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Investigation of the Dependence of Rural Households and Woodman to Non-Timber Forest Products (Case Study: Marvdasht Town)

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ABSTRACT

In addition to environmental roles and conservation of water and soil, Zagrous forests have some potential for non-timber forest products (NTFPs). NTFPs have determining and effective role in utilizing economics and amount of Dependence them to this products. Therefore number eight villages in Marvdasht town randomly selected and select of each village pay attention to household population some samples randomly. After observation and supplement forms, Data and Information get division and result analyzed by use of examination ANOVA and method Duncan. Result showed which viewpoint number household dependence to NTFPs in different age Groups and educational level didn't show difference significant but in different job Groups, income, household of families' member and dependency 8 Village showed difference significant in 1% level. Also may said with pay attention to poor household dependence into NTFPs and necessity biodiversity conservation and ecosystem stability should with creation promotion and educational class instance utilization and importance This products, transportation of adequate and necessary knowledge into rural. Also with creation rural cooperation units may take effective strides in omission field limitations.

KEY WORDS: non-timber forest products, rural household dependence, Zagrous forests, Marvdasht town.

INTRODUCTION

In addition to environmental roles and conservation of water and soil, Zagrous forests have some potential for NTFPs. Un woody production are the most valuable produces in Zagrous forests that have a determinant role in sustainable development, ecosystem conservation, beneficiaries economy and creating engagement for villagers and woodman's (Mahdavi, 2006). NTFPs are involved all goods derived from forest and other natural ecosystems except extraction of industrial woods (Janki, 2006). Also NTFPs have an important role in scale of rural families' dependence and can be accounted as one of the sweeping poverty and rural forestry styles (Charlie and Sheona, 2004).

Fuwape and Onyekwelu (2002), showed that medicine, alimentary, handicrafts and dye uses are only a part of dependences of rural families on NTFPs. Also various economic conditions of rural families have a drastic effect on hoarding and consuming of NTFPs. Low incoming families have more dependence than others (Adhikari, 2004 and Shackleton and Shackleton, 2006). Commercial collection of NTFPs mostly has a relationship with traits of family and female labor rate (Shackleton and Shackleton, 2004 and Quang and Anh, 2006). During a study, Mahdavi (2006) surveyed NTFPs and methods for utilization of them in Kamyaran town. His results showed that rural family in attention to this that they undertake the most costs but their received benefit from NTFPs is in minimum of possible and middlemen profit the most. Osman et al. (2000), by surveying of management and contribution of villagers' livelihood from NTFPs in India showed that NTFPs cause making job and income for forest inhabitants. For example, NTFPs in Medhayapradash and Maharashtera regions have been earned 700 and 115 million dollar respectively, while get incoming from joinery woods have been 72 and 20 million dollar respectively in these regions.

Gerben and Ottitsch (2005), expressed factors e.g. ownership structures, economy characters, population and social factors as effective ingredients on NTFPs role in forests. Croitoru (2007), in a study assessed NTFPs in Mediterranean region and showed that NTFPs have an important role in sustainable development, livelihood and scale of rural families' dependency. Henry et al. (2007), during a research related with harvest of NTFPs in Africa preserved mountain forests concluded that across of tapped species, 57 served for medicinal benefits and 50 for other usages. Also these tap causes creating a negative effect on these species in unpreserved regions into preserved regions. Panda Moreno et al., (2008), in a study about fibber providing from *Agave lecheguilla* as a valuable NTFP in Mexico showed that this species can be account of an important

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incoming resource for rural families but any management program has not be done for improvement and promotion of this produce and likewise the providing of fibber from this species done traditional.

In other study, Akhter et al. (2008) delineated that NTFPs used for conservation of elegance in Bangladesh and have an important role in livelihood and economic condition of rural families. Also, NTFPs knowledge is an important policy in making of sustainable management process that is effective on conservation of biological diversity. In this study, in attention to effective and determining role of NTFPs in income and development of villagers we tried to surveyed scale of beneficiaries' dependence on NTFPs and determine value of them in life of rural families.

MATERIALS AND METHODS

Study area

Marvdasht town, placed at the 30°15′-30°25′N and 52°2′-52°16′E in Fars province. A region with forest and mountain covering that embraces Zagrous and Iran-Turani growing zones. The forest and rangeland covering of the area are 76156 and 120220 hectare respectively. Mean of the area elevation is 1700-3000 m and precipitation average is 365 mm/yr. Mean of monthly minimum and maximum temperature are 4 and 26°C. Studied villages are included of Ab-Anar, Abolmahdi, Saadat-Abade Abraj, Sarui, Ghasre Khalil, Khajeii, Hesar and Esmaiel-Abad. Approximately 60% of the town's population is constituted from rural families.

Data collection

For doing this study among of allover forest neighboring villages in throughout Marvdasht town 8 villages was selected randomly. So from each village, in attention to the villages population some samples was selected randomly (Javan, 1989) (meanly 13 families in each village) and totally 100 villages was surveyed. Firstly some form letters and questionnaires were provided. Questionnaires were answered by directly relation with local peoples and so information about of these productions completed by forest traveling, visit and observation of villagers' utilization method. Then the obtained data were classified and provided for next analyses. In order to calculating of dependence of each family on NTFPs first the incomes that gained during a year for them was determined so in attention to yearly income, the dependence was estimated. In continue each of the factors such as age, job, education, income and number of family's members was classified in groups. Finally the scale of families' dependence on NTFPs in each of the groups was analyzed using Analysis of variation (ANOVA) and Duncan's multiple comparison means procedure by SPSS software package. The questionnaires completion was done partnership-observantly and surveyed answerers were local beneficiaries and woodmen from studied villages.

RESULTS AND DISCUSSIONS

As to be stated in this study for surveying variance of the families dependence to NTFPs in several groups some factors was used that in the follow results of the comparison means for each of them is mentioned:

Age

In order to investigation of the age factor firstly the beneficiaries of NTFPs classified in to 4 classes, less than 20, 21-40, 41-60 and more than 60 years old and so for comparison of families' dependence on these productions in various age classes was used the ANOVA. Results showed that don't exist a significant difference between various age classes in viewpoint of families' dependence on these productions (Table 1). Also surveying mean of families' dependence on NTFPs among of various age classes showed that the most dependence is related to the more than 60 class and the least is for 21-40 years old (Figure 1).

Table (1): Results of ANOVA for variance of families' dependence on NTFPs in various age classes

Age	Sum of Squares	df	Mean Square	F	Sig
Between Groups	3886.487	3	1295.496	1.160	0.329 ns
Within Groups	107239.8	96	1117.081		
Total	111126.2	99			

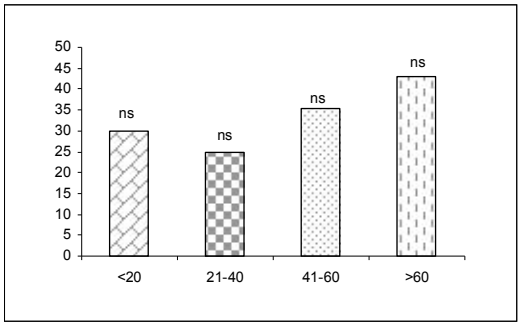

Fig. (1): Comparison mean for Scale of dependence on NTFPs between various age classes

Job

In attention to existed condition in the area, 4 situation groups was selected such as farming, ranching, free work and unemployed (people with any stable business). Results of the ANOVA showed that scale of families' dependence on NTFPs among of various situation groups has a significant difference in level of 0.01 (Table 2).

Table (2): Results of ANOVA for variance of families' dependence on NTFPs in various situation groups

Job	Sum of Squares	df	Mean Square	F	Sig
Between Groups	101380.0	3	33793.339	334.337	**0.000****
Within Groups	9703.263	96	101.076		
Total	**111083.3**	**99**			

Results of the comparison mean for percentage of dependence on NTFPs in various situation groups showed that the unemployed group is significantly more dependent on NTFPs than other groups while there is no significant difference between three recent groups (Figure 2).

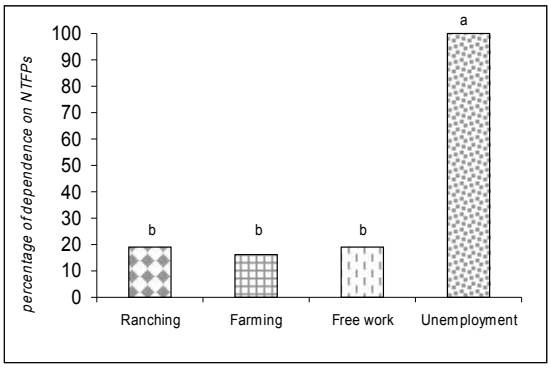

Fig. (2): Comparison mean for Scale of dependence on NTFPs between various situation groups

Education

In order to assessment of education factor, we formed 4 classes as unread, primary, guidance, high schooling and upper. Results of the one way ANOVA showed that there is insignificant difference between various educational groups of dependence on NTFPs (Table 3).

Table (3): Results of ANOVA for variance of families' dependence on NTFPs in various educational groups

Education	Sum of Squares	df	Mean Square	F	Sig
Between Groups	2772.448	3	924.149	0.819	**0.487** ns
Within Groups	108353.8	96	1128.685		
Total	**111126.2**	**99**			

While assessment of means analyze among these groups showed that lower schooling more utilized these production into other groups (Figure 3).

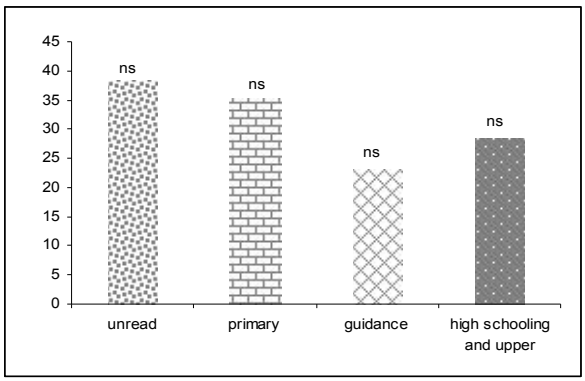

Fig. (3): Comparison mean for Scale of dependence on NTFPs between various educations of groups

Income

In view point of income 4 various classes including less than 2000, 2000-4000, 4000-6000 and more than 6000 dollar was spotted. Also in attention to the families' economical condition we spotted poor and rich the families that their yearly income was less than 2000 and more than 6000 dollar respectively. Results of one

way ANOVA showed that there is a significant difference (in level of 0.01) between these classes in view point of dependence on NTFPs (Table 4).

Table (4): Results of ANOVA for variance of families' dependence on NTFPs in various incoming groups

Income	Sum of Squares	df	Mean Square	F	Sig
Between Groups	29535.48	3	9845.160	11.584	0.000**
Within Groups	81590.76	96	849.904		
Total	111126.2	99			

The obtained results from percentage of dependence comparison mean in various classes of income using Duncan test showed that with increasing in income the dependence of people on NTFPs reduces. The graph showed that low-incoming people (less than 2000 dollar income) have great dependence on NTFPs and the least of dependence scale is related to rich families (more than 6000 dollar income). As to being shown there is no significant deference between incoming classes of 4000-6000 and more than 6000 dollar while there is a significant difference between these classes and classes of 2000-4000 and less than 2000. Also there is a significant difference (in level of 0.01) between recent two classes (Figure 4).

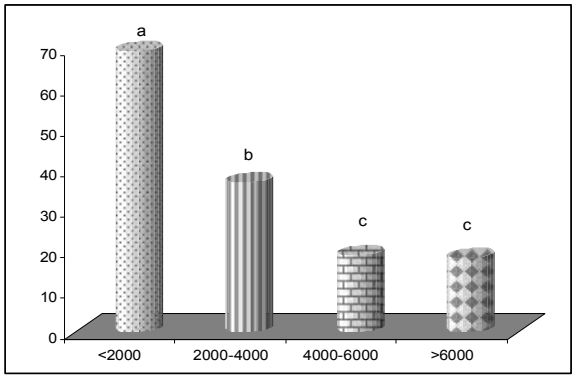

Fig. (4): Comparison mean for Scale of dependence on NTFPs between various income of groups

Number of family's member

For this factor 4 different groups including less than 3, 3-5, 6-8 and more than 8 pointed. Results of the one way ANOVA showed that there is significant difference between these groups in view point of dependence on NTFPs (Table 5). According to other results of this study families' income also has a basic effect on scale of dependence on NTFPs (for low-incoming families more than others). Reason of this more dependence might be related to lesser investment need for extraction of NTFPs among of poor families (because they had not another job). These results were accordance with Adhikari (2004) and Shackleton & Shackleton (2006) that concluded that economic conditions of rural families have a valid effect on dependence of families.

Table (5): Results of ANOVA for variance of families' dependence on NTFPs in various number of family's member groups

Number of family's member	Sum of Squares	df	Mean Square	F	Sig
Between Groups	16176.084	3	5392.028	5.452	0.000**
Within Groups	94950.154	96	989.064		
Total	111126.237	99			

Also done studies surveying mean of dependence percentage on NTFPs in these groups showed that the most amount of dependence is for 6-8 people families. In fact, increasing in number of families' member some deal leads to increasing in dependence on NTFPs but some after it traverse a reducing way (Figure 5).

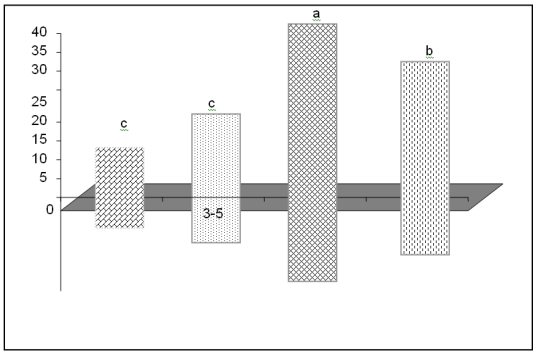

Fig. (5): Comparison mean for Scale of dependence on NTFPs between various Number of family's member of groups

Dependence of villages

For this study the villages pointed separately. Result of the ANOVA test showed that there is a significant difference between various villages in viewpoint of dependence on NTFPs in level of 0.01 (Table 6). Among of various situation groups, scale of dependence on NTFPs is significantly different and the unemployed people were more dependant than others. These people by reason of obtain their needs launched to utilization and selling theses productions, while the farmers, ranchers and free workers due to having business and lesser need at the unemployment times launched utilization of these productions. These results are similar to results of Gerben and Ottitsch (2005) that found that business can be noted as one of the effective factors on NTFPs. Education condition of beneficiaries has not a significant relation with scale of rural families' dependence. This is might be caused by this point that most of people due to proximity to the forest launched utilization of NTFPs but can say that higher education people seldom do degradation of forests and other natural resources. In other word whatever the education level and knowledge of people be increased the recognition of NTFPs and their importance being increased and scale and method of their utilization being more thoughtful and objective.

Table (6): Results of ANOVA for variance of families' dependence on NTFPs in eight villages

8 village	Sum of Squares	df	Mean Square	F	Sig
Between Groups	29562.61	3	4223.230	4.764	**0.000****
Within Groups	81563.63	96	886.561		
Total	**111126.2**	**99**			

Results of comparison mean using of Duncan test showed that on the studied villages Hesar, Khajeii and Saruii have a significant difference with Ghasre Khalil, Saadat-Abad and Ab-Anar. So it can be side that dependence on NTFPs Among of initiate villages is more than other (Figure 6). In attention to the results there is insignificant relation between age of beneficiaries and scale of their dependence on NTFPs but can conclude that age has a directly effect on type and amount of utilization. As older people caused by more knowledge and experience showed a greater attention to these produces while younger people usually attend them from their edible respects. Quang and Anh (2006), in a study concluded that there is a significant relation between utilization of NTFPs and families' characters that has aversion with results of this study.

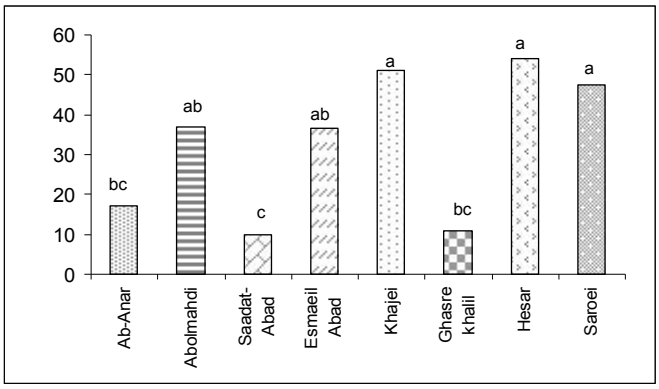

Fig. (6): Comparison mean for Scale of dependence on NTFPs between 8 Villages

Conclusions

Results of this study showed that the number of families' member has a significant effect on scale of dependence on NTFPs. The major reason of this might be related to this point that the rural families with more number of people have more jobs such as farming and ranching per each of member. These results were accordance with results of Quang and Anh (2006) that stated number of families' member is one of the effective factors on utilization of NTFPs and usually families with high number of members more launched utilization of these productions. Also surveying dependence of 8 villages showed a significant relation for this factor. Reason of this topic might be related to amount of income and ease and fast availability to these resources. In attention to potential of natural resources in this town should provide a context that by maximum utilizing from NTFPs, the least degradation on these resources be did. This topic will be possible the time that exactly found potential of tow effective factors meanly producing in area and condition of denizen people in viewpoint of beneficiaries' number to can do some programs in this context. Generally can say in attention to low-incoming families' dependence and also necessity for conservation of biodiversity and ecosystem stability most be transferred necessary information to beneficiaries and villagers by making promotional and instructional terms about methods, season and importance of NTFPs' utilization. In addition, by creating and establishing rural cooperatives can solved many problems in this context.

REFERENCES

Adhikari, B., S. Di Falco and J.C. Lovett, 2004. Household Characteristics and Forest Dependency: Evidence From Common Property Forest Management in Nepal. Ecological Economics 48, 245–257.

Akhter, S., Halim, A., S.H. Sohel and S. Sarker, 2008. A Review on the use of Non Timber Forest Products in Beauty- Care In Bangladesh, Journal of Forestry Research, 19(1), 72-78.

Charlie, S. and S. Sheona, 2004. the Importance of Non-Timber Forest Products in Rural Livelihood Security and as Safety Nets: A Review of Evidence From South Africa. Journal of Science .580-664.

Croitoru, L., 2007. Valuing the Non-Timber Forest Products in the Mediterranean Region, Ecological economics, 63, 768-775.

Fuwape. J.A. and J. Onyekwelu, 2002. The Economic Value of Non-Timber Forest Products in Nigeria, Xi World Forestry Congress. 12pp.

Gerben, J. and A. Ottitsch, 2005. Factors Influencing the Role of Non- Wood Forest Products and Services, Journal Forest Policy and Economics, 309- 319

Henry, J., Dangalasi, N., R. Bitariho and B.K. Delali, 2007. Harvesting of Non-Timber Forest Products and Implications for Conservation in Two Mountain Forest of East Africa, Biological Conservation 34, 242-250

Janki, K.S., 2006. Landscape and livelihoods approaches to the analysis of NTFPs use in Suriname, Msc thesis, natural resources management program university of Utrecht, the Netherlands. 100pp

Javan, j, 1989. Iran's populations and Geographical bed, Mashhad University, Iran, 170pp.

Mahdavi, a., 2006. Investigation Non-Timber Forest Products and their Utilization Methods in Kamyaran Town, A Thesis for Msc Degree, Department of Forest Management, Tehran University, Iran,

Osman, M., Mishra, P.K., Dixit, S., Ramachanderan, K., Sing, H.P., C.A. Rama Rao and G.R. Korwar, 2000. A Review of Dynamics, Management and livelihood Contribution. Common Pool Resources Research Project Report No.3. 15pp.

Pando-Moreno, M., Pulido, R., Castillo, D., E. Jurado and J. Jimenez, 2008. Estimating Fiber for Lecheguilla (Agave Lecheguilla Torr. Agavaceae), A Traditional Non-Timber Forest Product In Mexico, Forest Ecology and Management, 5 Pp.

Quang, D.V. and T.N. Anh, 2006. Commercial Collection Of NTFPs and Households Living in or Near the Forest, Case Study in Que, Con Cuong and Ma, Tongs Duong, Nigh An, Vietnam, Ecological Economics 60, 65-74.

Shackleton, C.M. and S.E. Shackleton, 2004. Use of Woodland Resources for Direct Household Provisioning. Indigenous Forest and Woodlands in South Africa: Policy, People and Practice. 100, 658-664

Shackleton, C.M. and S.E. Shackleton, 2006. Household Wealth Status and Natural Resource use in the Kat River Valley, South Africa. Ecological Economics 57, 306–317.