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Let's Start!

Preferred Vocational Choices of Rural Women Workers: Employing Technique for Order of Preference by Similarity to Ideal Solution

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Preferred Vocational Choices of Rural Women Workers: Employing Technique for Order of Preference by Similarity to Ideal Solution

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Abstract

There are limited choices available to the women workers in rural areas and that too are worse than each other and it has become imperative to investigate this issue. Therefore, aim of this research project is to underpin best choice for rural women workers out of the limited choice available. Design of the research project necessitates review of literature, field survey and scientific analysis of the choices. In order to address this issue, the study opted for use of Technique for Order of Preference by Similarity to Ideal Solution (TOPSIS). The data is collected from heterogeneous expert respondents by way of field survey. The respondents are recruited against pre-determined criteria that include experience, background/exposure to vocations of bonded labor, education, theoretical & practical knowledge of the phenomenon under investigation. The study investigates and evaluates the vocations like sugarcane harvesting, wheat harvesting, rice sowing, participating in road construction, working for kiln, harvesting peanuts and harvesting rice etc. The data is elicited using a survey questionnaire of five-point ranking scale through face-to-face interview. The data aggregating technique of majority gives way to minority is used. It is a unique type of study and it provides theoretical foundations for future research. It has practical implications for rural women workers understanding the issue rather better. It also has implications for stakeholders including: policy makers, society at large, family members of women workers, people responsible for soliciting the services in aforementioned vocations and the researchers from the field of economics and social sciences.

Keywords: TOPSIS, Vocational Choices, Professions, Rural, Women

INTRODUCTION

In pursuit to wakeup call of women rights in Pakistan it is important to recalculate the position of the women workers and their contributions in economy in the context of Pakistan. Women as a part of population constitute almost 48% of population. According to the statistics govt. of Punjab there is a large number of women workers live in rural areas. Women participate in the development of Pakistan in many different ways apart from their role as housewives e.g. mother,

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sister, daughter, etc. the women workers from rural areas is in fact the neglected, poor, deprived part of the women population in general. They work with men in different professions named as professions bonded labor viz. working in agricultural fields, participating in road constructions, working on bricks kiln and other like professions. They work as a labor in these professions not by their choice but according to the best out of the limited choices available to them. They work for long hours against meager remuneration in far flung hardship areas. There are many die hard issues faced by them. There is lot of research on the areas of women entrepreneurship, women rights, women harassment at workplaces, women education, women health etc (Ashraf and Ali, 2018). but there is dearth of literature regarding the aforementioned bonded professions. There is also bleak amount of literature particularly regarding how to make choices from these bonded labor professions. There is also hardly any study regarding the ranking of these professions particularly taking into consideration all the pros and cons compositely as a one matric. This study offers useful insights for the regulators, advocates of labor, NGO's, the labor itself, and society at large by way of developing some understanding of the issue. This study uses Technique for Order of Preference by Similarity to Ideal Solution (TOPSIS). This is relatively new mathematical technique that is based on the mathematical process of calculating the distance of opted alternative from the ideal worst and ideal best solutions. Worldwide, the bonded labor is evergreen research area because most of the bonded labor is victimized, forced to work on lower wages and/or for longer hours. In the rural areas particularly in lower income countries or lower-middle income countries the bonded labor is exploited the most. According to Sanaullah and Pervaiz (2019), 67% of workforce is predominantly from the agriculture sector in and it is predominant profession for women working in rural areas of Pakistan (Abhilasha et al., 2014; Banai, 2021). Zafar and Younis (2020); Majumder and Dey (2020); Ali & Zulfiqar (2018); Saleem and Fatima (2018); Nwezeaku (2018); Anderson et al. (2017); Anaglo et al. (2014) and Ishaq and Memon (2016) stated that income needs and family pressure compels the women to find employment in agriculture sector. Safdar et al. (2021) argued that agriculture despite being the dominant profession for rural women offers them fewer opportunities for money generation. It is worthwhile to investigate the vocations that involve bonded labor in Pakistan as occupational choices are considered as major determinant for the women empowerment (Ali, 2015; Azhar and Saboor, 2018; Bibi, 2019; Muhammad, 2021).

It is relatively less researched area despite of its time importance. In this way this project has a rationale and a justification for planned investigation. Shahzadi and Ahmad (2018) Agarwal (2020), Akter et al. (2020) and Khan (2020) suggested that certain reforms, training and policy making is required at government level with special consideration to farming to empower rural women. Thus, this project culminates a research study the finding of which, are helpful for all of the stakeholders. Major objective of this project is to investigate preferred vocational choices of rural women workers. To further split up, objectives of the project are as follows: i) to prepare a list of vocational choices for rural women workers, ii) to assign ranks to the vocations in order of preference by the women workers based on different criteria, iii) to discuss the

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issues of rural women while choosing vocation and, iv) to prepare a policy guideline for the stakeholders. The research questions of the study include:

1. What are different vocational choices available to women workers in far flung areas?
2. How the rural women select the vocations from within the limited choice of available vocations?
3. What are the issues of women selecting the vocations and what policy changes are required to regulate these vocations?

LITERATURE REVIEW

One confined influx of literature on a multitude of variables concerning the women gender. The area of bonded labor with reference to Pakistan is also fertile. But the below mentioned representation of literature can entail that the literature uses traditional methods of investigation regarding bonded labor professions e.g. Sadaquat (2011) asserted that women are suffering from market discrimination and are pushed to separate low-paid and low-status jobs. They are employed in the unorganized sectors and are concentrated in sector known for low level of productivity, less income stability and low security of employment. Since, organized services sector is mostly government services, and provides employment to a small proportion of women. The rate of unemployment among women is consistently higher than that of men, both in rural and urban areas. Khan and Khan (2009) revealed that poverty remains an important determinant of female labor participation. Raza and Murad (2010) bolstered that there are significant socio-demographic and cultural factors, due to which gender gap persists in Pakistani society. Fatima and Sultana (2009) affirmed that high rate of economic development is encouraging the female participation in the labor force by increasing the work opportunities for females. Zareen and Lubna (2002) stated that women participation in economic development is greatly influenced by socio-demographic factors such as their age, education, and marital status. In an effort of inquiry about socio-economic profile, working as well as housing conditions, status of health of working women, Khan and Khan (2006) elicited that women working on ladies garment greatly contribute to the sample of study whereas women working on brick-kiln contributing maximum to their household budget. Haq et al. (2022) inquired the effect of farmers' passion of resources of poverty incidence and poverty indices. Possession of resources by the farmers has significant and negative influence on multi-dimensional poverty indices. Furthermore, farmers' attitude moderates the negatives effect of their possession of resources on poverty incidence. The females can take full opportunities by increasing their level of education attainment. Mehrotra and Biggeri (2010) compared Indonesia and Pakistan and found that there is a high probability of ultimate working of children in Pakistan and while little evidence is found for Indonesia. The mother's education and per capita income/expenditure or assets in the household play vital role in this behalf. Iqbal (2006) explored the nature and extent of bonded labor in the brick kiln sector and proposes a comprehensive scheme to ameliorate the concerns of bonded families and ways to eradicate the menace from the industry. Genicot (2002) asserted that the existence of these voluntary forms of servitude itself may restrain the laborers' opportunities so that they are left with no

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better alternative than bondage. Under these circumstances, government interventions banning servile institutions, by promoting the development of alternative options for the laborers, have the potential to substantially improve the condition of a large class of laborers. Aftab and Mazher (2019) showed how household characteristics affect the odds of employment in Pakistan, finding evidence of provincial disparities. Moreover, the paper shows that non-wage income from assets reduces the odds of being employed. The paper identifies the various income thresholds for the five income sources examined to have an impact on the odds of employment. Pio et al. (2013) identifies contextual emotional labor as an integral part of Muslim female employees' work in the formal employment sector resulting from an ongoing tension between the display rules of the workplace and Islamic female modesty. Pio and Syed (2013) asserted that four stories emerge: firstly the pervasive existence of structural and institutional barriers such as patriarchal ideologies reinforced by gender in egalitarian interpretations of holy texts; secondly women's limited access to education and skill development; thirdly lack of non-agricultural employment and economic resources resulting in economic dependence on men and sex-based division of labor; and fourthly the development and joy of agency where there is facilitation and nurturance of women. Syed et al. (2013) reveals that focusing exclusively on organizations and holding them solely accountable for equal opportunity may be inadequate as organizational structures and routines of equal opportunity are affected by both macro-societal factors (e.g. legal, socio-cultural) and micro-individual factors (e.g. intersectionality, agency). In particular, the study highlights unique socio-cultural and structural challenges facing working women in Pakistan and the ways in which these women are able to negotiate and overcome some of these challenges. Afza and Rashid (2009) argued that social and gender discrimination, lack of access and control over resources, limited educational opportunities, weaker family support, absence of self-actualization, and little entrepreneurial orientation are few impediments classified as barriers to the growth of remote women entrepreneurs in Pakistan. Rehman and Roomi (2012) showed that among other motivational drivers to start their own businesses, achieving work-life balance is one of the most significant ones. Their own businesses give them flexibility, control and freedom to juggle with their family and social responsibilities.

Lack of sufficient time, gender bias, social and cultural norms as well as family responsibilities are the most significant challenges women face to achieve balance in a patriarchal Islamic society. Strategic planning, organizing and delegating are the most effective strategies women use to cope with competing roles of work and family. Zakaria and Fida (2012) found a significant positive long-term relationship between trade openness and women's development in Pakistan. The results also show significant positive influence of foreign direct investment and private sector credit on women's development and significant negative effect of private investment on women's development in Pakistan. Significant negative coefficient of error term in error correction model indicates that convergence holds in the model. Khan et al. (2012) observed from the results that the production of wheat, rice, maize, pulses, oilseeds, poultry meat and fish at the district level is found to affect food availability positively. All the

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districts, except Sindh, is more probable to be food insecure in availability. In the food accessibility, electrification and adult literacy emerged as the factors having negative effect. Child immunization, safe drinking water and number of hospitals have shown positive effect on food absorption. Jahan et al. (2016) emphasized that brick kiln workers and people living in the brick kiln vicinity are exposed to heavy metals and other pollutants that is a serious threat to their health. Alternate technology is needed to be developed and brick kilns should be replaced. Malik (2016) argued that without effective land reforms or land distribution bonded labour cannot be eliminated. In additional to land reforms, effective governance based on strong democratic culture free of the influence of big landowners is essential to address the issue of bonded labour in Pakistan. Abraham et al. (2017) buttressed that FLFP has declined marginally from the 2005 figures; education remains the important factor in determining women's participation in the formal sector. Strikingly 91 percent of the FLFP is engaged in the informal sector of the Ghanaian economy, a sector with a very low contribution per head. Burbyka et al. (2017) stated that labour legislation is imperfect and should be reformed, so as to not only declare but also protect women's rights, in accordance with the current realities and fluctuations in the labour market. Roomi et al. (2018), and Raja and Iqbal (2019) suggested that women's entrepreneurial career choices both revolve around and are shaped by a complex interplay of socio–cultural influences. Pakistani women entrepreneurs exercise their agency as a means of negotiating gender roles with in both house hold and society, using religious descriptions as a means to justify their entrepreneurial activity. From the above represented literature, it can be established that there is severe need of ranking the professions against the important ten criteria. Next section discusses the data and methodology used for analysis.

METHODOLOGY

This project follows deductive approach. Overall design of study consists of literature review, survey of experts on women labor and analysis of the collected data. Literature review is performed through search engines exploring the renowned data basis e.g. JStor, Taylor & Francis, Wiley Black-Well, Emerald, Science-Direct, Sage, etc. The method of survey consists of eliciting the data through ranking order questionnaire commensurate to the methodology. Technique for Order of Preference by Similarity to Ideal Solution (TOPSIS) is employed as technique of data analysis. Subject under study are rural area women working as labor. However, the data is collected from experts of the issue particularly that of policy makers, immediate supervisors, people responsible for engaging women in vocations and the researchers from the concerned field.

PANEL OF EXPERTS: This research project opted for a sample consisting of experts on the issue in hand for collecting the data. For this purpose, a heterogeneous panel of experts is constituted i.e. policy makers, supervisors looking after the affairs of women labor and academic experts. Experts are recruited for this study has to qualify the predetermined criteria i.e. the expert must have at least ten years of relevant experience. Panel of 15-20 such experts are identified. For data collection, researcher develops a rapport and gives briefing to the respondents about the background of the study. The data is elicited on an ordinal questionnaire suitable for TOPSIS.

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The data is collected using face-to-face one-on-one method of data elicitation. Experts are recruited from 9 cities (Islamabad, Lahore, Multan, Mianwali, Jhang, Faisalabad, Sargodha, Chakwal, and Dera Ghazi Khan). The collected data is aggregated using the majority rule.

TECHNIQUE OF ANALYSIS: Technique for Order of Preference by Similarity to Ideal Solution (TOPSIS) is used to analyze the aggregated data step wise. The step of technique includes: i) aggregation and presentation of the data, ii) normalization of the data, iii) calculating weighted normalized matrix, iv) determining the ideal best & ideal worst, v) calculating the Euclidean distance from ideal best & ideal worst, vi) calculating the coefficients and, vii) ranking the alternatives based on coefficients. The results of the analysis are accordingly be interpreted.

ANALYSIS & RESULTS AND DISCUSSION

ANALYSIS & RESULTS

The data is processed and analyzed through TOPSIS. The complete procedure of applying TOPSIS is explained in upcoming section.

STEPWISE PROCEDURE OF TOPSIS: TOPSIS method of multi criteria decision making was developed by Hwang & Yoon (1981) and extended by Hwang, Lai, & Liu (1993). It works out the solution alternative by finding the minimum distance from positive ideal solution and the maximum distance from negative ideal solution. Comparison of TOPSIS with alternate methodologies is appended in Appendix A whereas complete stepwise procedure of TOPSIS is given following.

STEP 1: PRESENTATION OF ORIGINAL DATA MATRIX

First step involves original data presentation using following matrix type structure:

$$D = \begin{array}{c} \\ A_1 \\ A_2 \\ \cdot \\ A_n \end{array} \begin{array}{c} \begin{array}{cccccc} C_1 & C_2 & \cdots & & & C_n \end{array} \\ \begin{bmatrix} X_{11} & X_{12} & \cdot & \cdot & \cdot & X_{1n} \\ X_{21} & X_{22} & \cdot & \cdot & \cdot & X_{2n} \\ \cdot & \cdot & & & & \cdot \\ \cdot & \cdot & & & & \cdot \\ X_{m1} & X_{m2} & \cdot & \cdot & \cdot & X_{mn} \end{bmatrix} \end{array} \qquad \text{(a)}$$

Using (a), an original matrix containing vocations as alternatives column-wise, criteria row-wise, and relevant aggregated scores in individual cells is developed and presented as Table 1.

TABLE 1: ORIGINAL DATA MATRIX

		Criteria									
Sr.	Professions	Convenience	Wages	Duration of Continuity	Duty Hours	Security	Chance of Employment	Effect on House Keeping	Respect	Facilities	Satisfaction/Peace of Mind
1	Sugarcane Harvesting	3	3	5	2	2	3	1	2	1	2

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2	Wheat Harvesting	2	3	3	2	2	3	2	2	2	3
3	Rice Sowing	3	3	4	2	2	4	1	2	2	3
4	Participating on Roads Construction	1	2	5	2	2	3	1	3	3	3
5	Working on Bricks Kiln	1	2	5	2	2	2	1	2	2	2
6	Peanuts Picking	3	2	3	3	2	3	3	3	2	3
7	Rice Harvesting	3	3	3	2	3	4	1	3	2	3
8	Cotton Plucking	4	3	2	3	3	4	1	3	3	3

The information on criteria being beneficial of non-beneficial is provided in Table 2.

TABLE 1: BENEFICIAL/NON-BENEFICIAL OF EACH CRITERION

Sr.	Criteria	Beneficial/Non-Beneficial
1	Convenience	Beneficial
2	Wages	Beneficial
3	Duration of Continuity	Beneficial
4	Duty Hours	Non-Beneficial
5	Security	Beneficial
6	Chance of Employment	Beneficial
7	Effect on House Keeping	Non-Beneficial
8	Respect	Beneficial
9	Facilities	Beneficial
10	Satisfaction/Peace of Mind	Beneficial

STEP 2: NORMALIZATION OF THE DATA

The 'normalized matrix' $R(=[r_{ij}])$ is computed and presented in Table 3. The value r_{ij} is obtained using (b).

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$$r_{ij} = \frac{x_{ij}}{\sqrt{\sum_{j=1}^{n} x_{ij}^2}} \quad \text{(b)}$$

In (b), $i = 1$ to m and $j = 1$ to n.

TABLE 3: NORMALIZED MATRIX

		Criteria									
Sr	Professions	Convenience	Wages	Duration of Continuity	Duty Hours	Security	Chance of Employment	Effect on House Keeping	Respect	Facilities	Satisfaction/Peace of Mind
1	Sugarcane Harvesting	0.3939	0.3974	0.4527	0.3086	0.3086	0.3198	0.2294	0.2774	0.1601	0.2540
2	Wheat Harvesting	0.2626	0.3974	0.2716	0.3086	0.3086	0.3198	0.4588	0.2774	0.3203	0.3810
3	Rice Sowing	0.3939	0.3974	0.3621	0.3086	0.3086	0.4264	0.2294	0.2774	0.3203	0.3810
4	Participating on Roads Construction	0.1313	0.2649	0.4527	0.3086	0.3086	0.3198	0.2294	0.4160	0.4804	0.3810
5	Working on Bricks Kiln	0.1313	0.2649	0.4527	0.3086	0.3086	0.2132	0.2294	0.2774	0.3203	0.2540
6	Peanuts Picking	0.3939	0.2649	0.2716	0.4629	0.3086	0.3198	0.6882	0.4160	0.3203	0.3810
7	Rice Harvesting	0.3939	0.3974	0.2716	0.3086	0.4629	0.4264	0.2294	0.4160	0.3203	0.3810
8	Cotton Plucking	0.5252	0.3974	0.1811	0.4629	0.4629	0.4264	0.2294	0.4160	0.4804	0.3810

STEP 3: CALCULATING WEIGHTED NORMALIZED MATRIX

The normalized matrix is converted to weighted normalized decision matrix V_{ij} using equation (c) and resulting matrix is presented in Table 4.

$$v_{ij} = w_{ij} r_{ij} \quad \text{(c)}$$

In (c), w_j represents the weight of the jth criterion. In this analysis, equal weights are allocated to each criterion, therefore, multiplying each value by 0.1 (i.e. 1/10) where total criteria are equal to 10.

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TABLE 4: WEIGHTED NORMALIZED MATRIX

		Criteria									
Sr.	Professions	Convenience	Wages	Duration of Continuity	Duty Hours	Security	Chance of Employment	Effect on House Keeping	Respect	Facilities	Satisfaction/Peace of Mind
1	Sugarcane Harvesting	0.0394	0.0397	0.0453	0.0309	0.0309	0.0320	0.0229	0.0277	0.0160	0.0254
2	Wheat Harvesting	0.0263	0.0397	0.0272	0.0309	0.0309	0.0320	0.0459	0.0277	0.0320	0.0381
3	Rice Sowing	0.0394	0.0397	0.0362	0.0309	0.0309	0.0426	0.0229	0.0277	0.0320	0.0381
4	Participating on Roads Construction	0.0131	0.0265	0.0453	0.0309	0.0309	0.0320	0.0229	0.0416	0.0480	0.0381
5	Working on Bricks Kiln	0.0131	0.0265	0.0453	0.0309	0.0309	0.0213	0.0229	0.0277	0.0320	0.0254
6	Peanuts Picking	0.0394	0.0265	0.0272	0.0463	0.0309	0.0320	0.0688	0.0416	0.0320	0.0381
7	Rice Harvesting	0.0394	0.0397	0.0272	0.0309	0.0463	0.0426	0.0229	0.0416	0.0320	0.0381
8	Cotton Plucking	0.0525	0.0397	0.0181	0.0463	0.0463	0.0426	0.0229	0.0416	0.0480	0.0381

STEP 4: DETERMINING THE IDEAL BEST & IDEAL WORST

Ideal best and ideal worst values for each column are determined using maximum and minimum function of MS-Excel. In case of beneficial criteria, ideal best value is the maximum value in the respective column whereas in case of non-beneficial criteria, the ideal best value is the minimum value in respective column. Similarly, in case of beneficial criteria, ideal worst value is the minimum value in the respective column whereas in case of non-beneficial criteria, the ideal worst value is the maximum value in respective column.

STEP 5: CALCULATING THE EUCLIDEAN DISTANCE FROM IDEAL BEST & IDEAL WORST SOLUTION

For every column, ideal best and ideal worst value is chosen (Table 5) using maximum and minimum functions in MS-Excel. After that, Euclidean distance from ideal best and ideal worst are calculated using equation (d) and (e).

$$v^{+} = \{v_1^{+}, \ldots, v_n^{+}\} = \left\{\left(\mathrm{Max}_{ij}\, jj \in J\right), \left(\mathrm{Min}_{in}\, jj \in J^{-}\right)\right\} \quad (d)$$

$$v^{-} = \{v_1^{-}, \ldots, v_n^{-}\} = \left\{\left(\mathrm{Min}_{ij} | j \in J\right), \left(\mathrm{Max}_{ij}\, j \in\in J^{-}\right)\right\} \quad (e)$$

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In (d) and (e) respectively, J is related to the positive criteria whereas J^- is related to the negative one.

STEP 6: CALCULATING PERFORMANCE SCORES P_i

At this stage, separation measures S_i^+ and S_i^- of each alternative are calculated using equations (f) and (g), where S_i^+ is the separation measure used to represent distance from positive ideal solution whereas S_i^- is the separation measure used to represent distance from negative ideal solution.

$$S_i^+ = \sqrt{\sum_{j=1}^{n} \left(v_{ij-v_j^+}\right)^2}, \; i = 1, \ldots, m. \qquad \text{(f)}$$

$$S_i^- = \sqrt{\sum_{j=1}^{n} \left(v_{ij-v_j}\right)^2}, \; i = 1, \ldots, m. \qquad \text{(g)}$$

The performance scores P_i for all alternatives are obtained using equation (h).

$$P_i = \frac{S_i^-}{S_i^+ + S_i^-} \qquad \text{(h)}$$

The value of P_i lies between 0-1; the larger the value, the better the performance of the alternative.

STEP 7: RANKING THE ALTERNATIVES

Finally, the alternatives are ranked in descending order of their performance scores. Abridged snapshot of results is provided in Table 5.

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TABLE 5: ABRIDGED RESULTS OF TOPSIS

		Criteria														
Sr.	Professions	Convenience	Wages	Duration of Continuity	Duty Hours	Security	Chance of Employment	Effect on House Keeping	Respect	Facilities	Satisfaction /Peace of Mind	Si+	Si-	(Si+) + (Si-)	Pi	Rank
1	Sugarcane Harvesting	0.0394	0.0397	0.0453	0.0309	0.0309	0.0320	0.0229	0.0277	0.0160	0.0254	0.0436	0.0638	0.1073	0.5939	6
2	Wheat Harvesting	0.0263	0.0397	0.0272	0.0309	0.0309	0.0320	0.0459	0.0277	0.0320	0.0381	0.0484	0.0415	0.0899	0.4618	7
3	Rice Sowing	0.0394	0.0397	0.0362	0.0309	0.0309	0.0426	0.0229	0.0277	0.0320	0.0381	0.0307	0.0664	0.0971	0.6840	3
4	Participating on Roads Construction	0.0131	0.0265	0.0453	0.0309	0.0309	0.0320	0.0229	0.0416	0.0480	0.0381	0.0456	0.0677	0.1132	0.5975	5
5	Working on Bricks Kiln	0.0131	0.0265	0.0453	0.0309	0.0309	0.0213	0.0688	0.0277	0.0320	0.0254	0.0717	0.0351	0.1068	0.3289	8
6	Peanuts Picking	0.0394	0.0265	0.0272	0.0463	0.0309	0.0320	0.0229	0.0416	0.0320	0.0381	0.0389	0.0601	0.0990	0.6067	4
7	Rice Harvesting	0.0394	0.0397	0.0272	0.0309	0.0463	0.0426	0.0229	0.0416	0.0320	0.0381	0.0275	0.0678	0.0953	0.7115	1

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8	Cotton Plucking	0.0525	0.0397	0.0181	0.0463	0.0463	0.0426	0.0229	0.0416	0.0480	0.0381	0.0313	0.0768	0.1081	0.7108	2
	Ideal Best Solution (Vj+)	0.0525	0.0397	0.0453	0.0309	0.0463	0.0426	0.0229	0.0416	0.048	0.0381					
	Ideal Worst Solution (Vj-)	0.0131	0.0265	0.0181	0.0463	0.0309	0.0213	0.0688	0.0277	0.016	0.0254					

Table 5 presents aggregated ranks of professions understudy. For the sake of distinguishing, the top two professions, namely rice harvesting and cotton plucking, are highlighted in grey color. These professions are mostly preferred by women in rural areas of Pakistan.

DISCUSSION

The analysis is performed using multi criteria decision making technique namely TOPSIS. Under this section, findings of the analysis, implications limitation of the study and future research directions are discussed.

FINDINGS: The results obtained through TOPSIS revealed that vocations 'rice harvesting', and 'cotton plucking' got the highest performance score (i.e. 0.7115) and second highest performance score (i.e. 0.7108) respectively, implying that the vocations namely 'rice harvesting' and 'cotton plucking' are the most preferred vocations for rural women from among the available limited choices. The vocation namely 'rice sowing' with performance score '0.6840' is at third rank whereas the vocation namely 'peanuts picking' with performance score of '0.6067' is at fourth rank. The vocation namely 'participating on roads construction' with performance score '0.5975' is at fifth rank whereas the vocation namely 'sugarcane harvesting' with performance score of '0.5939' is at sixth rank. Finally the vocation namely 'wheat harvesting' with performance score '0.4618' is at seventh rank whereas the vocation namely 'working on bricks kiln' with performance score '0.3289' is at eight rank implying that the vocations i.e. 'wheat harvesting' and 'working on bricks kiln' are the least preferred by the rural women in Pakistan.

IMPLICATIONS OF THE STUDY: This section is devoted to discuss various implications offered by the study. The section is further divided into two subsections namely, theoretical implications and practical implications.

THEORETICAL IMPLICATIONS: Theoretically, the study contributes unique rakings of vocations available to rural women in order of their preference. Furthermore, the ranking is based on unique and new set of criteria viz. convenience, wages, duration of continuity,

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duty hours, security, chance of employment, effect on house-keeping, respect, facilities and satisfaction/peace of mind is another unique theoretical contribution. The comparison of vocations offers a profound foundation for future research in the context.

PRACTICAL IMPLICATIONS: Practically, the government can learn from the study about the vocation choices and preferred one by the rural women and can formulate policy to improve working conditions for the subject and also introduce/offer other opportunities of employment. The employers of concerned jobs can improve working conditions by seeing the scores on individual criteria. The study offers useful practical implications for society and economy by providing information on available and preferred job opportunities to female workforce. The improvement on the frontiers of job conditions and addition of new job opportunities can bring prosperity to society as well as economy of emerging countries like Pakistan, by enhancing the contribution of female workers.

LIMITATIONS OF THE STUDY: Under this section, some limitations of the study are discussed. First, the study uses limited number of criteria in analysis. Second, the study is based on a few vocations (alternatives) available to rural workers. Furthermore, the study provides information on various vocational choices that are available to workers in an agrarian economy like Pakistan, hence, is silent in the context of industrial economy. Finally, the research uses TOPSIS technique for analysis which is having drawbacks i.e. rank reversal etc.

BIN order to overcome abovementioned limitations of the study, the authors advise some research worthy directions. First, the future researchers can include other criteria and vocational choices to address abovementioned limitation related to criteria and alternatives. Second, they can use other techniques for data analysis such as AHP, Fuzzy-AHP, and GRA etc. to obtain authentic results and validate the findings of the current research. Finally, the study procedure can be replicated in different contexts, employing different subjects and techniques to expand the frontiers of the study domain.

CONCLUSION

Present study aims to explore vocational preferences of rural women in Pakistan on the basis of multi criteria employing TOPSIS. The study is designed on conceptualization, literature review, data collection and analysis. The concept of bonded labor in emerging countries like Pakistan is widely researched, still, lacking in the context addressed in this study. Literature review is conducted to explore information on current research domain and find out the criteria as well as alternative vocational choices available to rural women. The data for the study is obtained, from experts of the domain from different cities of Pakistan, on a questionnaire using five-point ranking scale through face-to-face interviews. The study uses various factors viz. convenience, wages, duration of continuity, duty hours, security, chance of employment, effect on house-keeping, respect, facilities and satisfaction/peace of mind as criteria to rank the vocation alternatives namely sugarcane harvesting, wheat harvesting, rice sowing, participating on roads construction, working on bricks kiln, peanuts picking, rice harvesting, and cotton plucking available and preferred by rural women. The data was aggregated through MS-Excel and analyzed using TOPSIS technique of multi-criteria decision making. TOPSIS ranks alternatives by

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preferring the lowest distance to positive ideal solution and the highest distance from negative ideal solution. As per findings, vocations 'rice harvesting', and 'cotton plucking' are the most preferred vocations for rural women from among the available limited choices. Further, the vocations namely 'rice sowing' and 'peanuts picking' are the next most preferred choices. The vocations namely 'participating on roads construction' and 'sugarcane harvesting' are at fifth and sixth positions in the spectrum of preference. Finally the vocations namely 'wheat harvesting' and 'working on bricks kiln' are the least preferred vocational choices by the rural women in Pakistan. These findings offer useful implications for government, employers, employees, society and the `economy. The implications for government include providing ease to female workers in available choices by improving required infrastructure. Implications for employers include providing safe and flexible working conditions to attract more workers in their respective domains. Implications for employees include choosing the most flexible, highly paid and the most demanding career from among the available choices. The society and economy greatly benefits from increased number and efficiency of workers. Women are contributing equally in every sector of life including education, management, administration, politics etc. however, the women in rural areas are not highly educated and found limited opportunities to make their living. In this scenario, they prefer some vocations over others. The study expands the frontiers of women workforce by exploring the most preferred job domains in rural areas. The study can be useful for the stakeholders in providing flexible and safe working condition and by expanding the spectrum of available job opportunities.

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