average area of perennial crops/ du (with tourism services in Hemmin) | 0.5 | 0.1 | 0.2 | 3.2 | 8.6 | 6.5 |
| Forests (mountain trees and landscape amenities) | - | - | - | Significant presence of mountain forests (under public and common ownership) | | |

Source: Moussaoui forthcoming

## 2.3. Financial Capital

Financial Capital is a category of livelihood assets, by which people achieve their livelihood objectives and make profitable investments. Financial capital includes cash, bank deposits or liquid assets such as livestock and jewelry. Financial resources can also be obtained through credit- institutions.

Financial services are often provided through formal and informal sources. But nevertheless, sample-households' access to financial services is mainly subject to interest rate and collateral availability. Table 6 illustrates the share of households who have opportunity of access to credit market (formal and informal). Obviously, financial services (particularly formal source) are available for Tartous household sample more than Homs. This is explicable based on the collateral availability that might household possess. It seem also that religious believes (interests are forbidden in Islamic) preclude some people to access to credit market (such case has been observed in Homs).

**Table 6:** Financial Assets-accessibility to credit market

| Area | HH type | Types of accessible financial services (% of respondent) | | | Accessed to financial credit markets (% of respondent) | Reasons of inaccessibility (% of respondent) | | |
|---|---|---|---|---|---|---|---|---|
| | | Formal | Informal | Both | | No Collateral | Religious norm | No need |
| **Talbisseh (Homs)** | poor | 23 | 31 | 8 | 25 | 55 | 27 | 18 |
| | non-poor | 38 | 32 | 8 | 59 | 30 | 50 | 20 |
| | Sub-total | 34 | 32 | 8 | 51 | 39 | 42 | 19 |
| **Hemmin (Tartous)** | poor | 80 | 10 | -- | 67 | 37 | -- | 63 |
| | non-poor | 73 | -- | -- | 91 | 60 | -- | 40 |
| | Sub-total | 76 | 4 | -- | 80 | 50 | -- | 50 |

Source: NARA field survey data

## 3. Non-farm rural income sources and inequality

*3.1. Non-farm income sources among the poor and the non-poor*

Rural household diversify their income source in different sectors, and non-farm source contribute to a vital share of total income households source particularly in the case of poor households (Table 7). Observations from the NARA study field survey show that the non-farm sector includes regular salaried employment (such as governmental employment, small personal business, and casual n0n-farm employment (construction work).

**Table 7:** Share of HH Income Sources of the Total Income

| Area | HH type | Income source | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| | | On farm | Off-farm agri-waged | Non-farm Self Emp | Non-farm Waged-Emp | Unearned |
| Talbisseh (Homs) | Poor | 26% | 11% | 0% | 61% | 2% |
| | Non-poor | 45% | 7% | 13% | 34% | 1% |
| | Total Homs | 40% | 8% | 9% | 41% | 1% |
| Hemmin (Tartous) | Poor | 23% | 1% | 11% | 60% | 5% |
| | Non-poor | 25% | 0% | 19% | 54% | 2% |
| | Total Tartous | 24% | 1% | 15% | 56% | 3% |

Source: NARA field survey data

Noticeably, the main income source for all household type is labour. Income from agricultural wage and other waged activities accounts for 49% and 57% of total income in Homs and Tartous respectively[1].

Total income of each source may not reflect the real household well-being if data do not control for household family size. Annual income per capita is a more precise indicator (Table 8). Obviously, non-farm waged employment plays an important role in household per capita annual income especially for poor household (60% of the per capita income).

**Table 8:** Average Income per Capita (SP/year)

| Region | HH type | On farm | Off-farm | Non-farm Self Employment | Non-farm Waged | Unearned |
| --- | --- | --- | --- | --- | --- | --- |
| Talbisseh (Homs) | Poor | 3,705 | 2,135 | | 14,017 | 128 |
| | Non-poor | 12,117 | 1,941 | 5,321 | 12,123 | 459 |
| | Total | 9,930 | 1992 | 3,938 | 12,615 | 373 |
| Hemmin (Tartous) | Poor | 4,374 | 229 | 4,996 | 17,193 | 1,788 |
| | Non-poor | 6,123 | 60 | 6,210 | 19,570 | 522 |
| | Total | 5,423 | 128 | 5,724 | 18,619 | 1,028 |

Source: NARA field survey data

Table 9 shows the share of income of different non-farm activities of the sample's total income in the two selected areas. The governmental employment income contributes to a high share of total non-farm income in Tartous household-sample corresponding to 50% of total non-farm income. For households of Homs sample, services, which include shops, tailors, and equipment maintenance is more important than other non-farm activities (40% of total), followed by construction, governmental employment, trade, and manufacturing. Data shows also that participants in governmental employment, mostly concentrated in health and school services, are characterized by better education levels.

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[1] The percentage found in Homs is the same order of magnitude of that reported in the UNDP Poverty Study (UNDP, 2005) which accounts for 49.17% of total household income at country level.

**Table 9:** The share of non-farm income sub-sector of the total non-farm income

| Area | HH type | % of the income of the non-farm activity of the non-farm total income | | | | |
|---|---|---|---|---|---|---|
| | | manufacturing | construction | trade | Services | Govern. Emp |
| Talbisseh (Homs) | **poor** | 0% | 26% | 9% | 43% | 22% |
| | **Non-poor** | 6% | 20% | 15% | 40% | 19% |
| | **Sub-total** | 5% | 21% | 13% | 40% | 20% |
| Hemmin (Tartous) | **poor** | 2% | 12% | 11% | 17% | 57% |
| | **Non-poor** | 3% | 12% | 14% | 25% | 46% |
| | **Sub-total** | 3% | 12% | 13% | 22% | 50% |

Source: NARA field survey data

The question that may rise here is whether these can be really considered as rural[2]. In other words, do these activities locate in rural areas, or concentrate in city center and / or in their outskirts?

Data from the field survey show that most of non-farm sector are located outside the rural area (Table 10). In the Homs area, 13% and 22% of non-farm activities are in the governorate center and abroad (i.e. Lebanon), respectively. In contrast, in the Tartouse area, 47% of non-farm occupations derive from internal migration (governorate center and other governorates) and from external migration.

Poor households seldom can find non-farm opportunity at mantika level. Instead, migration is the most preferred livelihood strategy. Nevertheless, data of poor household characteristics show that migrants have neither good education level nor skills. Poor access to productive assets forces poor households to be engaged in non-permanent low-return activities such as construction ones. In contrast, 72% of better household in Homs run their non-farm activities within rural boundaries, mainly trade, agro-processing, etc.

**Table 10**: Location of Non-farm Activities

| Region | HH type | Village | closer Village | Nahia | Mantika | Governorate Center | Other Govern. | Abroad |
|---|---|---|---|---|---|---|---|---|
| **Talbisseh (Homs)** | poor | 33% | 7% | 0% | 7% | 13% | 0% | 40% |
| | non-poor | 51% | 13% | 5% | 3% | 13% | 0% | 15% |
| | total | 46% | 11% | 4% | 4% | 13% | 0% | 22% |
| **Hemmin (Tartous)** | poor | 32% | 7% | 4% | 11% | 29% | 7% | 11% |
| | non-poor | 25% | 7% | 4% | 18% | 36% | 7% | 4% |
| | total | 29% | 7% | 4% | 14% | 32% | 7% | 8% |

Source: NARA field survey data

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[2] The concept of rural development concerns with the economic growth and creating opportunities in rural areas to improve the rural household living standard and reduce the rural-urban migration. In this context, many definitions of rural non-farm activities have been proposed, emphasizing on the spatial perspective of rural location of these activities. Here the Lanjouw definition of non-farm economy will be used: "*The non-farm rural economy (NFRE) is defined as being all those activities associated with wage work or self-employment in income generating activities that are not agricultural but located in rural areas (Lanjouw, 1999)*".

*3.2. Income inequality and poverty*

Let's turn, now, to the analysis of the relationship between poverty, income inequality and income sources in the sample. In this section, we will perform a decomposition analysis of income and poverty indexes in the selected areas. The categories adopted in this analysis are agricultural (both on-farm and off-farm), non-farm (both self-employment and waged employment), and unearned income. The aim is the assessment of the importance of different source of rural household income and the estimation of income inequality at household level.

The most important income source is waged non-agricultural income which contributes, on average, to about 50% of total household income (table 11), while agricultural income accounts for 30%. Table 11 shows there is a strong correlation between waged non-farm income and total income, while the average simple correlation between unearned income and total income is quite low (0.27).

**Table 11: Result of descriptive analysis**

| Item | Total Income | Agri income | Non-Farm Income | | Unearned |
| --- | --- | --- | --- | --- | --- |
| | | | Waged employment | Self Employment | |
| **% of Y sources** | | 0.30 | 0.51 | 0.16 | 0.03 |
| **Standard Deviation** | 139.10 | 59.09 | 108.03 | 74.78 | 22.87 |
| **CV = STDV/Aver** | 0.71 | 0.99 | 1.08 | 2.37 | 3.73 |
| **CORR (yr)** | | 0.500 | 0.614 | 0.490 | 0.275 |
| **Kurtosis** | 3.44 | 1.55 | 3.77 | 12.92 | 22.86 |
| **Skewness** | 1.65 | 1.40 | 1.63 | 3.46 | 4.62 |

Source: NARA field survey data

Tables 12, 13, and 14 present the decomposition of Gini coefficient and Relative Concentration Coefficient at different level for the whole sample, Tartous and Homs respectively.

Increasing or decreasing in income inequality is depends on the value of gi (relative concentration coefficient), whether gi is greater or less than unity. The relative concentration coefficients based on the decomposition of Gini coefficient illustrates that three income sources namely non-farm self-employment, non-farm waged and unearned source show high-inequality at overall household level.

Non-farm waged employment has the largest factor inequality weight affecting income distribution (12) regardless of HH type, and both waged employment and self employment are income inequality-increasing. This means that any additional increasing of self-employment, waged, or unearned income will increase overall income inequality. In contrast, the relative concentration coefficient of agricultural income is less than unity.

At all household level, the source Gini of non-farm self-employment is the highest for poor households (table 12). That is this source is the most unequally distributed income source. In contrast, for non-poor HH, unearned source is the highest.

The picture is quite different in Homs. Although unearned income is the highest of source gini, it is ignored since wi (source income weight) is very small (Table 13), therefore, waged non-farm income is the most unequally distribution income source (Gi is the highest) for poor HH, while for non-poor HH self-employment is the most source of inequality. It is noticeable that the factor inequality weight of non-farm waged employment is the highest for poor household.

Table 14 shows the same analysis at Tartous level. In general, non-farm income sources show relative concentration coefficient a greater than unity in the case of poor households, which lead

to increase the overall income inequality. As non-poor households, waged non-farm income contributes greatly to overall income inequality.

In short, irrespective of areas as well as household type, waged-non-farm source presents the highest factor inequality weight. In contrast, agricultural income sources are inequality-decreasing of income distribution, which could be explicable based on equality of the average land size and the similarity of cropping pattern.

**Table 12:** Gini Coefficient Based HH Partition Total Income Decomposition (Total sample)

| Item | Label | HH Type | Total annual income (y) | Source Income ($y_i$) | | | |
|---|---|---|---|---|---|---|---|
| | | | | Ag. Income | SE income | WE income | UN income |
| **Average Income ( 000 Syrian Pound)** | μ | Poor | 146.48 | 32.59 | 11.91 | 95.67 | 6.30 |
| | | Non-Poor | 211.27 | 75.31 | 35.79 | 96.31 | 3.63 |
| **source of income weight** | wi | Poor | | 0.22 | 0.08 | 0.65 | 0.04 |
| | | Non-Poor | | 0.36 | 0.17 | 0.46 | 0.02 |
| **Gini coefficient** | G | Poor | 0.33 | 0.562 | 0.909 | 0.486 | 0.891 |
| | | Non-Poor | 0.34 | 0.483 | 0.791 | 0.562 | 0.960 |
| **Correlation Ratio (btw $y_i$ and Y)** | $R_i$ | Poor | | 0.215 | 0.537 | 0.765 | 0.489 |
| | | Non-Poor | | 0.585 | 0.544 | 0.638 | 0.379 |
| **Relative Concentration Coefficient** | $g_i$ | Poor | | 0.368 | 1.488 | 1.133 | 1.328 |
| | | Non-Poor | | 0.821 | 1.250 | 1.042 | 1.056 |
| **Factor Inequality weight** | $w_i * g_i$ | Poor | | 0.082 | 0.121 | 0.740 | 0.057 |
| | | Non-Poor | | 0.293 | 0.212 | 0.475 | 0.018 |

Source: NARA field survey data

**Table 13:** Gini Coefficient Based HH Partition Total Income Decomposition (Homs)

| Item | Label | HH Type | Total annual income | Source Income ($y_i$) | | | |
|---|---|---|---|---|---|---|---|
| | | | | Ag. Income | WE income | SE income | Unearned income |
| **Average Income (000 S P)** | $\mu$ | Poor | 130.7 | 41,62 | 0,00 | 87,55 | 1,54 |
| | | Non-Poor | 235.5 | 106,18 | 40,35 | 84,95 | 4,05 |
| **source of income weight** | $w_i$ | Poor | | 0.3 | 0.66 | 0.000 | 0.01 |
| | | Non-Poor | | 0.45 | 0.37 | 0.17 | 0.02 |
| **Gini Coefficient of total income** | $G$ | Poor | 0.35 | 0.548 | 0.530 | 0 | 0.833 |
| | | Non-Poor | 0.36 | 0.396 | 0.603 | 0.813 | 0.963 |
| **Correlation Ratio** (btw $y_i$ and Y) | $R_i$ | Poor | | 0.447 | 0.813 | 0 | 0.000 |
| | | Non-Poor | | 0.726 | 0.578 | 0.705 | 0.617 |
| **Relative Concentration Coefficient** | $g_i$ | Poor | | 0.672 | 1.185 | 0 | 0.000 |
| | | Non-Poor | | 0.792 | 0.959 | 1.577 | 1.636 |
| **Factor Inequality weight** | $w_i * g_i$ | Poor | | 0.222 | 0.778 | | 0.000 |
| | | Non-Poor | | 0.354 | 0.352 | 0.267 | 0.028 |

**Table 14:** Gini Coefficient Based HH Partition Total Income Decomposition (Tartous**)**

| Item | Label | HH Type | Total annual income (y) | Source Income ($y_i$) | | | |
|---|---|---|---|---|---|---|---|
| | | | | Ag. Income | WE income | SE income | Unearned income |
| **Average Income (000 SP)** | $\mu$ | Poor | 156.7 | 26.7 | 101.0 | 19.7 | 9.4 |
| | | Non-Poor | 180.9 | 37.2 | 110.3 | 30.2 | 3.1 |
| **source of income weight** | wi | Poor | | 0.17 | 0.64 | 0.13 | 0.06 |
| | | Non-Poor | | 0.21 | 0.61 | 0.17 | 0.02 |
| **Gini Coefficient of total income** | $G$ | Poor | 0.31 | 0.550 | 0.461 | 0.851 | 0.854 |
| | | Non-Poor | 0.04 | 0.478 | 0.493 | 0.751 | 0.947 |
| **Correlation Ratio** (btw $y_i$ and Y) | $R_i$ | Poor | | 0.041 | 0.754 | 0.484 | 0.542 |
| | | Non-Poor | | 0.023 | 0.780 | 0.269 | 0.061 |
| **Relative Concentration Coefficient** | $g_i$ | Poor | | 0.055 | 1.140 | 1.331 | 1.515 |
| | | Non-Poor | | 0.386 | 1.320 | 0.670 | 0.190 |
| **Factor Inequality weight** | $w_i * g_i$ | Poor | | 0.009 | 0.734 | 0.166 | 0.091 |
| | | Non-Poor | | 0.080 | 0.81 | 0.11 | 0.000 |

Source: NARA field survey data

## 4. Conclusions and Recommendations

The interest derives, among other things, from the perceived role that augmenting RNF incomes can have in absorbing the work potential of a growing rural population and in stabilizing migratory flows. The negative externalities deriving from increased overcrowding in urban and sub-urban areas, and the growing pressure to control rural- urban migration, provides a strong, additional motivation for devising effective policies to promote rural productive activities.

Major Findings
NARA characteristics and relevance

- NARAs are heterogeneous (various types, sectors, sizes ).

- Linkages (backward and forward) to agriculture were important (supply chains analysis).
- NARAs play an effective role in employment creation in rural areas.

NARA effects on rural HHs income generation
- Income from NARA sources is larger than that from ARA,
- Waged employment constitutes the major portion of NARA sources of income (Government, Commerce, Construction)
- On-farm originated income represents most of agricultural income.

NARA effects on income distribution among RHH
- Agricultural activities as sources of income tend to reduce income distribution inequality
- NARA sources of income tend to increase income distribution inequality

Based on above, promoting the non-farm activities in rural areas require the following.

- Improving the education level of rural households is key challenge in rural policy development.
- Promoting the professional and technician education increase the labor capacity.
- Promoting the households' access to credit markets, enhancing the productive assets of rural households.
- Increasing the public as well as privet investment in rural areas to create adequate opportunities in non-farm sector.

## References

Adams, Richard H, Jr, Jane J. He. *Sources of Income Inequality and Poverty in Rural Pakistan.* Washington, D.C.

Gordon, Ann, Peter Lanjouw, Tom Reardon, Henry Sandee 1999. *The Rural Non-Farm Sector: Further Questions for Research.*

Haggblade Steven, 2006. *Rural Non-farm Dynamic.* FAO, Rom.

Heba El Laithy, K Abu-Ismail 2005. *" Poverty in Syria: 1996-2004".* UNDP, 2005.

Lanjouw, Peter 1999. *The Rural Non-farm Sector: A Note on Policy Option.* The World Bank. Washington, DC.

Lanjouw, Peter 2001. *Non-Farm Employment and Poverty in Rural El Salvador.* The World Bank, Washington, DC.

Paul Winters *at el (2006).Rural Income-Generating Activities in Development Countries: A Multi-Country Analysis.* FAO, Rom.

Reardon, Tom . *Rural non-Farm income in Developing Countries.* Paper prepared for FAO.

Wattenbach Horst, 2005. *Farming System Study in Syria.* NAPC, Syria.

## Annexes

### Definition of the Non-farm (agricultural) Activities

Non-agricultural activities have been defined in many litterateurs. Here some of themes are used.

"***The non-farm rural economy*** *(NFRE) is defined as being all those activities associated with wage work or self-employment in income generating activities that are not agricultural but located in rural areas (Lanjouw, 1999). Non-farm activities may include manufacturing (i.e., agro-processing) and be accumulative (e.g., setting up a small business) or adaptive (switching from cash crop cultivation to commodity trading in response to drought, coping through nonagricultural wage labor or sale of household assets as an immediate response to a shock, or comprise a survival strategy as a response to a livelihood shock)".*

**"Non-farm definition**: *"nonfarm" all economic activities other than production of primary agricultural commodities. Nonfarm, or nonagricultural production, thus includes mining, manufacturing, utilities, construction, commerce, transport, financial and personal services. Agro-processing, the transformation of raw agricultural products by milling, packaging, bulking or transporting, remains a key component of the rural nonfarm economy. In many instances, these nonfarm processing activities take place on the farm by farm households. They remain, nonetheless, key components of the rural nonfarm economy (Haggblade, 2006)".*

### Definitions of income sources

**On-farm Activities**: on-farm activities are all agricultural operations carried out by the family labor. On-farm activities include crop farming and livestock breeding. In this sense, on-farm income is referring to the return to those activities either in cash or in kind.

**Off-farm activities:** are referring to the hired (rented) labor working in agricultural sector.