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## Green human resource management in the east and west

Bahareh Shahriari  
Faculty Member of Management, PNU University, Tehran, Iran  
shahriaripnu@gmail.com

Akbar Hassanpoor  
Assistant Professor in Management faculty, Kharazmi University, Tehran, Iran  
ak\_hassanpoor@yahoo.com

Editor Científico: José Edson Lara  
Organização Comitê Científico  
Double Blind Review pelo SEER/OJS  
Recebido em 13.11.2018  
Aprovado em 25.01.2019



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## Abstract

The need for paying attention to sustainable development, green issues, and environmental changes is felt more day by day while in green human resource management (GHRM) and greening organizations' human resources are issues paid attention to by different countries seeking to achieve sustainable development and to help preserve the environment. The main purpose of the present study is to perform a systematic review on previously conducted GHRM studies in the east and west during the past ten years. For researchers and managers, this in fact is roughly the best way to share the advantageous information contained by the studies of interest while it also tries to review the findings of various researches in order to signify the similarities and differences that exist in their results, and to underscore the existing gaps. The present research has showed that paying attention to GHRM has significantly increased in east since 2014 while prior to this date, most of the related studies were conducted in the west. For eastern researchers the most interesting functions were respectively education and development (72%), performance management (60%), and rewarding and compensation (56%) as well as other more attention requiring functions including socialization (12%), job analysis (8%), employee retention (8%), and discipline management (4%). On the other hand, the most interesting functions for western researchers were respectively selection and recruiting (61.54%), education and development (53.85%), performance management (53.85%), compensation (53.85%) in addition to other more attention requiring functions including discipline management (0%), socialization (7.69%), employee retention (7.69%), and job analysis (15.38%). The most referred to gaps between the western and eastern studies have turned out to be lack of comprehensive studies in east in addition to the lack of a cross-cultural model which can be utilized for execution of GHRM proportional to the cultures of various different countries. As other gaps in the east it can be referred to cumbersome rules, excessive bureaucracy and hierarchies, lack of managers' support for green plans, and the lack of GHRM training courses, whereas the gaps in the west include lack of comparisons between sustainable and non-sustainable organizations, insufficiency of GHRM related studies, existing of excessive hierarchies in some countries including Brazil, inadequate consideration for the details of GHRM including the manners of absorption of green employees, especially those interested in working with lower wages, and inadequacy of case studies. In the present studies the countries located in Asia are referred to as the east and the countries located in Europe and America continents are referred to as the west.

**Keywords:** Green Human Resource Management; Green Management; Sustainable Development; Systematic Review.

## Gestão verde de recursos humanos no oriente e ocidente

### Resumo

A necessidade de prestar atenção ao desenvolvimento sustentável, questões ecológicas e mudanças ambientais é sentida mais dia a dia, enquanto na gestão de recursos humanos (GHRM) e recursos humanos das organizações de ecologização são temas de atenção de diferentes países que buscam alcançar o desenvolvimento sustentável. Para ajudar a preservar o meio ambiente. O principal objetivo do presente estudo é realizar uma revisão sistemática de estudos de GHRM realizados no leste e oeste nos últimos dez anos. Para pesquisadores e

gerentes, esta é, de fato, a melhor maneira de compartilhar as informações vantajosas contidas nos estudos de interesse, ao mesmo tempo em que tenta revisar as descobertas de várias pesquisas para indicar as semelhanças e diferenças existentes em seus resultados. Para sublinhar as lacunas existentes. A presente pesquisa mostrou que prestar atenção ao GHRM aumentou significativamente no leste desde 2014, enquanto antes desta data, a maioria dos estudos relacionados foram realizados no oeste. Para os pesquisadores orientais, as funções mais interessantes foram educação e desenvolvimento (72%), gestão de desempenho (60%), gratificação e remuneração (56%) e outras mais exigentes, incluindo socialização (12%), análise de trabalho (8%), retenção de funcionários (8%) e gestão disciplinar (4%). Por outro lado, as funções mais interessantes para os pesquisadores ocidentais foram seleção e recrutamento (61,54%), educação e desenvolvimento (53,85%), gestão de desempenho (53,85%), remuneração (53,85%), além de outras funções que exigem mais atenção. incluindo gerenciamento de disciplina (0%), socialização (7,69%), retenção de funcionários (7,69%) e análise de emprego (15,38%). As lacunas mais referidas entre os estudos ocidentais e orientais revelaram-se falta de estudos abrangentes no leste, além da falta de um modelo transcultural que pode ser utilizado para a execução de GHRM proporcional às culturas de vários países diferentes. Como outras lacunas no leste, pode-se referir a regras pesadas, burocracia e hierarquias excessivas, falta de apoio dos gerentes a planos verdes e falta de cursos de treinamento em GHRM, enquanto as lacunas no ocidente incluem a falta de comparações entre sustentabilidade e não-governança. -organizações sustentáveis, insuficiência de estudos relacionados ao GHRM, existência de hierarquias excessivas em alguns países incluindo o Brasil, consideração inadequada dos detalhes do GHRM incluindo as formas de absorção de funcionários verdes, especialmente aqueles interessados em trabalhar com salários mais baixos e inadequação de estudos de caso. Nos estudos atuais, os países localizados na Ásia são referidos como o leste e os países localizados na Europa e nos continentes da América são referidos como o oeste.

**Palavras-chaves:** Gestão Verde de Recursos Humanos; Gestão Verde; Desenvolvimento Sustentável; Revisão Sistemática.

## Gestión de recursos humanos verdes en el este y el oeste

### Resumen

La necesidad de prestar atención al desarrollo sostenible, las cuestiones ecológicas y los cambios ambientales se hace sentir cada día más, mientras que en la gestión de los recursos humanos ecológicos (GHRM) y en los recursos humanos de las organizaciones ecologistas, los diferentes países que prestan atención al desarrollo sostenible deben prestar atención. Para ayudar a preservar el medio ambiente. El objetivo principal del presente estudio es realizar una revisión sistemática de los estudios de GHRM realizados previamente en el este y el oeste durante los últimos diez años. Para los investigadores y gerentes, esta es, de hecho, la mejor manera de compartir la información ventajosa que contienen los estudios de interés, mientras que también trata de revisar los hallazgos de varias investigaciones para indicar las similitudes y diferencias que existen en sus resultados, y para subrayar las lagunas existentes. La presente investigación ha demostrado que prestar atención a la GHRM ha aumentado significativamente en el este desde 2014, mientras que antes de esta fecha, la mayoría de los estudios relacionados se realizaron en el oeste. Para los investigadores orientales, las funciones más interesantes

fueron, respectivamente, educación y desarrollo (72%), gestión del rendimiento (60%) y recompensa y compensación (56%), así como otras funciones que requieren más atención, incluida la socialización (12%), análisis de puestos (8%), retención de empleados (8%) y manejo de disciplina (4%). Por otro lado, las funciones más interesantes para los investigadores occidentales fueron, respectivamente, la selección y el reclutamiento (61,54%), la educación y el desarrollo (53,85%), la gestión del rendimiento (53,85%), la compensación (53,85%), además de otras funciones que requieren más atención. incluida la gestión de la disciplina (0%), la socialización (7,69%), la retención de empleados (7,69%) y el análisis del trabajo (15,38%). Las brechas más mencionadas entre los estudios occidentales y orientales han resultado ser la falta de estudios integrales en el este, además de la falta de un modelo intercultural que pueda utilizarse para la ejecución de GHRM proporcional a las culturas de diferentes países. Como otras brechas en el este, se puede referir a reglas engorrosas, burocracia y jerarquías excesivas, falta de apoyo de los gerentes para los planes verdes y falta de cursos de capacitación de GHRM, mientras que las brechas en el oeste incluyen la falta de comparaciones entre sostenibilidad y no - organizaciones sostenibles, insuficiencia de estudios relacionados con la GHRM, existencia de jerarquías excesivas en algunos países, incluido Brasil, consideración inadecuada para los detalles de la GHRM, incluidos los modos de absorción de empleados verdes, especialmente aquellos interesados en trabajar con salarios más bajos, e insuficiencia de estudios de casos. En los estudios actuales, los países ubicados en Asia se conocen como el este y los países ubicados en los continentes de Europa y América se conocen como el oeste.

**Palabras claves:** Gestión de recursos humanos verdes; Gestión verde; Desarrollo sostenible; Revisión sistemática.

## Introduction

Nowadays we are witnessing increased attentions paid to sustainable development and green organizations in managerial plans (Gonzalez-Benito & Gonzalez-Benito, 2006). The main purpose of sustainable development is to integrate economic, social, and environmental objectives with the aim of maximization of the welfare of current human beings without harming the environment or diminishing the abilities of the generations to come to satisfy their needs. In the other words, the main principle in sustainable development is that natural resources must be preserved in a way that next generations too are able to produce/consume as much as done by the current generation (OECD, 2011:11). More recently in the context of the role of human resources in sustainable development the issue of green human resource management has been proposed which is considered as a new research line (Jackson et al., 2011; Renwick et al., 2008, 2012). The purpose of green models in work life is to upgrade the compatibility and welfare capacities of both the work systems and the employees. Currently employees are more interested in organizations that support greenness (Gonzalez-Benito & Gonzalez-Benito, 2006). A green corporation is an organization that provides products and services that are consistent with the goals of more effective exploitation of resources, generation of renewable energy resources, reduction of emission of greenhouse gases, and minimization of environmental impacts. In the other words, GHRM is an effort towards the satisfaction of needs in a way that a balance is created between organizational growth for capital production and, preservation of the natural environment so that building a successful future is made possible (Daily & Hung, 2001).

The phrase of "Green Human Resource Management" is a roughly new concept in the eyes of most academics and professionals active in the context of human resource management. However, the roots of this topic date back to 1996 and Wehrmeyer's (1996) proposed characteristics. In years to come, there were also other studies conducted by other researchers among whom it can be referred to Jackson, Jabbour, and Ehnert Renwick.

Through the application of GHRM one can benefit from its positive outcomes which not only preserve the environment, but also are followed by increased efficiency and certain positive financial influences among which it can be referred to the following:

- Growth, welfare and well-being of employees (Ehnert, 2009; Mohd Yusoff et al., 2015; Hamilton and Gioia, 2009).
- Improvement of employees' creativity and variability (Shipon et al., 2012).
- Establishment of a balance between financial performance and environment preservation (Daily & Hung, 2001; O'Donohuea et al., 2016).
- Attraction of more dexterous employees due to the advantageousness of the organization's reputation in the society, retention of dexterous employees as well as improvement of motivations, employees' commitment and loyalty to the organization and improved competitive advantage (Abbasi et al., 2016, Gonzalez-Benito & Gonzalez-Benito, 2006; Milliman, 2013; Renwick & et.al, 2012 & 2016; Davis & Smith, 2007; Mohd Yusoff & et.al, 2015; Jabbour & Jabbour, 2016; Renwick & et.al, 2016).
- Reduced water and energy consumption, reduced paper consumption, reduced waste production, and recycling and usage of recycled materials as fertilizers; all of which are followed by reduced expenses (Opatha & Arul rajah, 2014).
- Reduced transportation which leads to reduced air pollution and reduced expenses as well (Opatha & Arul rajah, 2014; Renwick, 2012; Milliman, 2013).
- Reduced environmentally destructive impacts (Scheiner & Willige, 2011)
- Establishment of green structures and workplaces (Opatha & Arul rajah, 2014).
- Reduced CO<sub>2</sub> emission (Mehta et al., 2015).
- Propagation of green culture and lifestyle in the society (Milliman, 2013; Russell, 2008; Ahmad, 2015; Jabbour & Jabbour, 2016).

Among the possible negative outcomes it can be referred to not paying attention to proper stimulation of individuals and or even negatively reinforcing them which will interrupt green performance and therefore an outcome paradoxical to what was expected would be resulted. Therefore there is a need to pay significant attention to these issues (Renwick et al., 2012).

The purpose of the present study was to execute a systematic review on management of human resources in the east and west through investigating the scientific studies conducted in the field of GHRM during the past ten years. By doing so, not only new material is added to the literature of the subject matter, but also through the reviewing of the studies conducted in the past decade, the differences and similarities between the findings of eastern and western researchers would

be stressed out. In addition a comparison can be made between the east and the west in terms of number of studies related to GHRM, and both the mutual and different gaps of western and eastern studies would be specified as well. Therefore, it seems necessary for the purposes of improvement of HRM and sustainable development in organizations to review and classify the previously conducted studies in the east and west, and to investigate the outcomes and functions of interest, as well as scrutinizing the existing gaps in the domain of GHRM which have been cited in table 3. Hence considering the fact that the subject of GHRM is a roughly new one and that there are no previously conducted systematic reviews on the functions, outcomes, and gaps of scientific studies related to GHRM, it has been tries to review the GHRM related articles published during the past ten years in order to systematically review the literature of the subject matter, and to provide the result of the present study to researchers interested in this domain as well as students and managers who have a tendency towards propagation of green activities in their organizations, so that our part in the spread of green culture and preservation of the environment is delivered, and also managers are enabled to implement GHRM in proportion to the conditions of their organizations. A summary of the several definitions proposed for green human resource management is given in Figure 1.

Tang et al., (2018)	He considers GHRM as a scale for credibility and development which results in employees' green behavior and awareness through adoption of a green perspective and making use of green communication channels.
Seyed Javadin et al., (2017)	They consider GHRM as an approach for sustainable investment and development and state that through focusing of its human capital and environment management plans, organizations obtain both their economic and environmental goals.
Jabbour & Jabbour (2016)	They believe that the functions and measures of GHRM are highly tangible and cause the green issues to be considered for in employees' daily tasks, and also have positive effects on employees' lives and performances.
Renwick et al., (2016)	GHRM improves the credibility of organizations and causes the labor force to show more willingness to stay in their organizations, and also causes better labor forces to be willing towards getting recruited by green corporations
Ahmad (2015)	GHRM is responsible for creation of awareness, informing, and establishment of interactions between the employees, especially regarding environmental issues. In addition, through green policy making it orients the employees towards fulfilling their green duties.
Mohd Yusef (2015)	He believes that GHRM is a complex set of the following counts: A- Electronic GHRM: 1- electronic recruitment, 2-e-mails, 3- electronic training, 4- electronic users, and 5- electronic job description; B- Flexible Work including: 1- part-time job, and 2- working at home;

	C- Social responsibility including: 1- recycling, 2- social responsibilities, and 3- green cafeteria; D- Green Policies including: 1- security, well-being, consideration for the environment, and 2- green organizational policies (ISO 14001-2); E- Additional care programs including: Mothers' rooms and parking lots, and 2- Childcare room.
Opatha & Arul Rajah (2014)	By GHRM it is referred to the entire activities involve with development, execution, and maintenance of a system aiming to keep green employees in the organization. Transforming regular employees into green employees is the duty of HRM and its aim is to achieve environmental goals and ultimately to achieve a significant share in environmental sustainability which points to methods, policies, and systems that benefit individuals, societies, environments, and workplaces.
Dutta (2012)	GHRM is comprised of two main elements namely as the eco-friendly functions of HR, and safekeeping of knowledge capital. He states that GHRM is a resolution that helps with creation of green labor forces who are able to both perceive and appreciate green culture in their organizations. Such a green innovation can apply its green goals to the entire process of HRM in the contexts of recruitment, selection, training, compensation, growth and development, and retention of HR

**Figure 1** - Definitions of GHRM

### Functions of GHRM

**Green Recruitment:** HR can prove its commitment to greenness through virtual screening of applicants instead of holding face-to-face interviews. The range of this effort can include simple methods such as using Skype for initial screening interviews, and even more complex electronic methods for the purposes of undertaking group interviews and expansive virtual business exhibitions (Rokos et al., 2012).

**Green Training and Development:** HR must guarantee that preparatory programs in the early stages of recruitment will include information regarding organization's green goals and methods as well as the manner of employees' participation in voluntary and environment improvement programs (Bauer et al., 2012).

**Management of Green Performance:** one of the initial important steps that can be taken by the HR towards the development of a comprehensive green approach is persuading managers towards adding environment related goals to the job descriptions and job goals of employees. for example, the Sherwin-William Corporation guarantees that its' most important green criteria such as energy consumption, waste production, and recycling are stated in job descriptions and

will be considered as employees' special tasks (e.g. following up, reporting, certificate granting, site evaluation, research, and education) (Dubois, 2012).

**Green Rewarding and Compensation:** development of effective financial incentives can be challenging through fair and proper evaluation of performance and behavior (Fernandez et al., 2003). If the green reward and compensation systems are adjusted with the process of HRM, green culture can be amplified. Through combining the elements of green management in the reward system, managers are able to propagate green behaviors among the employees (Ahmad, 2015).

**Green Employee Motivation:** regarding green employee motivation previous studies have shown that negative reinforcement yields inverse results for green performance and even in some cases results in occurrence of environmental problems by the individual. Development of the reward system is highly important for stimulation towards execution of green functions. In this regard, certain moral or material rewards would be considered in the reward system in case of achievement of predetermined green goals (Renwick et al., 2012).

**Green Participation and Employment Relationships:** the management must try to establish a workplace in which the employees are able to freely express their opinions regarding green issues because it's them who are really in charge of realization of ethical guidelines in the routine life of the organization (Collier & Esteban, 2007). A study on 214 British organizations shows that managers' support and employees' possibility of participation result in interest in the environment as the most prevalent encouragement methods (Ahmad, 2015).

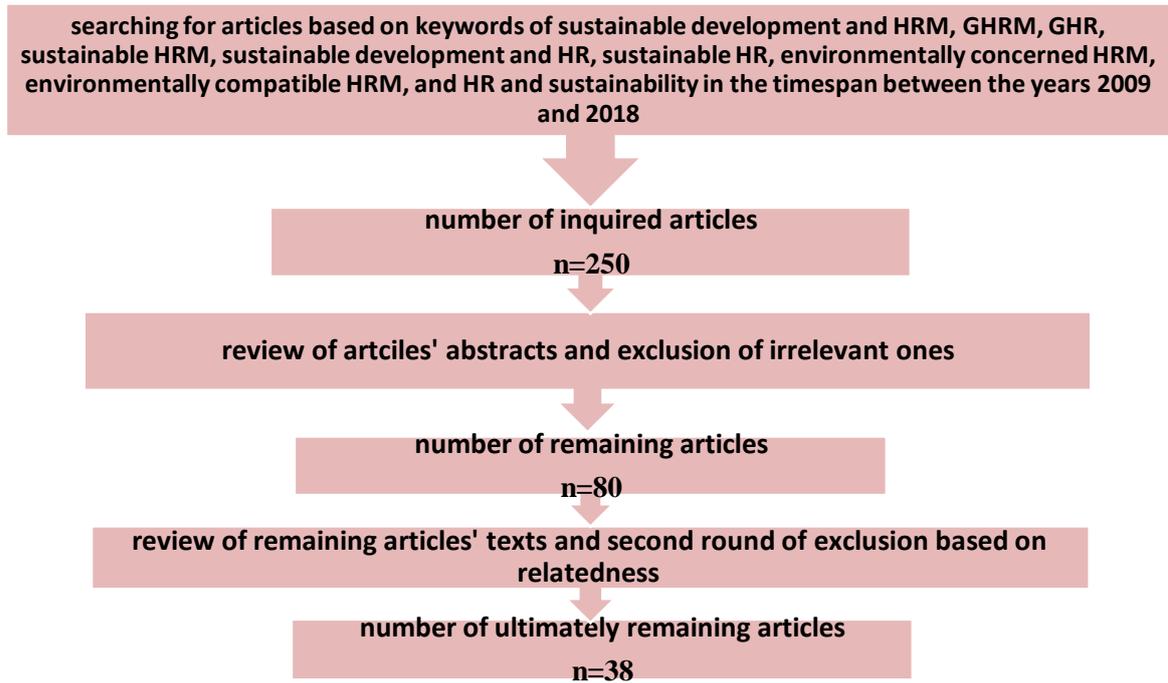
Job Analysis	Considering for environmental dimensions as a duty in job description Considering green competency as a special component in conditions for recruitment
Recruitment	Considering for environmental criteria in recruitment notices Relating to the concerns of employees regarding environmental issues
Selection	Selection of applicants who are well aware of green issues in their jobs Selection of applicants who in their personal lives behave as green consumers
Socialization	Familiarizing the new employees with organization's green activities Development for socialization programs related to green citizenship behavior for current employees
Training and performance evaluation	Proper statement of knowledge and skill regarding green roles through the training programs designed in this regard Consideration for separate components for the purpose of progression in the context of greenness through reviewing the performance feedbacks
Reward management	Providing financial incentives for employees who have undertaken their green tasks in their jobs well

	Granting non-financial rewards such as venerating and introducing the green employees
Discipline management	Compilation and publication of rules related to greenness Development of an advanced disciplinary system for punishment of employees who violate green rules

**Figure 2 - Green HRM methods**

### Methods

According to the goals, the present study is based on systematic reviewing (Tranfield et al., 2003). First of all, we have searched in credible data bases and conferences for online published articles with keywords including sustainable development and HRM, GHRM, GHR, sustainable HRM, sustainable development and HR, sustainable HR, environmentally concerned HRM, environmentally compatible HRM, and HR and sustainability in the timespan between the years 2009 and 2018. The articles were searched for in data bases including Sid, MagIran, Noor-Mags, Civilica, Emerald, Springer link, Wiley Online Library, Taylor and Francis Online (Rout-ledge), and Elsevier. Considering the restriction on access to entire articles for researchers in Iran, 250 articles were selected. Afterwards, the abstracts of the articles were reviewed and once the nonrelated articles were excluded, 80 articles remained and their full texts were reviewed and again another round of exclusion based on relatedness was performed. Finally, 38 remaining articles were subjected to final investigation the protocol for which is shown in the following (Figure 3). These 38 articles have been classified based on author(s), publish date, country, journal title, article title, methods, functions, outcomes, and gaps. The data analysis and preparation stages are depicted in tables 3, 4, and 5, as well as diagrams 2, 3, 4, and 5. According to the former and latter, the data yielding from the articles were compared and conclusions were made. In the present research, the countries located in the continent of Asia are referred to as the east (eastern countries), whereas the countries located in the continents of America and Europe are referred to as the west (western countries).



**Figure 3** - the protocol of work process

The first step was to search for articles based on the mentioned keywords in the mentioned data bases during the timespan between 2009 and 2018. This initial search yielded 250 articles. Afterwards, the abstracts of the inquired articles were reviewed and once the irrelevant articles were excluded, 80 articles remained and their full texts were reviewed and then another round of exclusion based on relatedness was performed. Finally, 38 remaining articles were subjected to final investigation.

## Results

Once the full texts of the selected articles were reviewed, we categorized them based on authors, publish dates, countries, journal titles, and article titles (Figure 4) and we have also specified the methods of each article in addition to the functions, outcomes, and gaps of GHRM they have focused on. This way we have compared the previously conducted studies and reviewed the existing gaps in the east and the west. In addition, Figure 5 presents an investigation of the articles under investigation based on the functions of GHRM. In Figure 5 we have presented the encoding of functions of GHRM based on terms related to the functions of HRM stated in the texts of investigated articles.

NO	Researcher/Date/Country	Journal Title	Article Title	
1	Patil & Sarode/2018/India	International Journal of Creative Research Thoughts (IJCRT)	Green Human Resource Management: Role of HR Managers To Achieve Sustainability	<p>*Method: systematic review</p> <p>*Function: green recruitment, green performance management, green training and development, green compensation and participation</p> <p>*Outcome: prevention of environmental pollution</p>
2	Tang et al/2018/China	Asia Pacific Journal of Human Resources	Green human resource management practices: scale development and validity	<p>*Method: exploratory analysis (library-questionnaire study)</p> <p>*Function: green selection and recruitment, green training, green performance management, green salary system, green participation</p> <p>*Outcome: authenticating a tool for measurement of GHRM and development of a local model</p> <p>*Gap: lack of cross-cultural models between the east and west; inadequate attention to the issue of leadership in GHRM</p>
3	Tavakoli et al /2018/Iran	Journal of Research in Human Resources Management	Development of a structural model for GHRM based on HRM systems	<p>*Method: descriptive-survey; library studies and questionnaires</p> <p>*Function: retention, compensation, performance management, HR training and development, employees' relations</p> <p>*Outcomes: 1- the HRM system positively impacts GHR through the variables of compensation, education and development, retention, employees; relations and performance evaluation. 2- Dynamic retention of GHR is the result of providing the necessary contexts in management. 3- The components of compensation will have more effects on employees' behaviors and motivation as long as green behaviors are institutionalized. 4- facilitation of the processes of green management through training and development of HR. 5- performance management results in improved quality of advancement of plans and the extent of realization of green goals, and that through providing suitable feedbacks the employees will adjust and reform their actions</p> <p>*Gap: inadequacy of number of studies regarding GHRM and green management in Iran; lack of codified programs in Iranian organizations regarding green management and GHRM; existence of green programs based on legal requirements of titled organizations in the domain of environment</p>
4	Hassanpoor et al/2017/Iran	Journal of Environmental Education & Sustainable Development	Identification and prioritization of employees' green educational needs using the ANP method	<p>*Method: descriptive-survey</p> <p>*Function: retention, compensation, performance management</p> <p>*Outcome: among the 8 important educational needs, the sustainable development, ISO 14001, and green procurement have been identified as the most important needs.</p> <p>*Gap: the necessity for authorities' more attention to green education, updating the needs and training courses, as well as holding green training courses in coordination with international standards</p>

5	Rajabpoor /2017/Iran	Journal of Research in Human Resources Management	The effect of HRM on development of environmental management	<p>*Method: field, survey</p> <p>*Function: recruitment, training and development, performance evaluation, compensation, benefits and rewards, employees' relations</p> <p>*Outcome: 1- functions of HR have positive effects on adoption of environmental management; 2- forming the behavior and stability of the social system of organizations is effective on the factors involved with environmental standards; 3- the elements of training course are effective on managers' attitude towards environmental culture-building</p> <p>*Gap: inadequacy of studies in Iran</p>
6	Mohamm adnejad et al/2017/Iran	Journal of public administration	Developing a framework for GHRM	<p>*Method: qualitative; library studies and interviews.</p> <p>*Function: green attraction, green performance evaluation, green development, and green retention.</p> <p>*Outcome: individual, organizational and ultra-organizational outcomes, GHRM in personal , organizational, and social levels includes process, strategy, support, and green culture whereas green process is defined as employees' green lives which lead to formation of green culture</p> <p>*Gap: more emphasis is put on GHRM in other countries, we are still in need of more studies regarding GHRM contexts and outcomes, and organizational aspect requires more support (the managers and stakeholders are required to pay more attention to supplication of GHRM budgets).</p>
7	Seyed Javadin et al/2017/Iran	Journal of management Systems	GHRM: an investment and sustainable development approach	<p>*Method: qualitative; content analysis</p> <p>*Function: green selection and recruitment, green training, reward system.</p> <p>*Outcome: identification and development of characteristics of GHRM.</p> <p>*Gap: lack of empirical studies in Iran</p>
8	Abbasi et al/2016/Iran	Third International Conference on Green Economics	Role-playing of state organziations in green efficiency in the view of GHRM	<p>*Method: Review Study</p> <p>*Function: green analysis, green selection and recruitment, green socialization , green education, green performance evaluation, green reward management, green discipline management, green work relationships</p> <p>*Outcome: 1- better understanding of the position of GHRM in state organizations; 2- paying attention to selection, recruitment, training, performance management, and establishment of fit reward/punishment systems that give individuals incentives to preserve the environment and reduce undesirable behaviors, as well as establishment of a suitable feedback system</p>
9	Mishra/2017/India	International Journal of Organizational Analysis (Emerald)	Green human resource Management A framework for sustainable organizational development in an emerging economy	<p>*Method: combined (library studies, interviews with HR experts in paint, automobile and electronics production corporations.</p> <p>*Function: green selection and recruitment, green training, green performance evaluation, green participation and compensation</p> <p>*Outcome: 1-green strategies such as GHRM and green social responsibility result in improved competitive advantage, innovation, reduced expenses, establishment of positive credibility, and improvement of brand value, improved sales, absorption of talented individuals, creativity, and retention of employees</p>

				*Gap: lack of consistence between managers' behaviors and the organization's policies, and green issues; most of the studies have been conducted in developed countries (managers' lack of support for green policies and existence of overwhelming hierarchies)
10	Masri & Jaroon/2017/Palestine	Journal of Cleaner Production (Elsevier)	Assessing green human resources management practices in Palestinian manufacturing context: An empirical study	<p>*Method: Experimental; Exploratory</p> <p>*Function: green selection and recruitment, green training and development, green management and performance evaluation, green rewarding and compensation, green participation and empowerment, green management of organizational culture.</p> <p>*Outcome: 1- existence of a mutual relationship between environment management and HRM in Palestinian manufacturing organizations; 2- positive relationships between the six functions of GHRM and preservation of environment; 3- the function of green selection and recruitment is cheaper than the function of green training and development; 4- most applicable function: green selection and recruitment; the least applicable function: green training and development; 5- the size of the manufacturing organization has no impact on achievement of environmental sustainability; 6- green management of organizational culture, green reward system, and green training and development are usually applicable in larger organizations rather than smaller ones</p> <p>*Gap: the most applicable function of GHRM in Mexican manufacturing organizations was found out to be development and training whereas for Palestinian manufacturing organizations it was the least applicable function; inadequacy of GHRM related studies in developing countries</p>
11	Paro Ragas et al/2017/Philippines	International Journal of Productivity and Performance Management (Emerald)	Green lifestyle moderates GHRM's impact to job performance	<p>*Method: modeling; exploratory factor analysis</p> <p>*Outcome: 1- execution of GHRM methods has positive effects on employees' lifestyles and job performance and also improves their satisfaction and loyalty and enhances organizational efficiency as well; 2- organizations can both pay attention to the environment and keep their employees' performance at high levels; 3- execution of GHRM methods at the workplace institutionalizes GHRM in the employees and makes them stick to these methods at home as well.</p> <p>*Gap: lack of attention to the factor of rewarding</p>
12	Gholami et al/2016/Malaysia	Journal of Cleaner Production (Elsevier)	State-of-the-art Green HRM System: sustainability in the sports center in Malaysia using a multi-methods approach and opportunities for future research	<p>*Method: combined</p> <p>*Function: performance management, participation and empowerment, payment and rewarding system, attraction and recruitment, training and development</p> <p>*Outcome: 1- there is a significant relationship between the above mentioned seven factors for the purpose of execution of GHRM; 2- there is a more robust correlation between performance management, empowerment, and participation of players; 3- the GHRM system plays a significant role in execution of green strategy which in turn affects employees' welfare and long-term performance.</p> <p>*Gap: lack of comprehensive studies in Malaysia</p>

13	Jabbour & Jabbour/2016/Brazil	Journal of Cleaner Production (Elsevier)	Green Human Resource Management and Green Supply Chain Management: linking two emerging agendas	<p>*Method: Review study</p> <p>*Outcome: 1- reduction of the barriers of execution of supply chain management has resulted in the success of HRM and also the main barriers of HRM are effective on the execution of GSCM; 2- Flattening of the barriers amplifies the relationship between GHRM and GSCM and results in improved supply chain sustainability; 3- GSCM has a positive effect on corporate performance and investments in development of HR and social responsibility; 4- The connection between GHRM and GSCM results in improved sustainability of corporations and supply chains and enhances the achievement of sustainable development</p> <p>*Gap: significant delay in combination of GHRM and GSCM in today's world is due to an even larger gap in combination of HRM and supply chain management; lack of qualitative and quantitative investigations of the relationship between GHRM and GSCM</p>
14	Jones & Wong/2016/China	Library Management (Emerald)	More than just a green building – developing green strategies at the Chinese University of Hong Kong Library	<p>*Method: Case study</p> <p>*Outcome: 1- Propagation of green training in the Hong Kong University; 2- the libraries are in need of precise information regarding energy consumption of production and storage of their published collections and electronic sources; 3- technology plays a positive role in energy consumption in libraries; 4- requiring high levels of supervision regarding using technologies; 5- culture building and reduction of power and paper consumption</p> <p>*Gap: lack of information for long-term, comparison; inadequacy of awareness about and commitment to sustainability issues in Hong Kong</p>
15	O'Donohue & Toruğsa/2016/Australia	The International Journal of Human Resource Management (Routledge)	The moderating effect of 'Green' HRM on the association between proactive environmental management and financial performance in small firms	<p>*Method: Research paper</p> <p>*Outcome: 1- GHRM continually moderates the relationship between financial performance and environmental management; 2- environmental management has a positive and direct relationship with financial performance in the studies small corporations; 3- higher levels of GHRM improve the financial benefits of environmental management; 4- GHRM is followed by added value; 5- reduction of small corporations' concerns regarding facing with state and public demands regarding environmental sustainability</p> <p>*Gap: lack of hiring of expert HR managers in small sized corporations in Australia; the generalizability of the result obtained for larger corps to smaller corps must be evaluated; more investigation needs to be done on the awareness of senior managers regarding effects of GHRM on financial performance of corporations that are involved with more green activities than other corporations</p>
16	Guerci & Carollo/2016/Italy	The International Journal of Human Resource Management (Routledge)	A paradox view on green human resource management: insights from the Italian context	<p>*Method: qualitative, with an interpretative approach</p> <p>*Function: recruitment, selection, training, performance management, incentives and compensation, participation, job design</p> <p>*Paradoxes: 1- green performance against social and economic performance; 2- Open vs. Closed GHRM systems; 3- focus of GHRM system on daily work against symbolic events; 4- collective GHRM measures against individual measures; 5- participation of the staff</p>

				<p>based on value and standard against ignoring value and standard; 6- top-down instead of bottom-up evolution process; 7- centralized against decentralized GHRM system; 8- personal credibility against professional credibility (the traditional role of HRM against managers' participation and support for green activities)</p> <p>*Outcome: 1- young people are more interested in green issues; 2- green communication has a positive effect on applicants; 3- being required to have green knowledge, skill, and ability during recruitment, selection, and training; 4- application of green training in all sectors; 5- advantageousness of more investment in recruitment rather than training; 6- financial and non-financial incentives have positive effects on employees' green actions; 7- green performance management has a positive effect on reduction of costs; 8- green participation programs have positive effects on improvement of employees' green participation; 9- lack of attention to job design and description</p>
17	Haddock & Millar/2016/America	The International Journal of Human Resource Management (Routledge)	Green human resource management: a comparative qualitative case study of a United States multinational corporation	<p>*Method: Research paper (case study)</p> <p>*Outcome: 1- existence of active managers in the context of environment; 2- wide participation of individuals in green issues; 3- commitment to the environment; 4- existence of differences in environmental position and coordination and, HR performance in the context of sustainability of environment; 5- difference in GHRM approaches is due to strategic, performance-related, and individual dimensions; 6- green functions are the key elements of corporate green performance; 7- corporate green performance is effective on the costumers and propagation of green citizenship behavior as well.</p> <p>*Gap: lack of international comparative studies regarding GHRM; lack of attention to strategic levels regarding environment sustainability; ignoring the strategic role of HR managers in green issues; limitation of studies to Europe; review of ideas and views in form of vertical hierarchies and lack of extraction of views of people who had had strategic, managerial, and operational roles.</p>
18	Subramanian et al/2016/China	The International Journal of Human Resource Management (Routledge)	Green competence framework: evidence from China	<p>*Method: Research paper (quantitative)</p> <p>*Function: green selection and recruitment, green development and training, green performance evaluation</p> <p>*Outcome: 1- the considered green competencies have a positive relationship with the green behaviors and competencies of the staff; 2- advantageousness of characteristics of green competencies such as environmental knowledge, green procurement attitude, and selection of green employees have been approved; 3- natural and considered competencies are of different effects for different individuals; 4- personal, behavioral, skill-related, knowledge-related, and attitudinal characteristics are effective on professional performance and competencies as well.</p> <p>*Gap: lack of a systematic approach towards improvement of perceptions and development of green competencies; the need for green culture (green</p>

				leadership, participation, proper communications, staff independence); shortage of GHRM studies in China
19	Renwick et al/2016/Britain	The International Journal of Human Resource Management (Routledge)	Contemporary developments in Green (environmental) HRM scholarship	<p>*Method: Theme analysis</p> <p>*Function: green selection and recruitment; training and development; participation; motivation; performance evaluation, leadership, communications, compensation</p> <p>*Outcome: 1- asking environmentally concerned questions during recruitment and ultimately attraction of those who have green tendencies, and existence of moral leaders towards improvement of recruitment efficiency; 2- having a green statement for establishment of organizational commitment and designing green strategies and goals that improve employees' tendency for having a green performance; 3- if the organization cares about environmental issues, HR managers would consider for it in performance planning, training of required skills, performance evaluation, and rewarding. Therefore green culture propagates through the organization</p> <p>*Gap: instead of the generalities, more focus must be converged on the details of GHRM; more attention must be paid to issues such as climatic changes, expenses of professional employees, and individuals personal responsibilities and domestic lives.</p>
20	Tariq et al/2016/Pakistan	Qual Quant (Springer)	Green employee empowerment: a systematic Literature review on state-of-art in green human resource management	<p>*Method: systematic review</p> <p>*Outcome: 1- empowered employees are more motivated for execution of green duties; 2- motivated Green HR has significant effects on improvement of efficiency and social profitability of the organization</p> <p>*Gap: ignoring the role of GHRM in creation of competitive advantage in developing countries</p>
21	Yi Yong & Mohd Yusoff/2016/Malaysia	Industrial and Commercial Training (Emerald)	Studying the Influence of Strategic Human Resource Competencies on the Adoption of Green Human Resource Management Practices	<p>*Method: quantitative</p> <p>*Outcome: investigation of the relationship between six strategic HR skills and GHRM methods; 2- the skills of HR experts have positive effects on the acceptance of GHRM methods; 3- the strategic active and change hero were the only ones involved with green methods</p> <p>*Gap: shortage of studies on combination of environmental perspectives of HRM and GHRM; the gap between the current literature and new concepts; more attention to strategic HR skills towards green methods and building green structures</p>
22	Arz Bhutto & Aurangzeb/2016/Pakistan	European Journal of Business and Management (IISTE)	Effects of Green Human Resources Management on Firm Performance: An Empirical Study on Pakistani Firms	<p>*Method: review study; closed questionnaires</p> <p>*Function: green recruitment, green training and development, green learning</p> <p>*Outcome: green recruitment, training, development, and learning improve the corporation's green performance; employees' green behavior in their workplace leads in success of the organization in achievement of its green goals and policies; 3- most employees prefer green organizations; 4- green activities are accompanied by commitment and job satisfaction</p>

23	Ahmad/2015/Arabia	Cogent Business & Management	Green Human Resource Management: Policies and practices	<p>*Method: Systematic review</p> <p>*Function: green selection and recruitment, green performance management, green development and training; green compensation; green working relationships; Green innovations</p> <p>*Outcome: GHR measures result in increased efficiency, reduced costs, improved working relationships, developed efficiency and profitability, and improved commitment and job satisfaction; 2- HR plays an important role in creation of incentive for the employees and facilitation of the conditions for execution of green measures</p> <p>*Gap: the gap between academic training and practices; the need for education of green management; gap between expert GHRM measures and the suggestions proposed by studies; the need for more attention to recruitment of individuals with green views</p>
24	Mehta & Chugan/2015/India	Universal Journal of Industrial and Business Management	Green HRM in Pursuit of Environmentally Sustainable Business	<p>*Method: Review study</p> <p>*Function: selection and recruitment, performance management system, training and development, participation, compensation</p> <p>*Outcome: 1- green programs result in propagation of social responsibility among the employees and helps with the retention of talented individuals; 2- providing the staff with the contexts to participate in problem solving and green decision making in addition to innovations; 3- lower rates of staff shift and more tendency to stay in green corporations compared to non-green ones; 4- creation of competitive advantage for corporations in addition to improved brand credibility; 5- improved sales and reduced costs</p>
25	Mohd Yusoff et al/2015/Malaysia	International Journal of Business Management and Economic Research(IJBMER)	Conceptualization of Green Human Resource Management: An Exploratory Study from Malaysian-based Multinational Companies	<p>*Method: qualitative</p> <p>*Function: recruitment, training, performance evaluation, motivation, compensation</p> <p>*Outcome: 1- most of the corporations paid high attention to the 5 concepts of GHRM; 2- only one corporation had evaluated the effect of GHRM on the environment</p> <p>*Gap: lagging of the academic studies in the context of GHRM; existence of more studies in western countries</p>
26	Zhao & Zou/2015/China	International Journal of Sustainability in Higher Education (Emerald)	Green university initiatives in China: a case of Tsinghua University	<p>*Method: case study</p> <p>*Outcome: 1- the innovations of the green university show its strategy with the aim of realization of higher responsibility in promotion of a sustainable society; 2- improved awareness regarding sustainable development among the students, professors, and staff</p> <p>*Gap: green innovation must be investigated in terms of the three dimensions of social, economic, and environmental; however in China it is only studies in terms of environmental dimension; inadequate attention to the role of bureaucracy and existence of overwhelming hierarchies; the need to pay more attention to the role of green training</p>

27	Scully-Russ/2015/America	Advances in Developing Human Resources (Sage)	The Contours of Green Human Resource Development	<p>*Method: review study, empirical</p> <p>*Outcome: 1- provision of a conceptual framework for perception of the role of development of HR in green activities and its effects on solvation of environmental challenges</p> <p>*Gap: limited study regarding the effect of HR participation in environmental programs; greening is not merely restricted to commercial organizations; it rather covers the whole society.</p>
28	Cheema et al/2015/Pakistan	Journal of Business Studies Quarterly (JBSQ)	Green Human Resource Practices: Implementations and Hurdles of SMEs in Pakistan	<p>*Method: quantitative</p> <p>*Function: recruitment, training and development, performance management</p> <p>*Outcome: 1- there is a positive relationship between GHR measures and performance of the staff; 2- there is a positive relationship between training and development of employees' performance; 4- GHRM measures are affected by demographic features such as age, gender, and experience; 5- Pakistani small sized developing corporations can benefit from the advantages of paying more attention to staff's performance; 6- in order to execute green approaches in organizations we need to establish green skills and capabilities for green management; 7- green capabilities of the HR result in development and innovation; 8- GHRM is effective on income, profitability, learning, and participation in green approaches</p> <p>*Gap: lack of investigation of GHR measures in different organizations with different cultures; inadequate attention to employees' resistance against changes required for GHRM; inadequate and improper familiarization with the advantages of GHRM</p>
29	Opatha & Arulrajah/2014/Sri Lanka	International Business Research	Green Human Resource Management: Simplified General Reflections	<p>*Method: systematic review</p> <p>*Function: job analysis, selection and recruitment, socialization, training, performance evaluation, reward management, discipline management</p> <p>*Outcome: green attitude and competency result in green behaviors and results. This leads to green organizational performance and ultimately leads to social responsibility</p> <p>*Gap: shortage of GHRM studies in Sri Lanka</p>
30	Milliman/2013/America	Environmental Quality Management (Wiley)	Leading-Edge Green Human Resource Practices: Vital Components to Advancing Environmental Sustainability	<p>*Method: Review study</p> <p>*Function: selection and recruitment, training and development, working teams, performance management, rewarding, socialization</p> <p>*Outcome: 1- HR can through creation of energy and training of the required skills help green employees with propagation of voluntary green behaviors; 2- for having high levels of sustainability managers are ought to cooperate with beneficiaries including the customers, suppliers, and investors; 3- green activities are followed by both financial and environmental resources for organizations; 4- the knowledge of green branding is advantageous for organizations in terms of attraction of more talented people; 5- GHR methods must fit organizational culture, strategies, and resources</p>
31	Marques Pereira et	International Journal of Sustainability in	Greening the campus of a Brazilian	<p>*Method: case study</p> <p>*Outcome: 1- existence of relationship between green management measures and greening the organizational</p>

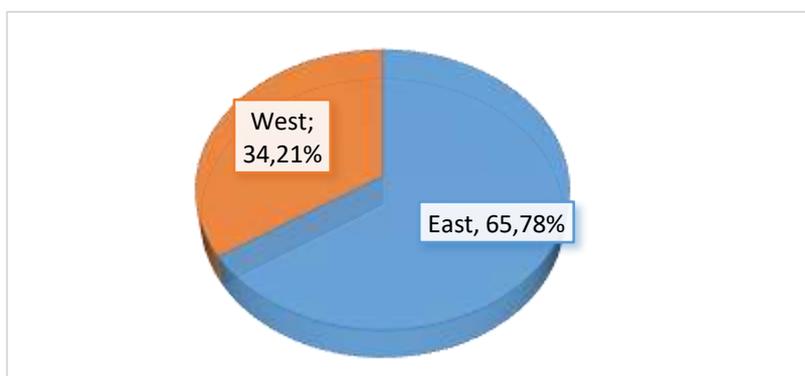
	al/2013/Brazil	Higher Education (Emerald)	university: cultural challenges	<p>culture; 2- existence of academic limitations towards green activities such as considering professors' performance index as only a function of scientific production; 3- inadequate internal communications and low participation of units in green environments; 4- professors are more tending to pay attention to green issues compared to the staff; 5- creation of green culture is much easier in students; 6- identification of barriers of culture change and green methods</p> <p>*Gap: inadequacy of the literature of the subject matter; lack of attention to hierarchies and overwhelming bureaucracy</p>
32	Wagner/2013/Germany	J Bus Ethics (Springer)	Green Human Resource Benefits: Do they Matter as Determinants of Environmental Management System Implementation?	<p>*Method: research study</p> <p>*Function: recruitment, retention</p> <p>*Outcome: 1- extensive execution of environmental management system has a direct and positive relationship with job satisfaction and employee retention/recruitment; 2- changing the advantages of job satisfaction is positively related to changing the level of execution of the EM system; 3- corporation size and number of staff are effective on execution of EM system; 4- advantages of job satisfaction are considered as effective indices of execution of EM systems rather than employee retention/recruitment and structural factors such as profitability; 5- increasing the level of execution of the EM system improves economic advantages in the context of HR; 6- paying attention to social responsibility improves job satisfaction and motivation; 7- possibility of achievement of tangible benefits through more creativity and entrepreneurship</p> <p>*Gap: most of the studies have been conducted in America and Europe; a gap between the existing knowledge and development of initial studies</p>
33	Renwick et al/2012/Britain	International Journal of Management Reviews (IJMR)	Green Human Resource Management: A Review and Research Agenda	<p>*Method: review study, case study, based on corporate reports and statistical findings</p> <p>*Function: attraction and development of talented labor force; green motivation; green opportunities and green participation</p> <p>*Outcome: 1- comprehension of the effectiveness of GHRM methods on employees' motivation for participation in green activities and the manners by which organizations are able to develop their green activities and provide the staff with opportunities to participate in green activities; organizations are not applying expansive ranges of GHRM measures which in turn diminishes their green efficiency; 3- green corporations have been more focused on training; 4 – reduction of waste and pollution; 5- optimal use of resources and job satisfaction</p> <p>*Gap: the need for development of theoretical basics regarding green leadership with emphasis on managerial values as well as personality and other potential factors; inadequate awareness about how some corporations are able to absorb people who are willing to have more green activities with lower incomes; more research needs to be done on the effectiveness of EM on selection criteria and process as well as manner of green motivation and green participation, as well as the</p>

				effectiveness of EM on corporations' financial aspects; gaps between theoretical texts and green activists; inadequacy of studies regarding the effects of EM on the economic development of eastern countries.
34	Dubois & Dubois/2012/America	Human Resource Management (Wiley)	Strategic HRM as Social design for environmental sustainability in organization	*Method: review study *Function: selection and recruitment, training and development, performance management and evaluation, rewarding, participation *Outcome: 1- the interactive role of functions of HRM in sustainability of the environment; 2- paying attention to the horizontal and vertical alignment of HRM activities; 3- necessity of the process of organizational change in order to create sustainability; 4- significant effects of organizational strategy on responsiveness towards green needs of HRM; 5- the important role of green leadership and green training in creation of changes; 6- managers' roles in implementation of green strategies
35	Zahari & Thurasy/2012/Malaysia	International Conference on Innovation, Management and Technology Research (ICIMTR)	Linking Green Product Innovation, Technological and Human Resource capabilities: A conceptual model	*Method: library study; questionnaires *Function: training, motivation, team work participation, leadership *Outcome: 1- technological capabilities of HR improve innovation in green products; 2- green innovation results in reduced air pollution, reduced resource utilization and reduced consumption of harmful material *Gap: lack of adequate information regarding organizational green innovation
36	Jackson et al/2011/USA, UK, and Brazil	Zeitschrift für Personalforschung	State-of-the-art and future directions for green human resource management: introduction to the special issue	*Method: review study *Function: recruitment, performance management, training and development, rewarding and compensation *Outcome: 1- there is a relationship between the functions of HRM and EM; 2- after the interaction of SHRM and EM, corporations' market value will improve; 3- green HRM measures must fit the corporation's green strategies and policies; 4- green managers must consider for employees' welfare; 5- interaction between SHRM and EM results in attraction of stakeholders, employees, customers, and forums; 6- multinational corporations pay more attention to GHRM compared to other corporations; 7- green views must be visible in job titles, marketing strategies, investment decisions, audit methods, product design, and production process *Gap: insufficiency of the number of HRM researchers interested in green issues and lac of comprehensiveness of the studies
37	Jabbour et al/2012/Brazil	The International Journal of Human Resource Management (Routledge)	Contributions of HRM throughout the stages of environmental management: methodological triangulation applied to companies in Brazil	*Method: combined (questionnaires and case study) *Function: job analysis and description, selection, recruitment, training, performance evaluation, compensation *Outcome: 1- results of statistical analysis cover the empirical study; 2- evolution of the EM is dependent upon the functional and competitive aspects of HRM; 3- internal and external integrities are of the most robust connections with the functional aspects of HRM; 4- evaluation of the environmental performance of the staff and investigation of the public views and reduction of the operational costs of corporations have shown that

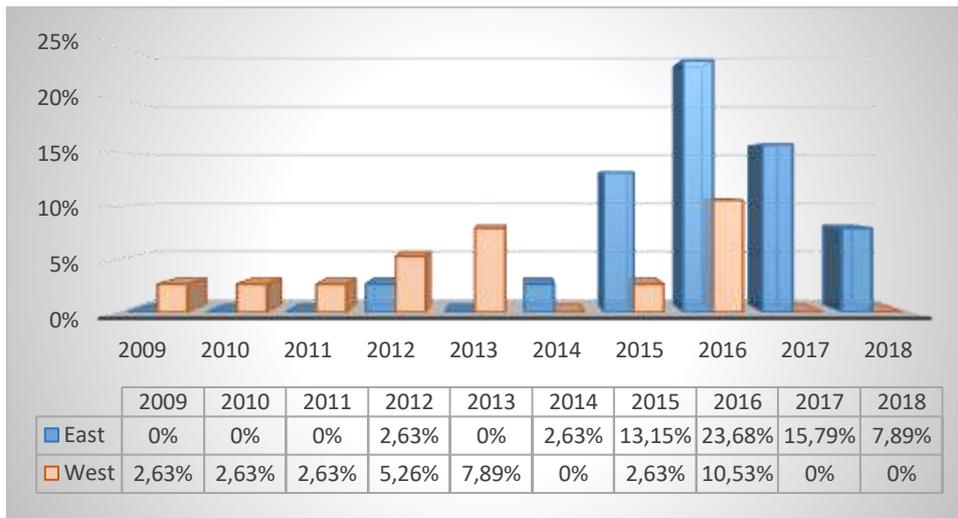
				improved environmental activities is in a relationship with looking at training as an investment; 6-specialization of the functions of EM is correlated with the competitive aspects, especially cultural management. In addition team work is highly important. *Gap: corporations have already adopted EM but have not yet coordinated it with the functional aspects of HRM and hence are deprived of its competitive advantage. This is why they have not been able to show the relationship between achievement of competitive advantage of EM and HRM aspects.
38	Ehnert/2009/Germany	European J. International Management	Sustainability and human resource management: reasoning and applications on corporate websites	*Method: content analysis *Outcome: 1- conceptual statement of the relationship between sustainability and HRM; 2- statement of the manner of application of sustainability concepts in HRM; 3- comparison of exploratory findings with the theoretical concepts of sustainability and development of the definitions for future studies *Gap: lack of real investigation of corporations; lack of comparison between sustainable and non-sustainable corporations; change of sustainability in time and the need to point it out; the need for long-term study of corporations regarding the relationship between sustainability and HRM; investigation of the challenges between social responsibility and economic rationality; the challenge between short-term profitability and long-term sustainable development; challenge between the effective HR activities that do not necessarily improve the corporation's ability for retention of HR

**Figure 4** - A summary of previously conducted studies on GHRM during the past ten years

Figure 5 shows the number of studies conducted in the east and west and Figure 5 compares these numbers in respect of dates. These diagrams show that although the main pillars of GHRM studies are in west, but during the past few years the tendency towards GHRM has been higher in the west compared to the east.



**Figure 5**, amount of studies conducted in the east and west between 2009 and 2018



**Figure 6** - comparison of the average number for published articles in the east and west regarding GHRM

Author	Year	Functions								
		Retention	Rewarding And Compensation	Performance Management	Training And Development	Socialization	Selection And Recruitment	Job Analysis	Participation And Working Relationships	Discipline Management
Tavakoli et al	2018	*	*	*	*	-	-	-	*	-
Patil & Sarode	2018	-	*	*	*	-	*	-	*	-
Tang et al	2018	-	*	*	*	-	*	-	*	-
Hassanpoor et al	2017	-	-	-	-	-	-	-	-	-
Rajabpoor	2017	-	*	*	*	-	*	-	*	-
Mohammadnejad et al	2017	*	-	*	*	-	*	-	-	-
Seyed Javadin et al	2017	-	*	-	*	-	*	-	-	-
Mishra	2017	-	*	*	*	-	*	-	*	-
Masri & Jaroon	2017	-	*	*	*	*	*	-	*	-
Paro Ragas et al	2017	-	-	-	-	-	-	-	-	-
Gholami et al	2016	-	*	*	*	-	*	-	*	-
Abbasi et al.	2016	-	*	*	*	*	*	*	*	*
Jabbour & Jabbour	2016	-	-	-	-	-	-	-	-	-

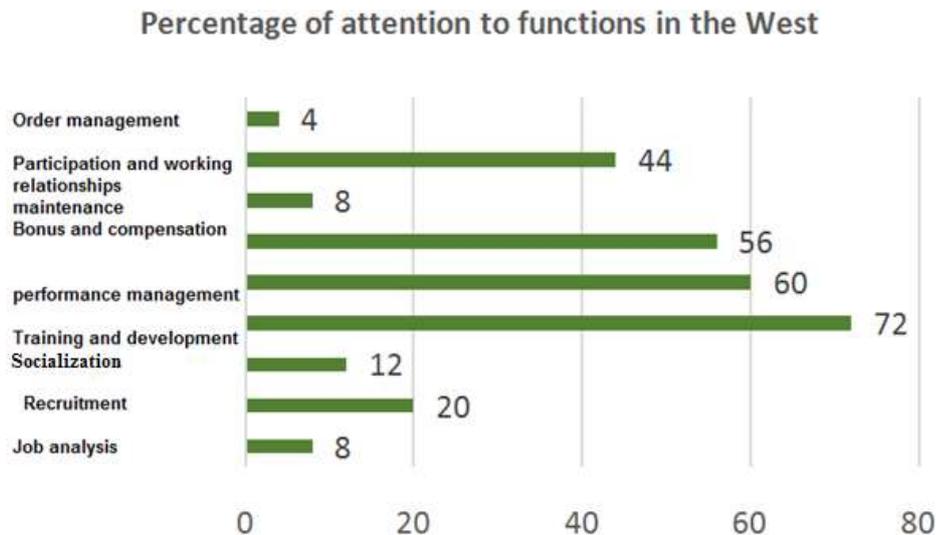
O'Donohue & Torugsa	2016	-	-	-	-	-	-	-	-	-
Guerci & Carollo	2016	-	*	*	*	-	*	*	*	-
Haddock-Millar et al	2016	-	-	-	-	-	-	-	-	-
Subramania et al	2016	-	-	*	*	-	*	-	-	-
Renwick et al	2016	-	*	*	*	-	*	-	*	-
Tariq et al	2016	-	-	-	-	-	-	-	-	-
Yi Yong & Mohd Yusoff	2016	-	-	-	-	-	-	-	-	-
Arz Bhutto & Auranzeb	2016	-	-	-	*	-	*	-	-	-
Jones & Wong	2016	-	-	-	-	-	-	-	-	-
Ahmad	2015	-	*	*	*	-	*	-	*	-
Mehta & chugan	2015	-	*	*	*	-	*	-	*	-
Mohd Yusoff et al	2015	-	*	*	*	-	*	-	-	-
Cheema et al	2015	-	-	*	*	-	*	-	-	-
Zhao & zou	2015	-	-	-	-	-	-	-	-	-
Scully-Russ	2015	-	-	-	-	-	-	-	-	-
Opatha & Arulrajah	2014	-	*	*	*	*	*	*	-	*
Milliman	2013	-	*	*	*	*	*	-	*	-
Marques Pereira et al	2013	-	-	-	-	-	-	-	-	-
Wagner	2013	*	-	-	-	-	*	-	-	-
Renwick et al	2012	-	*	*	*	-	*	-	*	-
Dabois & Dabois	2012	-	*	*	*	-	*	-	*	-
Zahari & Thurasamy	2012	-	*	-	*	-	-	-	*	-
Jackson et al	2011	-	*	*	*	-	*	-	-	-
Jabbour et al	2010	-	*	*	*	-	*	*	-	-
Ehnert	2009	-	-	-	-	-	-	-	-	-

**Figure 7** - functions of GHRM in the studies conducted during the past ten years

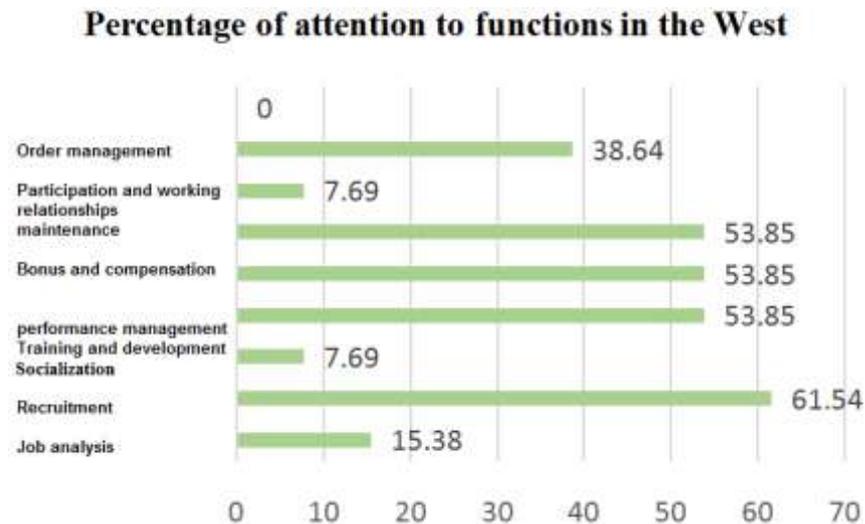
Job analysis	Job analysis, job design, job description
Selection and recruitment	Selection, recruitment, attraction
Socialization	Management of organizational culture
Training and development	Training, development, learning, empowerment, management of organizational culture
Performance management	Performance evaluation, performance management
Rewarding and compensation	Rewards, benefits, compensation, incentives, motivation
Retention	Retention
Participation and working relationships	Participation, employees' relationships, work teams, innovations, leadership, communications
Discipline management	Discipline, discipline management

**Table 8**, encoding and classifying the functions cited in reviewed articles

In Figures 9 and 10 you can observe the GHRM functions stated in table 3 for each article for both groups of east and west in terms of percentages. These diagrams specify which functions have been more paid attention to in west and which have been more paid attention to in east.



**Figure 9** - eastern countries' attention to GHRM functions



**Figure 10** - Western countries' attention to GHRM functions

## Discussion and conclusions

Although GHRM is still in its initial phases and organizations are increasingly becoming aware of it, the importance of the subject matter has moved organizations towards GHRM methods more than before (Ahmad, 2015). Therefore through conducting a systematic review on the previously conducted studies, we have categorized the articles based on authors, journal titles, methods, functions, outcomes, and gaps. While performing the present study it was tried to take a positive step towards advancement of the philosophy of GHRM and development of the related knowledge. In fact the results of the present study can be the context for future researchers who would want to investigate the existing gaps and those areas of GHRM that are still in need of more studying. In addition through the investigation of the differences between the studies conducted in the east and west which has been done by the present study, future studies are able to seek for the causes of these differences. According to the findings of the present study and by taking into account the contents of table 3, and diagrams 4 and 5 it turns out that the most interesting functions for eastern researchers were respectively education and development (72%), performance management (60%), and rewarding and compensation (56%) as well as other more attention requiring functions including socialization (12%), job analysis (8%), employee retention (8%), and discipline management (4%). On the other hand, the most interesting functions for western researchers were respectively selection and recruiting (61.54%), education and development (53.85%), performance management (53.85%), compensation (53.85%) in addition to other more attention requiring functions including

discipline management (0%), socialization (7.69%), employee retention (7.69%), and job analysis (15.38%). As you can see, the functions of job analysis, socialization, retention of employees, and discipline management are in need of more investigation in both the east and the west. Therefore the future researchers are recommended to investigate the cause of this difference. Investigating diagrams 2 and 3 shows that paying attention to GHRM and doing research in this field has increased in the east during the past few years, but before that, it was more stressed out by western researchers since it was in the west where the concept of GHRM was initially proposed. Hence, the need for conduction of more studies in the east is felt clearly.

As you can see in table 3, the mutual gap between the east and the west which has been referred to more than other gaps is the lack of comprehensive studies in the east and the lack of a cross-cultural model between the east and the west; a cross-cultural model which can be used for execution of GHRM proportional to different countries' cultures. This is a sign that future GHRM interested researchers should work on designing such a cultural model. This issue is however in need of further investigation and study regarding the effects of eastern and western cultures on the implementation of GHRM. As another mentioned major gap it can be referred to inadequate efforts for provision of green culture not only in organizations, but also throughout the entire society. For example in eastern countries there are still weaknesses regarding the implementation of GHRM which need to be flattened. Among these weaknesses it can be referred to: cumbersome rules, excessive bureaucracy and hierarchy, lack of managerial support for green programs and lack of GHRM training courses. In addition, there is a lack of comparison between sustainable and non-sustainable corporations in the west in addition to a lacking of GHRM related studies in long term, existence of overwhelming hierarchies in some countries including Brazil, and inadequate attention to GHRM details such as the manner of recruitment of green employees, especially those who are willing to work for lower wages, and inadequacy of case studies are considered as the most important stated gaps. Hence it is recommended to perform more studies in these areas so that these gaps are gradually filled and as GHRM philosophy becomes more prevalent, organizations start to take advantage for the financial and environmental benefits of it. Tariq et al (2016) stated that the new concept of GHRM not only is an applicable subject for organizations, but also plays a crucial role in developing countries and requires more studies so that the issue of GHRM is further developed and made applicable. In anyways, the findings of the present study help with the evaluation of some issues that have been neglected so far. As an example, Tavakoli et al., (2018); Rajabpoor (2017), Seyed Javadin et al., (2017); and Mohammadnejad et al., (2017) have pointed to the

inadequacy of related studies in Iran as well as lack of a codified program. On the other hand, Mishra, Masri and Jaroon (2017), Tariq et al., (2016), Mohd Yusoff et al., (2015), Wagner (2013), and Renwick et al., (2012) have stated that most of GHRM related studies have been performed in developed countries especially American and European countries. In addition, Gholami et al., (2016), Subramanian et al., (2016), and Opatha and Arul raja (2014) have pointed out the lacking of comprehensive studies in Malaysia, China, and Sri Lanka respectively. Chima et al., (2015) believe that lack of proper familiarity with the benefits of GHRM is a major gap in Pakistan. On the other hand, Tang et al., (2018), Patil and Sarwood (2018), Subramanian et al., (2016), and Chima et al (2015) have pointed to the lacking of a cross-cultural model in international levels; while Miller et al., (2016) have pointed to the lack of comparative studies regarding GHRM in international levels.

In addition, the major need for paying more attention to the issues of leadership, rewarding, training and development, development of green culture, and increased managers' attention to GHRM are stated in the studies conducted by Tang et al., (2018); Hassanpoor et al., (2017); Mishra (2017); Masri and Jaroon (2017); Paro Ragas et al., (2017), Zhao and Zhou (2015), Ahmad (2015), and Renwick et al., (2012). In addition the following studies have pointed out to the lacking of comparative studies between sustainable and non-sustainable organizations in long term: Renwick et al., (2016); O'Donohuea et al., (2016); Jones and Wong (2016), and Ehnert (2009). Nevertheless, lack of attention to green innovation, dimensions of green innovation, and the negative effect of bureaucracy and hierarchies on the implementation of GHRM, green commitment, and green participation have been respectively pointed out by the following studies: Zahari and Thurasamy (2012), Zhao and Zhou (2015), Jones and Wong (2016), and Skully-Russ (2015).

The findings of the present study show that we still need more studies in the domain of GHRM as well as the needs and gaps that exist in it. The present study has pointed out a large portion of these gaps and needs which will enable us to make more and more efforts towards further development of the concept of GHRM and the methods of applying it. In this way, GHRM will help with preservation of the environment in addition to its advantages for HR and the organization. Nevertheless, among the limitations of the present study it can be referred to the limited access to the entire published articles in credible international websites, as well as lack of access to researches in African countries which is why this study only includes Asian, American, and European countries.

## References

- Abbasi T. Jamali G. and Azari H, (2016), Role of public organizations on Green Productivity, from perspective of green human resources management, Third International Conference on Green Economics.
- Ahmad S, (2015), Green Human Resource Management: Policies and practices, *Cogent Business & Management*, Vol. 2, pp. 1-13, <http://dx.doi.org/10.1080/23311975.2015.1030817>.
- Arz Bhutto S. and Auranzeb, (2016), Effects of Green Human Resources Management on Firm Performance: An Empirical Study on Pakistani Firms, *European Journal of Business and Management*, Vol.8, No.16, pp. 119-125.
- Bauer T. Erdogan B. and Taylor S, (2012), Creating and maintaining environmentally sustainable organizations: Recruitment and on-boarding. In S. Jackson, D. Ones, & S. Dilchert (Eds.), *Managing human resources for environmental sustainability*, New York, NY: Wiley, pp. 222-240.
- Cheema S. Tisman Pasha A. and Javed F., (2015), Green human resource practices: Implementations and Hardles of SMEs in Pakistan, *Journal of Business Studies Quarterly*, No. 2, Vol. 7, pp. 231-241.
- Collier J. and Esteban R., (2007), Corporate social responsibility and employee commitment. *Business Ethics: A European Review*, Vol. 16, No. 1, pp. 19–33. <http://dx.doi.org/10.1111/beer.2007.16.issue-1>.
- Daily B. F. and Huang S., (2001), Achieving sustainability through attention to human resource factors in environmental management, *International Journal of Operations & Production Management*, Vol 21, No. 12, pp. 1539-1552.
- Dubois C., (2012), EcoVision at Sherwin-Williams: Leadership at all levels. In S. Jackson, D. Ones, & S. Dilchert (Eds.), *Managing human resources for environmental sustainability*, New York, NY: Wiley, pp. 281-297.
- Dubois C. L. Z. and Dubois D. A., (2012), Strategic HRM as social design for environmental sustainability in organization. *Human Resource Management*, Wiley, vol. 51, No. 6, pp. 799-826, DOI:10.1002/hrm.21504.
- Dutta S., (2012), Greening people: A strategic dimension. *ZENITH: International Journal of Business Economics & Management Research*, Vol. 2, No. 2, pp. 143–148.
- Ehnert I., (2009), Sustainability & human resource management: reasoning and applications on corporate websites, *Eur. J. Int. Manage*, Vol. 3, No. 4, pp. 419-437.
- Fernandez E. Junquera B. and Ordiz M., (2003), Organizational culture and human resources in the environmental issue: A review of the literature, *The International Journal of Human Resource Management*, Vol. 14, No.4, pp. 634–656, doi:10.1080/0958519032000057628.
- Gholami H. Rezaei G. Zameri Mat Saman, M. Sharif, S. Zakuan, N. (2016), State-of-the-art Green HRM System: sustainability in the sports center in Malaysia using a multi-methods approach and opportunities for future research, *Journal of Cleaner Production*, Elsevier, Vol. 124, pp. 142-163, DOI: 10.1016/j.jclepro.2016.02.105.
- Gonzalez-Benito J. and Gonzalez-Benito O., (2006), A review of determinant factors of environmental proactivity, *Journal of Business Strategy and the Environment*, Vo. 15, No. 1 pp. 87–102, doi:10.1002/(ISSN)1099-0836.
- Guerci M. and Carollo L., (2016), A paradox view on green human resource management: insights from the Italian context, *The International Journal of Human Resource Management*, Vol. 27, No. 2, pp. 212-238, DOI: 10.1080/09585192.2015.1033641.

- Haddock-Millar J. Sanyal C. and Müller-Camen M., (2016), Green human resource management: a comparative qualitative case study of a United States multinational corporation, *The International Journal of Human Resource Management*, Vol. 27, No. 2, pp. 192-211, DOI:10.1080/09585192.2015.1052087.
- Hamilton A. Gioia D.A., (2009), *Fostering sustainability-focused organizational identities*, New York: Routledge, first edition.
- Hassanpoor A. Abtahi S.A. and Khamoie F., (2017). Identifying and prioritizing Green training needs of staff using network analysis process (ANP), *Journal of Environmental Education & Sustainable Development*, Vol. 6, No. 2, pp. 9-24.
- Jabbour C.J.C. Santos F.C.A. and Nagano M.S., (2010), Contributions of HRM throughout the stages of environmental management: methodological triangulation applied to companies in Brazil, *International Journal of Human Resource Management*, Vol. 21, No. 7, pp. 1049-1089, Doi/abs/10.1080/09585191003783512.
- Jabbour C.J.C. and Jabbour A.B.L.D.S., (2016), Green human resource management and green supply chain management: linking two emerging agendas, *Journal of Cleaner Production*, Elsevier, Vol. 112, No. 3, pp. 1824-1833, Doi:10.1016/j.jclepro.2015.01.052
- Jackson S. E. Renwick D. W. S. Jabbour C. J. C. and Muller-Camen Michael., (2011), State-of-the-Art and Future Directions for Green Human Resource Management: Introduction to the Special Issue, *German Journal of Research in Human Resource Management*, Vol. 25, No. 2, pp. 99-116, DOI 10.1688/1862-0000\_ZfP\_2011\_02\_Jackson.
- Lee K. H., (2009), Why and how to adopt green management into business organizations: The case study of Korean SMEs in manufacturing industry, *Management Decision*, Vol. 47, No. 7, pp. 1101-1121.
- Marques Pereira G. S. Jabbour C. Borges de Oliveira S. V. W. and Alves Teixeira A., (2012), Greening the campus of a Brazilian university: cultural challenges, *International Journal of Sustainability in Higher Education*, Emerald, Vol. 15, Iss. 1, pp. 34 – 47.
- Masri H. and Jaaron A., (2017), Assessing green human resources management practices in Palestinian manufacturing context: An empirical study, *Journal of Cleaner Production*, Elsevier, Vol.143, pp. 474-489, Doi:org/10.1016/j.jclepro.2016.12.087.
- Milliman J., (2013), Leading-Edge Green Human Resource Practices: Vital Components to Advancing Environmental Sustainability, *Environmental Quality Management*, Wiley, Vol. 23, Iss. 2, pp. 31-45, DOI: 10.1002/tqem.21358.
- Mishra P., (2017), Green human resource management: A framework for sustainable organizational development in an emerging economy, *International Journal of Organizational Analysis*, Emerald, Vol. 25, Iss. 5, pp. 762-788, Doi:10.1108/IJOA-11-2016-1079.
- Mohammadnejad Shoorkaie M. Seyed Javadin R. Shah Hoseini M. and Hal Karimi A., (2017), Presenting a framework for managing green human resources, *Journal of Public Administration*, Management Faculty of Tehran University, Vol. 8, No. 4, pp. 691-710.
- Mohd Yusoff Y. Zahiyah Othman N. Fernando Y. and Amran A., (2015), Conceptualization of Green Human Resource Management: An Exploratory Study from Malaysian-based Multinational Companies, *International Journal of Business Management and Economic Research (IJBMER)*, Vol. 6, No. 3, pp. 158-166.
- O'Donohue W. Torugsa N., (2016), The moderating effect of 'Green' HRM on the association between proactive environmental management and financial performance in

- small firms, *The International Journal of Human Resource Management*, Routledge, Vol. 27, No. 2, pp. 239–261, Doi:10.1080/09585192.2015.1063078.
- OECD, (2001), The Dac guidelines, strategies for sustainable Development.
- Opatha H. and Arulrajah A., (2014), Green Human Resource Management: Simplified General Reflections, *International Business Research*, Canadian center of Science and Education, Vol. 7, No. 8, Doi: 10.5539/ibr.v7n8p101.
- Paro Ragas S. Angub Tantay F. Co Chua L. and Concha Sunio C., (2017), Green lifestyle moderates GHRM's impact to job performance, *International Journal of Productivity and Performance Management*, Emerald, Vol. 66, No. 7, pp. 857- 872, Doi:10.1108/IJPPM-04-2016-0076.
- Rajabpoor E., (2017), The Impact of Human Resources Management on the Development of Environmental Management, *Journal of Research in Human resource management*, Imam Husein University, Vol. 9, No. 1, pp. 51-73.
- Renwick D. Redman T. and Maguire S., (2008), Green HRM: A Review, Process Model, and Research Agenda, University of Sheffield Management School Retrieved from <http://www.sheffield.ac.uk/content/1/c6/08/70/89/2008-01.pdf>.
- Renwick D. Redman T. and Maguire S., (2012), Green human resource management: a review and research agenda, *International journal of management reviews*, Vol. 15, No. 1, pp. 1-14. Doi:10.1111/j.1468-2370.2011.00328x.
- Renwick D. W.S. Redman T. Jabbour C. J.C. Muller-Camen M. and Wilkinson A., (2016), Contemporary developments in Green (environmental) HRM scholarship, *The International Journal of Human Resource Management*, Vol. 27, No. 2, pp. 114-128, Doi:10.1080/09585192.2015.1105844.
- Rokos T. Rokos G. and Pellet L., (2012), *Sustainable staffing*, Avocado Press.
- Russell W., (2008), *Engaging employees in social consciousness at Eileen Fisher*, InJ. Wirtenberg, W. Russell, & D. Lipsky (Eds.), *The sustainable enterprise fieldbook: When it all comes together*, New York, AMACOM.
- Scheiner S.M. and Willige M.R., (2011), *The theory of ecology*, The University of Chicago Press, USA.
- Seyed Javadin R. Roshandel Arbatani T. and Nobari A., (2017), Green Human Resource Management "An Investment Approach and Sustainable Development", *Journal of Investment Knowledge*, Iranian Financial Engineering Association, Vol. 5, No. 20, pp. 297-327.
- Shipton H. Budhwar P. S. and Crawshaw J., (2012), HRM, Organizational Capacity for Change, and Performance: A Global Perspective, *Thunderbird International Business Review*, Wiley, vol. 54, No. 6, pp. 777–790, DOI: 10.1002/tie.21503.
- Spreitzer G. Sutcliff K. Dutton J. Sonenshine S. and Grant A.M., (2005), A socially embedded model of thriving at work, *Organization Science*, Vol. 16, No. 5, pp. 537-549.
- Subramaniana N. Abdulrahmana M.D. Wua L. and Nath P., (2016), Green competence framework: evidence from China, *The International Journal of Human Resource Management*, Routledge, Vol. 27, No. 2, pp. 151–172, Doi:10.1080/09585192.2015.1047394.
- Tang G. Chen Y. Jiang Y. Paille P. and Jia J., (2018), Green human resource management practices: scale development and validity, *Asia Pacific Journal of Human Resources*, Wiley, Vol. 56, pp. 31-55, Doi:10.1111/1744-7941.12147.
- Tariq S. Ali Jan F. and Shakil Ahmad M., (2016), Green employee empowerment: a systematic literature review on state of art in green human resource management, *Qual Quant*, Springer, Vol. 50, Iss. 1, pp. 237-269, DOI 10.1007/s11135-014-0146-0.

- Tavakoli A. Hashemi A. Sabet A. and Razeghi S., (2018). Presenting an Organizational Model of Green Human Resource Management based on Human Resources Management Systems, *Journal of Research in Human resource management*, Imam Husein University, Vol. 10, No. 1, pp. 75-101.
- Tranfield D. Denyer D. and Smart P., (2003), Towards a Methodology for Developing Evidence-Informed Management Knowledge by Means of Systematic Review, *British Journal of Management*, Vol. 14, No. 3, pp. 207–222, Doi:10.1111/1467-8551.00375.
- Wagner M., (2013), Green Human Resource Benefits: Do they Matter as Determinants of Environmental Management System Implementation?, *Journal of Business Ethics*, Springer, Vol. 114, No. 3, pp. 114:443–456, DOI 10.1007/s10551-012-1356-9.
- Wehrmeyer W., (1996), *Greening people*, Greenleaf Publishing, Sheffield.