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The Effects of Non-Farm Business in Rural Sustainable Development: A Case Study in Sanandaj's Rural Areas, Kurdistan

Reza Movahedi^{1*}, Hadi Fathi², Somaye Latifi²

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Abstract

Rural economy has an important role in rural sustainable development in every region or country. However, the rural economy in Iran is too much depending on agriculture and development of other rural economy in particular non-farm activities, has been neglected by Iranian rural communities. Therefore, the aim of this study was to identify the role of non-farm business on rural sustainable development in Sanandaj Township. This study was a type of surveying research and employed both questionnaire and interview tools. A four-part questionnaire (with 48 questions) was developed in order to collect data from the respondents. Likert-type responses with five scales were used to assess different sections of the questionnaires. The questionnaires' reliability was tested by Cronbach's Alpha technique and it was 76% ($\alpha = 0.76$). A number of 279 families, 181 families with and 98 without non-farm business were selected randomly in 2011. Results of the study showed that non-farm business can contribute to employment growth, income generating, and prevent seasonal and permanent migration from rural areas. Based on the results, non-farm business and non-farm industries need to be strongly invested by financial facilities through rural cooperatives and unions. Additionally, encouraging rural participation is essential in non-farms and industrial activities.

Keywords:

Non-Farm Business, Agriculture, Villagers, Rural Economy, Rural Sustainable Development, Sanandaj Township, Kurdistan

Abbreviations: Small and Medium Enterprises (SMEs), Non-Farm Business (NFB)

* Assistant Prof. Agricultural Extension and Education Department., Bu-Ali- Sina University, Hamedan, Iran.

¹ M.Sc. Graduated on Rural Development, Bu-Ali Sina University, Hamedan, Iran.

² M.Sc. Graduated on rural development, Bu-Ali Sina University, Hamedan, Iran

* Corresponding author's email: r.movahedi@basu.ac.ir

INTRODUCTION

Without any doubt, rural economy has an important role in rural sustainable development in every region or country. However, the rural economy in Iran is too much depending on agriculture so that development of other rural economy in particular non-farm activities, has been neglected by Iranian rural communities (Kalantari *et al.*, 2008).

Studies show that with the process of development, the share of non-farm income and employment in the total income and employment of the rural households has increased in the developing countries. There are also evidences to show that productivity and profitability in the non-farm sector is generally higher than in the farm sector (Fisher and Mahajan, 1998). In India, Jha (2006) found that in non-farm manufacturing activities undertaken in the organized and unorganized sectors, the employment rate, value-added, and capital has grown during the years 1984-1999. In China, developments in rural industries have affected many aspects of the regional economic landscape, i.e. Jiangsu's rural non-farm business has produced 70% of the province's total industrial output and 80% of its total industrial value added in 2000 (CREY, 2001, CSSB, 2001, Skinner, 2007). Athar *et al.*, (1994), showed comparison between the farm and non-farm income, that the non-farm income has transferred rural workers to non-farm sectors. According to other studies (Bhalla, 1990, Lanjouw, 2008, Miller *et al.*, 2009, Zhu and Jiang, 1993), the sharp increase in rural household incomes has mainly contributed to improvements in skills, knowledge, and capital from non-farm activities.

The context factor of "family" as a relevant factor of influence on competitive advantages and disadvantages, as well as the success of family businesses, has been widely ignored in research (Astrachan, 2010, Frank, *et al.*, 2010) – despite the reasonable assumption of its significant explanatory potential (Dyer, 2003).

Many researchers have shown that non-farm activities have an important impact on the distribution of income in rural areas. This impact depends on the specific types of non-farm activities involved and on the capacities of different types of households to access these activities

(Barham and Boucher, 1998, Lanjouw, 2008, Escobal, 2001, Khan and Riskin, 2001, Leones and Feldman, 1998, Reardon and Taylor, 1996, Shand, 1987, Walkers, 2007). To improve rural income as a whole, participation in non-farm activities is highly selective and thus tends to increase income disparities, particularly in poorer areas. However, other researchers have shown that non-farm incomes can be inequality-reducing, particularly as the proportion of non-farm income in total income increases (Adams, 1994, 1999, Adams and He, 1995, Miller *et al.*, 2009, Pears, 2007, Skinner, 2007 and Stark *et al.*, 1986).

Allen *et al.*, (2005), revealed that rural non-farm incomes help reduce not only poverty but also inequality. This is because participation in non-farm activities differentially improves the income of the poorest households, while the best farmers remain in agriculture.

Testushi *et al.*, (2002), argued that the local marketplace, where enterprises can easily purchase materials and sell products to local traders, plays a critical role in easing the entry of new enterprises i.e., small and medium enterprises (SMEs).

According to Kalantari *et al.*, (2008), the factors that need to be planned in order to prepare appropriate conditions for rural sustainable development in Iran are: diversification of rural economy, supporting job creation activities, promoting rural sustainable tourism, business and industrial activities, and establishing a stable urban-rural network. Results of this research showed that the lack of diversification in rural economy, particularly in non-agricultural sector was the main challenge faced to sustainable rural development in Iran.

The main purpose of this study was to identify role of non-farm business on improving rural sustainable development. To achieve this, the following objectives will deal with:

- 1- Studying on non-farm business's effects on the rural families,
- 2- Determining non-farm business's capabilities especially on increasing rural non-farm income,
- 3- Recognizing effects of establishing non-farm businesses in terms of stuffs' consumption, gender, age, job satisfaction, and participation.

MATERIALS AND METHODS

The study has been conducted through a surveying research by using both questionnaire and interview tools. The validity of questionnaire was controlled by a group of rural development experts. Finally, a four-part questionnaire (with 48 questions) was developed in order to collect data from the respondents. Likert-type responses with five scales were used to assess different sections of the questionnaires. For these types of questions, the questionnaires' reliability was tested by Cronbach's Alpha technique within SPSS statistical software. The total mean reliability of scales for the questionnaire was 76% ($\alpha = 0.76$).

Statistical population of the study consisted of villages in the central region in Sanandaj Township. This region contains one county (Arandan) and 64 villages. At first, for selecting samples' size, two types of villages with and without non-farm business were selected (five villages in each category). Next step was done for family samples. Based on Cochran formula a number of 279 families were selected randomly ($N=857$), 181 families had a non-farm business and others had no non-farm business (table 1). In determining effects of non-farm business, some of the effective socio-economic indicators on rural development were selected. These indicators were: family income, family costs, consumption stuff, immigration, job satisfaction, rural participation, using the media, insurance, literacy, and rural house quality and quantity. Data analyzing was done by using SPSS software and statistical tests used in the study were Mann-Whitney, Duncan's and t tests.

When comparing the differences between two unpaired groups in small sizes, whose samples take the same shape, the Mann Whitney non-parametric test is used (DIIA 2007). Therefore, to find the difference between the perceptions of two groups of either rural family with and without NFB in terms of job satisfaction and job stability the Mann Whitney U-test was used.

Duncan's test is used to determine whether three or more means differ significantly in an analysis of variance. It may be used regardless of whether the overall analysis of variance is significant. It assumes equal variance and is approximate for unequal group sizes (in this study family with and without non-farm business in terms of different family income and costs).

Table 1: Selected villages and samples

	Village	Household	sample
With NFB	Babariz	147	40
	Nawareh	132	34
	Arandan	157	46
	Gholian	128	33
	Sateleleh	98	28
Without NFB	Alijan	34	18
	Farhad abad	41	21
	Mamokh olia	42	21
	Khakvarzi	24	15
	Gazardare	54	23
Total		857	279

RESULTS AND DISCUSSION

Income status: As seen in table 2, there is a clear difference in the income rate between villages that have non-farm business and villages that lack non-farm business. This difference is in such a way that the minimum and maximum income ranged 2 USD and 4 USD per day in the villages lacking non-farm business, whereas, the rate of income in those villages with non-farm business has been at most 6 USD and upper per day. Meanwhile, the income of villages lacking non-farm business depends strongly on agriculture. This leads the villagers migrate to neighboring cities in non-farming seasons.

Private and household utensils: The results indicate that the percent and rate of using private and household goods between villages with and without non-farm business are completely different. Given the results in table 4, although household and private equipment including color TV, washing machine, refrigerator, freezer, air conditioner and car, etc are common in both groups of villages, but their consumption percent is completely different; also, the use of goods such as cars (51.96%), computer (16.2%), furniture (19.2%), video recorder (10.23%), and vacuum cleaner (35.32%) is only common in villages with non-farm business.

Age groups of villages with and without NFB: According to the information of table 5, the average age in villages with non-farm business is much lower than villages without non-farm business. In other words, in villages with non-farm business, the families' heads are considered among the active population, and are in middle-aged group (21-30) and adult (age group of 31-40). But, in villages without non-farm business, the heads of the families are at the

Table 2: Percent of rural family income in terms of USD per day

	Family income	1-2	2.1-4	4.1-6	6 and Upper
Rural with NFB	Babariz	0.8	5.3	18.2	75.7
	Nawareh	1.2	10.4	33.9	54.5
	Arandan	2.6	13.5	31.8	52.1
	Gholian	0.4	4.4	17.3	77.9
	Sateleh	3.1	14.1	29.7	53.1
Rural without NFB	Alijan	52.7	47.3	0	0
	Farhad abad	54.6	45.4	0	0
	Mamokh		57.7	0	0
	olia	42.3			
	Khakvarzi	45.5	54.4	0	0
	Gazardare	40.2	59.8	0	0

Table 3: Comparing family income and costs in two groups of villages in terms of the mean

Variable	Groups	Test	z	Sig.
Family Income (in four levels)	With non-farm business	Duncan	8.120	0.000
	Without non-farm business		4.526	
Family costs (consumption/garment/travel)	With non-farm business	Duncan	3.814	0.010
	Without non-farm business		2.120	

middle-aged and old age group. Among the villages without non-farm business on average, 43.5% of population is at age group over 60, indicating the immigration of the adults from villages without non-farm business due to unemployment and economic problems.

The remaining at village and reversed immigration: To study the remaining at villages, the viewpoint of the villagers with job and non-farm business has been used in terms of creating new employment. The findings of the study reveal a meaningful difference between the type of employment in families with and without non-farm business. In such a way that villages such as Babariz, Gholian, Sateleh, Nawarreh, and Arandan which have been located near industrial regions, not only they have not lost their active population, but also have attracted some population based on the results of the study, al-

most 31.2% of population at these villages is the immigrants who have chosen these village as their residence place because of their work in industrial manufacturing units.

Job satisfaction: According to many economic theories, lack of productive employment at the villages could lead to lack of job security and ultimately to immigration from villages. In this vein, creating productive and permanent employment toward achieving job security and satisfaction is one of the most important objects of development in rural regions. According to information available, there is a meaningful relationship between non-farm business creation and job stability and satisfaction and based on studies conducted this relationship is at 99% level. Rural families of Sanandaj Township because of the possession of handicraft and semi-private and private non cultural industries are of

Table 4: Percent of consumption stuff in households with and without NFB

Consumption Stuff	Rural with NFB	Consumption Stuff	Rural without NFB
Television	98.24	Television	43.29
Refrigerator	97.65	Refrigerator	29.32
Automobile	51.96	Automobile	3.5
Laundry	39.35	Laundry	1.2
Air conditioner	36.21	Cooler	1.26
Vacuum	35.32	Vacuum	1.9
Furniture	19.2	Furniture	0.4
Computer	16.20	Computer	0.4
VCD	10.23	VCD	0.3

Table 5: Comparing the percent of active population in the villages with and without NFB

Age groups (year)		Under 20	21-30	31-40	41-50	51-60	61-70	70 and upper	Sum percentage
Rural with non-farm business	Babariz	16.2	21.5	20.1	18.3	13.2	9.7	0.9	100
	Nawareh	19.4	25.3	24.6	19.2	6.7	0.4	0.8	100
	Arandan	13.6	19.8	22.6	25.1	11.4	0.7	0.5	100
	Gholian	16.7	22.3	19.4	24.7	10.2	5.5	1.2	100
	Sateleleh	21.4	18.3	15.2	26.9	12.6	4.9	0.9	100
Rural with non-farm business	Alijan	8.6	7.3	11.7	15.2	23.1	19.2	14.9	100
	Farhad abad	4.6	8.7	2.1	25.3	27.2	15.9	16.2	100
	Mamokh olia	8.4	3.9	12.5	19.7	29.1	13.2	13.2	100
	Khakvarzi	7.9	5.6	6.8	23.6	32.1	14.2	9.8	100
	Gazardare	5.3	3.4	13.2	24.1	23.5	17.2	13.3	100

Table 6: Active population percent in the villages with and without NFB

Age groups (year)		Under 30 year	31-40	41-50	51-60	61-70	Upper of 70
Rural with non-farm business	Babariz	23.2	24.6	33.1	11.16	7.05	0.89
	Nawareh	28.9	28	32.1	6.8	3.4	0.8
	Arandan	18.3	39.7	26.4	12	3	0.6
	gholian	25.3	30.1	27.3	11.3	3.9	2.1
	Sateleleh	16.2	32.5	30.4	12.6	7.7	0.6
Rural without non-farm business	Alijan	5.6	4.2	11.7	13	24.1	41.4
	Farhad abad	2.1	8.7	4.2	16.8	30.1	38.1
	Mamokh olia	1.8	12.2	14.5	12.8	25.1	33.6
	Khakvarzi	2.4	11.7	13.1	10.6	29.3	32.9
	Gazardare	2.3	10.4	7.2	12.3	24.9	42.9

more job satisfaction compared to villages lacking non-agricultural non-farm business. So, their motivation for permanency in rural regions is much higher.

The household's participation: Encouraging the motivation of the rural participation which is usually in the financial, non-financial, and advisory forms, was another outcome of establishing non-farm business in this study. The most important effect of household's participation is related to land sharing, providing water, electricity and other basic infrastructures. According to statistical analyzing of table 8, it can be noted that with increasing the income of villagers, the percent of the participation increases. According to the results the percent of financial participation of those villages with non-farm business is much higher in Sanandaj. Furthermore, there was a significant difference between villages with and without non cultural industries

in regard to financial and non-financial participation. And due to the increase in income, 71.2% of rural families with non-farm business have had financial participation; while this figure in village without non-farm business is only 19.6%.

The use of mass media: TV, radio, newspaper, magazine and books are considered the most important mass media, that have an important role in improving information and awareness of rural people, especially farmers, and experts believe that these media are vary effect on their awareness and insight. Based on t-test in this study, there is a significant difference in the rate of using these mass media between villages with and without non agricultural business. According to table 9, the average use of mass media at village without and with non agricultural industries is respectively: radio (0.75 versus 3.56), newspaper (0.26 versus 2.03), and book (0.24 versus 1.25) that reveals clear differences.

Table 7: Comparing the villages with and without NFB in terms of job satisfaction

Grouping variable	Test variable	Test	U	Sig.
Rural with/without NFB	Job satisfaction	Mann-Whitney	621.23	0.000
Rural with/without NFB	Job stability	Mann-Whitney	212.41	0.01

Table 8: Percent of household's participation

Participation Type	Rural with non-farm business	Rural without Non-farm business
Financial	71.2%	19.6%
Non-financial	8.6%	61.5%
Advisory	20.2%	18.9%

Insurance services (treatment, retirement, etc): Following the law of construction estates and non-farm industries, the workers of these units are being covered by hygiene, treatment and social security insurances. According to the results, 68.54% of rural families with the non-farm business in the sample community were under insurance coverage whilst, 12.1% of rural families without non-farm business were under insurance coverage.

Quality and quantity of rural housing (dwell): Results about quality and quantity of rural housing revealed that 78.3% of buildings in villages with non-farm business has been constructed using high quality materials and engineering methods, while this figure in villages without non-farm business reaches 36.4%. This fact is completely true about villages in sample community, and in addition to the difference in the housing quality, this difference is meaningful regarding the area too. The results also showed 71.7% of rural housing with non-farm business was more than 100 m², and this figure in villages without non-farm business was 32.4%.

CONCLUSIONS

Results revealed the villages with non-farm business have been in general younger than the other families without non-farm business. This

Table 9: Comparing the use of mass media in the villages with and without NFB

Variable	groups	t	d.f	Sig.
Radio	A	2.69	122	0.004
	B	2.84	101.9	0.003
Television	A	2.14	122	0.041
	B	1.56	103.1	0.048
Journal and newspaper	A	5.14	122	0.000
	B	5.19	83.36	0.000
Book	A	3.87	122	0.002
	B	5.36	75.23	0.003

A= the villages without non-farm business, B= the villages with non-farm business

shows a better situation of villages with non-farm business in terms of age that leads the younger doesn't immigrate to cities. In this vein, a few cases of villages with non-farm business had even inverse immigration from cities to the villages. Moreover, because of gaining more income by villages with non-farm business; they have been consuming better stuffs than others. This result can be more or less seen in the studies conducted by Barham and Boucher, 1998, Lanjouw, 2008, Escobal, 2001, Khan and Riskin, 2001, Leones and Feldman, 1998, Reardon and Taylor, 1996, Shand, 1987, Skinner, 2007, and Walkers, 2007.

About literate level, results showed a higher level of the villages with non-farm business than those without any business in terms of the mean. A similar result was found about the number of insurance holders in comparing the two groups of villages. Results revealed the most houses of the villages with non-farm business had an area more than 100 quadrate meters and they were in good quality, while more than 50% of houses in villages without non-farm business were less than 100 quadrate meters and in old and demolished situation.

Based on the results and in order to improve non-farm business in rural areas it can be recommended that new local factories and cooperatives should be established by mobilizing small capitals and savings of rural people in order to improve rural non-farm economy.

Regard to this point that non-farm businesses have had a positive effect in improving the rural employment, income, and quality of living; it is strongly recommended that needed conditions, seed beds, and facilities are provided for entering rural people to non-farm activities by both governmental and community-based organizations.

Encourage and develop non-farm business in-

frastructure is another important thing that is necessary to improve socio-economic status of villages. Non-farm business and non-farm industries need to be basically invested by financial facilities through rural cooperatives and unions. Additionally, encouraging rural participation whether financially or non-financially is essential to develop non-farms and industrial activities. The rural participation in establishment and development rural networks and small enterprises can be a proper solution to improve non-farm business in the Sanandaj's villages.

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