Mechanisms for the Development of Human Resources in Khouzestan Sugarcane Agro Industrial Company

Neda Nasir pour[1] ; Azadeh N. Noorivandi[2]
[1]*Graduate Student Agricultural Management, Shoushtar Branch, Islamic Azad University, Shoushtar, Iran*
[2]*Assistant Professor Agricultural Management, Shoushtar Branch, Islamic Azad University, Shoushtar, Iran*

Abstract

The purpose of this research was identifying mechanisms for the development of human resources in Khouzestan sugarcane agro industrial company, Iran. This is an applied study and the research method was descriptive correlative. The population consisted of employees working in the sugarcane agro industrial company in the province of Khuzestan, Iran(N=315). One hundred and seventy five people were selected as a sample size by using Krejcie and Morgan table. The questionnaire was pre-tested among 30 people and Cronbach alpha between 0.837-0.978 was determined. The main tool was a questionnaire. In this study, after the collection and classification of data, according to the type of research in two stages using descriptive statistics and inferential statistics were taken. All data processing and statistical analysis was performed using the software $SPSS_{20}$. For analysis data, correlative coefficients and factor analysis were used. Based on the results of factor analysis the factors were categorized into three main components, which have been named social and professional factors, educational and infrastructural factor, information and participation factor. The obtained results from the factor analysis revealed that the three mentioned factors explained 74.599% of the variation of mechanisms for the development of human resources in Khouzestan sugar cane agro-industry. The first group which is labeled social and professional factor had the most eigen value (7.513). Also, this factor explained 30.054% of the total variances of the variables. The second group, labeled educational and infrastructural factor, with eigen value 7.475 explained 29.9% of the total variances of the variables.

1. Introduction

The concept of HRD relates to making work culture more conductive to organizational goal and emphasis over development, upgradation and refinement of total personality of individual. The United Nations Development Project (UNDP) defines Human Resource Development (HRD) as the process of enlarging the range of people's choices – increasing their opportunities for education, health care, income & employment and covering the full range of human choices from a sound physical environment to economic and political freedom. HRD aims at development of the people, for the people and by the people (Bhatia & Bhatia, 1995).

Human Resources Development (HRD) may be defined as competence building and culture building for achieving current and future goals of an organization. In a national context it aims at enabling people to make things happen. The indicators of HRD are different for an organization from that of a nation (Rao, 2012).

Many authors (e.g., Zamani-Miandashti and Malek-Mohammadi, 2012; Karbasioun, 2007; Karbasioun and Mulder, 2004; Rivera and Alex, 2008) have noted the importance of developed and trained human resources in agricultural and rural development; therefore, developing human resources has been addressed in many agricultural and rural development practices. However, evaluation is often overlooked when organizations create and run HRD programs (Wang and Wilcox, 2006). Agricultural HRD covers a broad range of members in agricultural

workforce which include pre-employment workers, farmers, institutional personnel, and people in transition toward re-employment in agriculture sector (Rivera, 1995). The major components of agricultural HRD interventions in Asia and the Pacific region, as well as in Iran, include education and training, research and extension (Miller, 2002).

Zamani-Miandashti *et al*. (2008) found that agricultural HRD intervention design, situational elements or interventions environment and participants' characteristics are major factors influencing the effectiveness of HRD interventions. According to the Zamani-Miandashti and Malek-Mohammadi (2012) the effectiveness of HRD interventions could be evaluated at four levels including reactions, learning (knowledge, skills and attitudes), behavior and final results. The authors identified major factors that influence HRD interventions effectiveness and that had been identified in previous studies. These factors were conceptualized and categorized into three types: intervention characteristics, environmental supports (intervention environment), and participants'/trainees' characteristics.

2. Materials and methods

The purpose of this research is identifying mechanisms for the development of human resources in Khouzestan sugarcane agro industrial company, Iran. This is an applied study and the research method was descriptive correlative. The population consisted of employees working in the Khouzestan sugarcane agro industrial company (N=315). One hundred and seventy five people were selected as a sample size by using Krejcie and Morgan table.

After designing and validating the questionnaire, the questionnaire was pre-tested among 30 people and Cronbach alpha between 0.837-0.978 was determined. The main tool was a questionnaire. In this study, after the collection and classification of data, according to the type of research in two stages using descriptive statistics and inferential statistics were taken. All data processing and statistical analysis was performed using the software $SPSS_{20}$. For analysis data, correlative coefficients and factor analysis were used.

3. Results and discussion
3.1 Individual characteristics:

Table (1) shows the individual characteristics of staff working in the Khouzestan sugarcane agro industrial company. The results of descriptive statistics indicated that the majority of experts were 41-45 years old (49.7%). Based on level of education, 68 percent of workers had BSc level of education. Based on the experience of working in agro-industry, it was found that 44.6 percent had 16-20 years of experience.

Table 1. Individual Characteristics of Staff Working In the Khouzestan Sugarcane Agro Industrial Company

Age	f	%	
26-30	14	8	Mean=40.35
31-35	10	5.7	SD=4.8
36-40	52	29.7	Min=26
41-45	87	49.7	Max=49
45-49	12	6.9	
Total	175	100	
Level of Education			
BSc	119	68	
MSc	56	32	
Experience (Year)			
1-6	15	8.6	Mean= 14.98
6-10	7	4	Min=1
11-15	62	35.4	Max=24
16-20	78	44.6	
20-24	13	7.4	
Total	175		

3.2 Economical characteristics:
Table 2 shows the economical characteristics of Staff working in the Khouzestan sugarcane agro industrial company. Based on the results 64.1 percent of workers had income between 20-30 million Rials in month. Forty-nine percent of employees believe that the level of rewards based on performance, is low. This condition reveal that the level of economical characteristics isn't suitable.

3.3 Mechanisms for the Development of Human Resources in Khouzestan sugarcane agro industrial company

The mechanisms for the development of human resources in Khouzestan sugarcane agro industrial company was assessment with a likert scale (1=very low, 2=low, 3=moderate, 4=high, 5= very high). Based on the table 3, most important items include:
1. Gaining experience of experienced members
2. Participate in group and team activities
3. Create conditions for providing the information needed personnel
4. Activities carried out jointly group
5. Ongoing relationships with research centers

Table 2. Economical characteristics of Staff working in the Khouzestan sugarcane agro industrial company.

Income (Million Rials in Month)			
10-20	39	23.8	Mean=24.9
20-30	105	64.1	Min=10
30-40	20	12.2	Max=40
No answer	11	0	SD=6.25
Total	175		
Rewards based on performance			
Low	86	49.1	
Moderate	66	37.7	
High	23	13.1	
Total	175	100	

Table 3. Frequency of members regarding Mechanisms for the Development of Human Resources in Khouzestan sugarcane agro industrial company.

	Mean	sd	CV
1. Gaining experience of experienced members	4.422	0.609	0.1377
2. Participate in group and team activities	4.200	0.742	0.1767
3. Create conditions for providing the information needed personnel	4.422	0.810	0.1832
4. Activities carried out jointly group	4.417	0.828	0.1875
5. Ongoing relationships with research centers	4.428	0.915	0.2066
6. The system is designed to determine training needs	4.115	0.939	0.2282
7. Laying the groundwork for the spirit of trying to be better	4.240	0.970	0.2288
8. Providing conditions for learning from successful experiences	4.241	0.990	0.2334
9. Access to scientific software	4.206	0.987	0.2347
10. In-service training	4.217	1.005	0.2383
11. Development of participative management	4.103	0.988	0.2408
12. Development of social trust	4.171	1.013	0.2429
13. According to the meritocracy	4.248	1.035	0.2436
14. Removing barriers to access to scientific networks	4.131	1.011	0.2447
15. Delegation to the Organization	4.063	1.020	0.2510
16. Providing improved conditions for employees	4.177	1.054	0.2523
17. Invited from academic experts	4.148	1.050	0.2531
18. Rewards based on performance	4.257	1.086	0.2551
19. Strengthening employee motivation	4.262	1.093	0.2565
20. According to the professional capabilities	4.040	1.046	0.2589
21. Providing conditions for education	4.091	1.078	0.2635
22. Avoid withdrawal culture	3.994	1.061	0.2656
23. Assignment based on the expertise and capabilities	4.240	1.149	0.2710
24. Desired organizational structure	3.965	1.087	0.2741
25. Continuous evaluation of performance	4.057	1.143	0.2817

3.4 Factor analysis of mechanisms for the development of human resources in Khouzestan sugarcane agro industrial company

To categorize mechanisms for the development of human resources in Khouzestan sugarcane agro industrial company, and to determine the variance explained by each factor, an exploratory factor analysis approach was followed. Data revealed that internal coherence of the data was appropriate (KMO =0.956), while and the Bartlett's statistic was significant at the 0.01 level (4715.200). The four commonly used decision rules were applied to identify the factors (Hair et al, 2005): 1) minimum eigenvalue of 1; 2) minimum factor loading of 0.5 for each indicator item; 3) simplicity of factor structure; and 4) exclusion of single item factors. According to Kaiser Criteria, there were three factors that their extracted eigenvalues were greater than one. Later,

the items were categorized into three factors by using VARIMAX Rotation Method (Table 4).

Based on the results of factor analysis the factors were categorized into three main components, which have been named social and professional factors, educational and infrastructural factor, information and participation factor (Table 5). The obtained results from the factor analysis revealed that the three mentioned factors explained 74.599% of the variation of mechanisms for the development of human resources in Khouzestan sugarcane agro industrial company. The first group which is labeled social and professional factor had the most eigen value (7.513). Also, this factor explained 30.054% of the total variances of the variables. The second group, labeled educational and infrastructural factor, with eigen value 7.475 explained 29.9% of the total variances of the variables (Table 5).

Table 4. Percent of explained variance by factors underling mechanisms for the development of human resources

Factors	Eigenvalues	Percent	Cum percent
Factor 1	7.513	30.054	30.054
Factor 2	7.475	29.900	59.954
Factor 3	3.661	14.646	74.599

Table 5. Factor loading of mechanisms for the development of human resources in Khouzestan sugarcane agro industrial company

Factors	Items	Factor loading
Social and Professional Factors,	Delegation to the Organization	0.632
	Rewards based on performance	0.684
	Desired organizational structure	0.695
	Strengthening employee motivation	0.757
	Development of social trust	0.748
	Development of participative management	0.769
	Providing improved conditions for employees	0.735
	Based on the expertise and capabilities of devolving Posts	0.746
	Providing conditions for education	0.739
	Ongoing relationships with research centers	0.740
Educational and Infrastructural Factor,	According to meritocracy	0.749
	Continuous evaluation of performance	0.781
	Removing barriers to access to scientific networks	0.786
	According to the professional capabilities	0.788
	Regular system is designed to determine training needs	0.720
	Laying the groundwork for the spirit of trying to be better	0.760
	Access to scientific software	0.735
	Providing conditions for learning from successful experiences	0.703
	Invited from academic experts	0.587
	In-service training	0.652
Information and Participation Factor	Avoid withdrawal culture	0.610
	Participate in group and team activities	0.776
	Gaining experience of experienced members	0.759
	Joint operation of the activities group	0.743
	Create conditions for providing the information needed personnel	0.631

4. Conclusion and Recommendations

Based on the results of factor analysis the factors were categorized into three main components, which have been named social and professional factors, educational and infrastructural factor, information and participation factor. The obtained results from the factor analysis revealed that the three mentioned factors explained 74.599% of the variation of mechanisms for the development of human resources in Khouzestan sugarcane agro industrial company. The first group which is labeled social and professional factor had the most eigen value (7.513). Also, this factor explained 30.054% of the total variances of the variables. The second group, labeled educational and infrastructural factor, with eigen value 7.475 explained 29.9% of the total variances of the variables.

These items include:

1- Social and professional factors: Delegation to the Organization, Rewards based on performance, Desired organizational structure, Strengthening employee motivation, Development of social trust, Development of participative management, Providing improved conditions for employees, Based on the expertise and capabilities of devolving Posts, Providing conditions for education, Ongoing relationships with research centers.

2- educational and infrastructural factor: According to meritocracy, Continuous evaluation of performance, Removing barriers to access to scientific networks, According to the professional capabilities, Regular system is designed to determine training needs, Laying the groundwork for the spirit of trying to be better, Access to scientific software, Providing conditions for learning from successful experiences, Invited from academic experts, In-service training.

3- Information and participation factor: Avoid withdrawal culture, Participate in group and team activities, Gaining experience of experienced members, Joint operation of the activities group, Create conditions for providing the information needed personnel, Based on the results the most important mechanisms for the development of human resources was social and professional factor. So, in order to progress the human resources, the agro-industries managers should reconsider the organizational structure to integrated tasks whit no focus oriented. They should apply prizes according to work performance of personnel's through logical methods. Regardless to team work and decision with run independence proportional to personnel expertise and apply participatory management should be emphasis. Prepare respectful space and full of confidence with mutual trust between personnel's would be the best situation for optimal efficiency and development of personnel empowerment.

References

1) Bhatia, A. S. and Bhatia, G. K. (1995). Human Resource Development, India in Global context", in Kumar P., Singh B.(Eds), Current trends in HRD. Deep & Deep Publication, New Delhi.

2) Karbasioun, M. (2007). Towards a Competency Profile for the Role of Instruction of Agricultural Extension Professionals in Esfahan. Ph.D. Dissertation, *Social Sciences Group*, Wageningen University and Research Centre, The Netherlands.

3) Karbasioun, M. and Mulder, M. (2004). HRM and HRD in Agricultural Extension Organizations in Iran: A Literature Review. *Association for* International Agricultural Extension Education (AIAEE), Proceeding of 20th Annual Conference, Dublin, Ireland, May 2004, PP. 13-24.

4) Miller, L. E. (2002). Human Resources Development in Agriculture. APO, Tokyo, PP. 230.

5) Rao, T. V. (2012). Resource Requirements For Human Resources Development. Human Resources And Their Development – Vol.1: 1-6.

6) Rivera, W. M. (1995). Human Resource Development in the Agriculture Sector. Int. J. Lifelong Educ*.,* 14(1): 65-73.

7) Rivera, W. M. and Alex, G. E. (2008). Human Resource Development for Modernizing Agricultural Workforce. Hum. Resource Dev. Rev., 7(4): 374-386.

8) Rosegrant Mark, W. and Malik Sohail, A. (1995). 2020 Vision for Food Agriculture and Environment in South Asia: A synthesis: International Food Policy Research Institute, Washington, June 1995.

9) Wang, G. G. and Wilcox, D. (2006). Training Evaluation: Knowing More Than Is Practiced. Adv. Dev. Hum. esources, 8(4): 528-539.

10) Zamani-Miandashti, N and Malek-Mohammadi, I. (2012). Effectiveness of agricultural Human Resource Development Interventions in Iran (Three Cases in Fars Province). J. Agr. Sci. Tech. 14: 11-25.

11) Zamani-Miandashti, N. (2008). An Investigation of the Effectiveness of Agricultural Knowledge and Information System on Human Resource Development in Fars Province of Iran. Unpublished Ph.D. Dissertation, University of Tehran, Iran. (in Persian).