ISSN 2278-2540 | DOI: 10.51583/IJLTEMAS | Volume XV, Issue VI, June 2026

Climate Change Adaptation and Human Resource Management: Examining Workforce Resilience across Geographically Vulnerable Regions

Dr. Perveen Zahra[1], Dr. Syed Anis Haider[2]

[1]Assistant Professor, Department of Geography, Nirmala College, Ranchi, Jharkhand, India

[2]Assistant Professor, Department of Management, Birla Institute of Technology, Mesra, Ranchi, Jharkhand, India

DOI: https://doi.org/10.51583/IJLTEMAS.2026.150600263

Received: 16 July 2026; Accepted: 21 July 2026; Published: 03 August 2026

ABSTRACT

Climate change stands out as one of the greatest global challenges facing organizations, employees, and labor markets in regions already vulnerable to environmental shifts. More frequent extreme weather like heat waves, floods, droughts, cyclones, and other climate threats throws business operations, workforce productivity, employee health, and long-term organizational stability into turmoil. Governments and companies have started to embrace climate adaptation measures, but fewer have really recognized how Human Resource Management (HRM) can play a strategic role in boosting workforce resilience to climate risks. This paper looks at ways to weave climate change adaptation into HRM practices so organizations in vulnerable areas can strengthen their workforce's ability to adapt. By drawing on Dynamic Capabilities Theory, Organizational Resilience Theory, Human Capital Theory, and the Ability–Motivation–Opportunity (AMO) framework, the study builds a strong conceptual foundation for climate-responsive HRM. The research involves a systematic review of recent literature from 2015 to 2025, using peer-reviewed articles pulled from databases like Scopus, Web of Science, and ScienceDirect. This review highlights adaptive HRM strategies like climate-aware workforce planning, occupational health and safety measures, flexible work policies, ongoing employee training, psychological support, digital workforce management, and leadership training as essential drivers of organizational resilience. The results show that organizations in climate-vulnerable zones boost employee adaptability, cut down on disruptions, reinforce organizational commitment, and keep productivity high when they integrate climate adaptation into HR policies and strategic planning. This paper adds to the conversation on sustainable HRM by offering a framework that links climate adaptation actions with workforce resilience and organizational durability. It also lays out clear recommendations for managers and policymakers who want to build organizations that can weather future climate surprises.

Keywords: Climate Change Adaptation; Human Resource Management; Workforce Resilience; Sustainable Human Resource Management; Organizational Resilience; Climate Risk; Employee Well-being; Adaptive Capacity.

INTRODUCTION

Climate change isn't just an environmental issue anymore but it's a complex organizational challenge that touches everything from human resources and labor markets to the core of business sustainability. As the world faces more frequent and intense climate disasters like floods, heat waves, droughts, cyclones, wildfires, and rising seas companies everywhere are struggling with new disruptions to their operations and how they manage their people. The Intergovernmental Panel on Climate Change points out that climate risks are only getting worse, pressing organizations to build adaptation strategies that defend both their infrastructure and their people (IPCC, 2023).

ISSN 2278-2540 | DOI: 10.51583/IJLTEMAS | Volume XV, Issue VI, June 2026

People are a company's backbone, and climate-driven disruptions hit employees directly. These impacts ripple out to affect their health, safety at work, productivity, engagement, attendance, and ultimately how the whole organization performs. Jobs in sectors like agriculture, manufacturing, logistics, construction, healthcare, mining, tourism, and public services are especially exposed where these workers face higher risks to their safety and their ability to keep operations running (ILO, 2024). So, more organizations are realizing that climate adaptation isn't just about new tech or stronger buildings. It also calls for smart, strategic human resource management that can build resilient teams and adaptive work cultures (Renwick et al., 2016).

Workforce resilience is really the ability for both employees and organizations to expect trouble, get ready for it, respond well, bounce back, and learn lessons while keeping up productivity and safeguarding mental health (Lengnick-Hall et al., 2011). It's about how flexible and adaptable people and organizations are, whether leaders know how to guide teams, how well everyone shares knowledge, and if the workplace feels safe for everyone. In places hit hardest by climate, resilient employees manage uncertainty, rapid change, and disruptions keep the organization going.

Traditionally, Human Resource Management (HRM) zeroed in on hiring, training, managing performance, pay, handling employee relations, and growing talent. But now, climate change has pushed HR into a bigger role. Sustainable Human Resource Management (SHRM) pushes organizations to weave environmental sustainability into their core HR practices, urging them to line up how they manage people with their broader climate and sustainability goals (Kramar, 2014). HR leads this effort by making workforce plans that can withstand shocks, designing green training, building flexible work options, starting occupational health programs, planning for crises, supporting employee wellness, and growing climate-minded leaders.

Geographically vulnerable places like coastal zones, flood-prone rivers, drought-impacted farms, mountainous regions, and fast-growing cities face much higher climate risks, which hit labor supply, employee movement, and day-to-day operations the hardest (Adger et al., 2018). These areas see transport, infrastructure, health systems, communications, and supply chains knocked offline again and again, making workforce management hard to predict. Companies working in these settings need well-rounded HR strategies that help employees handle change and keep operations resilient.

Recent history has shown how climate resilience is tied to organizational flexibility. The COVID-19 pandemic, for example, taught everyone the value of remote work, digital upgrades, mental health support, and leadership during a crisis that matter just as much for climate-driven emergencies (Carnevale & Hatak, 2020). Lessons from the pandemic offer real insight into designing HR systems that can survive all kinds of upheaval.

Several theories shed light on the connection between HRM and climate adaptation. Human Capital Theory says investing in employee knowledge, skills, and health boosts company performance and adaptability (Becker, 1964). Dynamic Capabilities Theory argues organizations stay competitive when they keep their finger on the pulse of change, seize new chances, and rework their resources to handle uncertainty (Teece, 2007). Organizational Resilience Theory highlights the importance of learning, flexible leadership, and nimble decision-making in keeping organizations solid through crises (Duchek, 2020). And the Ability–Motivation–Opportunity (AMO) framework shows how the right HR policies build up employee skills, drive, and participation by making organizations more resilient when the environment shifts (Appelbaum et al., 2000).

Despite more interest in climate adaptation, research is still scattered across fields like environmental management, disaster risk, workplace health, and sustainability. There's a real shortage of work that digs into HRM's strategic role in building climate-resilient teams especially in the places that need it most. Many studies still focus on tech and infrastructure, with less attention to how organizations can adapt by growing their people, changing culture, or developing leaders.

And there's another problem most evidence about climate-smart HRM comes from developed countries. This leaves a gap in what we know about how organizations in developing and climate-vulnerable regions adapt. Differences in local systems, economic conditions, labor laws, infrastructure, and resources mean companies need HR strategies fit for their own context (Berrang-Ford et al., 2021).

ISSN 2278-2540 | DOI: 10.51583/IJLTEMAS | Volume XV, Issue VI, June 2026

To fill these gaps, this paper explores how Human Resource Management helps organizations adapt to climate change by building stronger, more resilient workforces especially in regions that are most at risk. By reviewing current research, the paper identifies key HR practices that actually help employees adapt, encourage organizational learning, improve workplace safety, grow strong leaders, and keep businesses running through climate shocks. It also lays out a framework connecting climate adaptation, sustainable HRM, and workforce resilience.

These findings move the literature on Sustainable Human Resource Management forward, showing climate adaptation isn't just a technical or environmental task and it's a strategic human resource issue. When organizations put climate resilience at the heart of HR policies, they protect their people, keep productivity up, sharpen their competitive edge, and support long-term sustainability. The study leaves leaders, HR professionals, and policymakers with practical steps for building workplaces tough enough for a future of climate uncertainty.

In the end, this research argues that the future of sustainable organizations will depend just as much on resilient, adaptable people and strong HR strategies as on new tech or sound environmental policy. As climate change rewrites the rules for business, Human Resource Management stands at the center and ready to help organizations anticipate risk, adapt their people, and achieve lasting success.

LITERATURE REVIEW

Climate Change and Organizational Adaptation

Climate change is reshaping the global business landscape, ramping up the frequency and severity of extreme weather events, environmental decline, and resource shortages. Organizations situated in high-risk regions now face more frequent disruptions like floods, heat waves, droughts, cyclones, wildfires, rising seas, unpredictable rain they're all in play. These events hit more than just buildings and supply chains; they affect who shows up to work, employee health, workplace safety, and overall productivity (IPCC, 2023).

When organizations talk about adapting to climate change, they mean reworking their systems, policies, and routines to cut vulnerability and boost their readiness for climate risks (Smit & Wandel, 2006). This isn't about cutting emissions (mitigation); it's about building resilience when the damage can't be avoided. Organizations now realize adaptation takes coordinated effort: they need new technology, stronger infrastructure, better governance, sound financial strategies, and smart HR management.

Scholars point out that real adaptation goes beyond gadgets and infrastructure as it relies on people. When employees and leaders build adaptive skills, companies can spot environmental shifts sooner, redesign how they work, and recover faster from shocks (Teece, 2007). So, HRM becomes central and it's the lever for growing the kind of talent and mindset that power long-term climate resilience.

Human Resource Management in the Era of Climate Change

Traditionally, HR has focused on getting the right people, helping them grow, keeping them motivated, and hanging onto them to hit the organization's targets. But environmental risks have broadened this role. Now, HR strategies push for sustainability and resilience with what's known as Sustainable Human Resource Management (SHRM). SHRM weaves environmental, social, and economic goals into HR policy, encouraging organizations to act responsibly (Kramar, 2014).

Renwick et al. (2016) argue that HR professionals anchor sustainability right into the fabric of daily work through hiring, training, performance reviews, developing leaders, and designing reward systems. Climate-focused HRM raises the bar, preparing staff for an uncertain and changing world.

What does climate-focused HRM look like? It means:

- Planning for climate-sensitive staffing

ISSN 2278-2540 | DOI: 10.51583/IJLTEMAS | Volume XV, Issue VI, June 2026

- Managing health and safety for weather extremes
- Offering flexible work options
- Training on climate adaptation
- Running disaster prep drills
- Prioritizing employee well-being
- Grooming crisis leaders
- Managing a digital workplace
- Building ways to keep learning

With these in play, organizations can weather climate disasters and still keep their teams engaged and productive.

Recent data shows that companies taking proactive HR actions see lower turnover, tighter commitment, faster crisis response, and more sustainable operations (Jackson et al., 2011).

Workforce Resilience: Concept and Dimensions

Workforce resilience is about how employees, collectively, spot trouble, adapt fast, recover, and become stronger after adversity while keeping the show running (Lengnick-Hall et al., 2011). It's evolving from a personal trait to a strategic organizational muscle.

According to Duchek (2020), resilience has three parts:

- Anticipation

Organizations keep a sharp eye on environmental trends, flag rising risks early, and prep their teams through forward-thinking and skill-building.

- Coping

When disruptions hit, employees use company resources, lean on leaders, and adjust working methods to manage the chaos.

- Adaptation

Organizations treat crises as learning opportunities. They adjust structure, rework processes, upgrade technology, and reshape HR policies to emerge stronger.

On the employee side, resilience shows up as:

- Mental strength
- Physical stamina
- Adaptable thinking
- Curiosity and willingness to learn
- Emotional intelligence

ISSN 2278-2540 | DOI: 10.51583/IJLTEMAS | Volume XV, Issue VI, June 2026

- Problem-solving chops
- Flexible behavior
- Teamwork

Studies show that resilient employees bounce back quicker, handle stress better, stay loyal, and perform at a high level especially when the future looks shaky (Bardoel et al., 2014).

Climate Change and Employee Well-being

Climate change isn't just an abstract risk but it's hitting workers' health and peace of mind. Sweltering temperatures raise the odds of heat stress, dehydration, exhaustion, lost productivity, and job injuries especially for people in fields like agriculture, construction, transport, mining, and manufacturing (ILO, 2024).

Extreme weather spikes everything from workplace accidents and mental health issues to anxiety, burnout, job insecurity, displacement, and work-family strain. The psychological fallout is particularly damaging; constant disaster exposure leads to PTSD, depression, emotional burnout, and lower job satisfaction (Berry et al., 2018).

HR's role now extends to:

- Mental health support
- Employee assistance programs
- Flexible hours
- Remote work options
- Wellness programs
- Occupational health care
- Communicating climate risks
- Nurturing social support networks

Organizations that invest in well-being build resilience; when employees stay healthy they bounce back faster and remain committed even during a climate crisis.

Climate Responsive Leadership and Organizational Culture

Leadership shapes how organizations and their people survive environmental crises. Adaptive leaders make space for learning, keep communication clear during emergencies, support well-being, and spark innovation even in chaos (Northouse, 2022).

Climate-responsive leadership brings:

- Open talk about risk
- Empowered employees
- More voices in decision-making
- Constant learning

ISSN 2278-2540 | DOI: 10.51583/IJLTEMAS | Volume XV, Issue VI, June 2026

- Strong ethics
- Psychological safety
- An eye on the future

Culture matters, too. Teams built on trust, open knowledge sharing, innovation, and genuine participation don't just survive but they thrive. Rigid, top-down cultures lag behind.

As Schein (2017) points out, workplace culture molds how people deal with uncertainty and sets the tone for accepting new ways of working. If companies want to adapt, they need cultures that champion flexibility, teamwork, and learning.

Training and Skill Development for Climate Adaptation

Building employee skills is at the heart of adapting to climate change. As climate shifts, so do job duties, tech requirements, and workplace hazards so staff must keep learning.

Training for climate adaptation covers:

- Disaster preparedness
- Emergency response tactics
- Climate risk awareness
- Digital know-how
- Teamwork from a distance
- Safety in changing environments
- Environmental responsibility
- Crisis management

Human Capital Theory (Becker, 1964) says that when companies invest in people, their productivity and innovation rise. Dynamic Capabilities Theory goes further with employee learning helps organizations rapidly rearrange resources to meet new challenges (Teece, 2007).

Research keeps repeating this message: organizations that foster continuous development bounce back faster after disasters and are more resilient in the long run.

Flexible Work Arrangements as Climate Adaptation Strategies

The pandemic forced organizations into flexible work arrangements and many found these systems crucial for climate adaptation (Carnevale & Hatak, 2020).

Flexible HR practices now include:

- Remote work
- Hybrid schedules
- Flexible hours

ISSN 2278-2540 | DOI: 10.51583/IJLTEMAS | Volume XV, Issue VI, June 2026

- Digital teamwork tools
- Online performance tracking
- Cloud-based HR platforms

These changes lower employees' exposure to hazards by keeping organizations running when commutes are unsafe, offices flood, or heat waves shut down transit.

Evidence shows that having strong digital HR systems helps teams stay productive, even when the physical workplace is off-limits.

But making this work means building robust digital infrastructure, staying on top of cyber security, helping workers master technology, building trust between managers and teams, and keeping communication clear.

Sustainable Human Resource Management (SHRM)

Sustainable HRM is a critical theoretical link between managing employees and caring for the environment. Instead of the old approach with pure productivity SHRM balances performance, well-being, environmental duty, and social progress (Ehnert, 2009).

Green HRM practices include:

- Green hiring
- Training that highlights sustainability
- Evaluating performance based on environmental standards
- Eco-focused rewards
- Employee-driven sustainability initiatives

Climate adaptation builds on Green HRM, making sure employees are ready for the unexpected.

Research links sustainability-focused HR practices with:

- More engaged employees
- Greater commitment
- A stronger employer brand
- Better innovation
- Green outcomes
- Greater resilience

So, SHRM lays the groundwork for all climate-adaptive HR efforts.

Theoretical Foundations

Human Capital Theory

Human Capital Theory (Becker, 1964) says employee know-how, skill, health, and ability make up valuable assets that fuel long-term competitive edge.

ISSN 2278-2540 | DOI: 10.51583/IJLTEMAS | Volume XV, Issue VI, June 2026

In climate adaptation, investing in things like:

- employee training,
- workplace health,
- leader development,
- climate awareness,
- and ongoing learning

which means organizations build the adaptive power and resilience they need.

Dynamic Capabilities Theory

Dynamic Capabilities Theory (Teece, 2007) explains how organizations keep their edge by spotting shifts, grabbing new openings, and reworking resources as the world changes.

Climate-ready HRM sharpens these capabilities through:

- staff planning that adapts to conditions,
- managing and sharing knowledge,
- continuous learning,
- upgrading digital tools, and
- agile leadership.

These tools keep organizations nimble in the face of climate uncertainty.

Organizational Resilience Theory

Organizational Resilience Theory zeroes in on how organizations gear up for, respond to, bounce back from, and grow after disasters (Duchek, 2020).

Key factors include:

- adaptable leadership,
- ongoing learning,
- employee engagement,
- sharing information,
- flexible resources, and
- never-ending improvement.

HRM drives these factors through smart talent development.

ISSN 2278-2540 | DOI: 10.51583/IJLTEMAS | Volume XV, Issue VI, June 2026

Ability–Motivation–Opportunity (AMO) Framework

The AMO framework (Appelbaum et al., 2000) posits that performance rides on three things:

- Ability- what employees know and can do
- Motivation- why they give their best
- Opportunity- having the space and support to perform

Climate-smart HR practices boost all three: they invest in adaptation training, actively encourage engagement, involve staff in resilient planning, and support joint decision-making.

Research Gap

Despite the growing research around climate adaptation, the HR angle hasn't been fully explored.

First, most study focus on technology, infrastructure, disaster planning, or governance and not on HR's direct role in building workforce resilience (Renwick et al., 2016).

Second, research often looks at the organizational or national scale. We don't see enough about how recruitment, training, performance management, leadership, well-being, and flexible work policies actually team up to create resilience in high-risk regions.

Third, most empirical work centers on wealthier countries. In contrast, developing nations and highly climate-sensitive areas where risks are greatest and resources are thinner and understudied (Berrang-Ford et al., 2021).

Fourth, there's little integration of cornerstone theories like Human Capital Theory, Dynamic Capabilities Theory, Organizational Resilience Theory, and the AMO framework into one comprehensive explanation of how climate-savvy HRM builds workforce resilience.

Finally, few studies lay out conceptual models that connect climate adaptation efforts, strategic HRM practices, employee and organizational resilience, and ongoing sustainable performance. This study tackles these gaps, piecing together up-to-date evidence to create a full, practical picture of how climate-focused HRM toughens workforce resilience, especially out where it's most needed.

RESEARCH METHODOLOGY

Research Design

This study uses a Systematic Literature Review (SLR) to analyze how Human Resource Management (HRM) helps make workforces more resilient to climate change in regions that are especially at risk. We chose SLR for its transparent, rigorous, and replicable way of gathering and evaluating existing research, mapping trends, reviewing theoretical perspectives, and identifying where knowledge is still lacking (Tranfield et al., 2003). The review process follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) guidelines so that each stage that is identifying, screening, assessing eligibility, and including articles is as robust as possible (Page et al., 2021).

Instead of combining data statistically, we focused on qualitative evidence because the literature includes conceptual papers, empirical research, case studies, and reviews that use many different research designs. This lets us develop a clear, rounded view of climate-responsive HRM practices and their impact on workforce resilience in a variety of organizational and geographical settings.

ISSN 2278-2540 | DOI: 10.51583/IJLTEMAS | Volume XV, Issue VI, June 2026

Research Objectives

The study pursues these objectives:

- Examine how Human Resource Management drives climate adaptation in regions vulnerable to climate change.
- Identify HRM practices that strengthen workforce resilience during climate-related disruptions.
- Analyze theoretical perspectives connecting climate adaptation, workforce resilience, and sustainable HRM.
- Synthesize available empirical evidence about how organizations handle climate-related workforce issues.
- Develop an integrated conceptual framework showing how climate-responsive HRM practices and workforce resilience are connected.

Research Questions

The review addresses these main questions:

- RQ1: How does Human Resource Management support organizational adaptation to climate change?
- RQ2: Which HRM practices are most effective for boosting workforce resilience?
- RQ3: What theoretical frameworks clarify the link between climate adaptation and workforce resilience?
- RQ4: Where are the research gaps in the climate-responsive Human Resource Management literature?

Literature Search Strategy

We searched widely respected academic databases to capture as many relevant peer-reviewed studies as possible. The focus was on articles published from 2015 to 2025, reflecting a decade of rapid growth in research on climate adaptation and sustainable HRM.

Databases included:

- Scopus
- Web of Science
- ScienceDirect
- SpringerLink
- Emerald Insight
- Wiley Online Library
- Taylor & Francis Online
- Google Scholar (for supplementary searches)

We used Boolean operators to combine search terms and narrow results.

ISSN 2278-2540 | DOI: 10.51583/IJLTEMAS | Volume XV, Issue VI, June 2026

Sample search strings included:

- "Climate Change Adaptation" AND "Human Resource Management"
- "Climate Resilience" AND "Workforce"
- "Climate Change" AND "Employee Resilience"
- "Sustainable HRM" AND "Climate Adaptation"
- "Green Human Resource Management" AND "Organizational Resilience"
- "Climate Risk" AND "Employee Well-being"
- "Climate Change" AND "Occupational Health"
- "Adaptive HR Practices"

We also checked references of selected articles (backward citation searching) to find additional relevant studies.

Inclusion and Exclusion Criteria

To guarantee consistent selection throughout the process, we defined inclusion and exclusion criteria ahead of time.

Inclusion Criteria:

- Peer-reviewed journal articles
- Studies published from 2015 to 2025
- Publications in English
- Studies dealing with Human Resource Management, climate adaptation, workforce resilience, organizational resilience, sustainable HRM, or employee well-being
- Empirical, conceptual, review, and case studies
- Articles indexed in Scopus, Web of Science, or other reputable databases

Exclusion Criteria:

- Conference abstracts
- Editorials
- Magazine articles
- Book reviews
- Opinion pieces without proper academic methodology
- Non-English publications
- Studies concerned solely with environmental science and no HRM relevance

ISSN 2278-2540 | DOI: 10.51583/IJLTEMAS | Volume XV, Issue VI, June 2026

- Duplicate articles

Article Selection Process

The article selection followed PRISMA 2020.

- Stage 1: Identification

An initial search yielded about 1,145 records.

- Stage 2: Duplicate Removal

After removing duplicates, 912 articles remained.

- Stage 3: Title and Abstract Screening

Screening titles and abstracts by inclusion criteria left 276 potentially relevant studies.

- Stage 4: Full-Text Assessment

Full-text screening eliminated studies lacking HRM relevance or necessary methodological quality.

- Stage 5: Final Inclusion

In the end, 82 peer-reviewed articles were included.

Table 1 PRISMA-Based Article Selection Process

Review Stage	**Number of Articles**
Records identified	1,145
Duplicates removed	233
Records screened	912
Full-text articles assessed	276
Articles excluded after full review	194
Final studies included	**82**

Data Extraction

We followed a standardized protocol for data extraction to make sure we collected consistent information from each study. Data extracted included:

- Author(s)
- Year of publication
- Country or region of study
- Research goals
- Research design

ISSN 2278-2540 | DOI: 10.51583/IJLTEMAS | Volume XV, Issue VI, June 2026

- Sample details
- HRM practices examined
- Climate adaptation dimensions addressed
- Measured workforce resilience outcomes
- Key results
- Theoretical approach taken
- Practical implications

This structured information made it possible to compare studies directly and perform a thematic synthesis.

Data Analysis Technique

We used thematic analysis (Braun & Clarke, 2006) to organize and interpret findings. Thematic analysis works well for pulling out repeating concepts, relationships, and patterns across varied studies.

The process followed six steps:

- Getting familiar with the literature
- Coding relevant ideas
- Noting recurring themes
- Reviewing and refining those themes
- Defining and naming them
- Building an overall conceptual framework

Major Themes Identified:

- Climate-responsive HRM
- Workforce resilience
- Employee health and well-being
- Occupational safety
- Climate adaptation training
- Flexible work arrangements
- Leadership resilience
- Organizational learning
- Digital HR transformation
- Sustainable HRM

ISSN 2278-2540 | DOI: 10.51583/IJLTEMAS | Volume XV, Issue VI, June 2026

- Organizational adaptability

These themes shaped the study's synthesis and informed the development of the main framework.

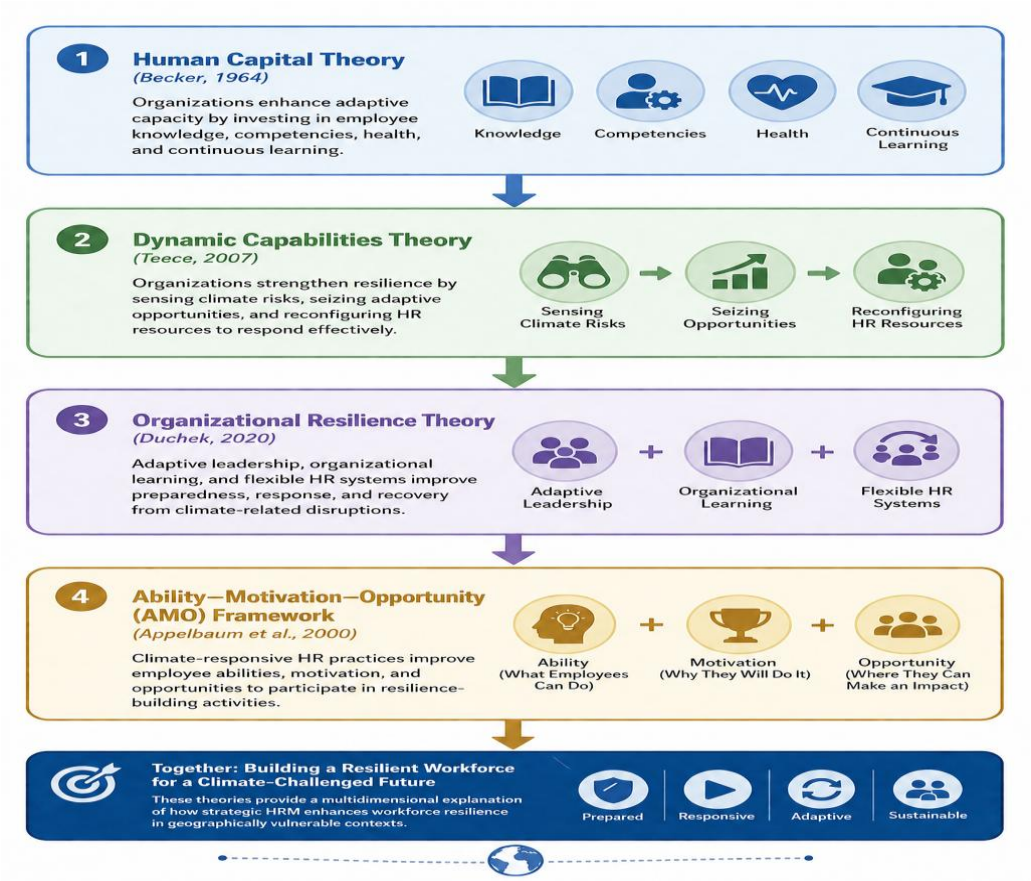
Quality Assessment

We checked the quality of each included article using systematic review standards (Kitchenham & Charters, 2007). Articles were reviewed for:

- Clarity of aims
- Methodological rigor
- Whether samples were adequate
- Details on data collection and analysis
- Reliability and validity of results
- Practical relevance
- Strength of contribution to climate-responsive HRM literature

Only studies meeting minimum standards were kept, which bolstered the reliability and credibility of findings.

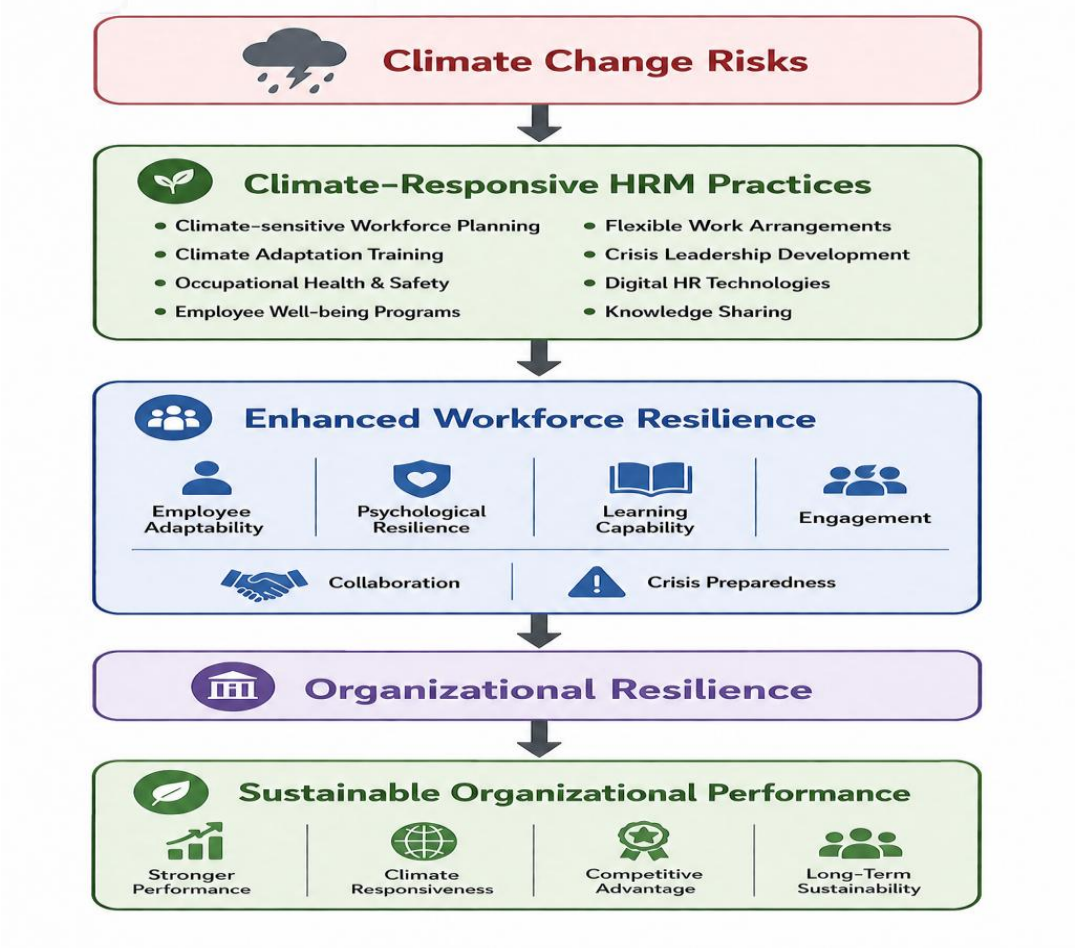
Theoretical Framework



Proposed Conceptual Framework

The literature synthesis supports this conceptual model:

ISSN 2278-2540 | DOI: 10.51583/IJLTEMAS | Volume XV, Issue VI, June 2026



Reliability and Validity

Though we didn't collect original data, we focused on methodological soundness by:

- Using a predefined PRISMA 2020-based protocol.
- Sticking to clear inclusion and exclusion criteria.
- Conducting thorough database searches.
- Maintaining organized and consistent data extraction.
- Applying established qualitative methods to analyze themes.
- Verifying themes across multiple studies.
- Drawing on recognized organizational and HRM theories to support construct validity.

These actions improve the study's transparency, dependability, and the likelihood someone else could reproduce the review.

Ethical Considerations

Since we only worked with published secondary sources, no ethics approval was necessary. Still, we kept to high ethical standards by:

- Including only public, peer-reviewed literature.

ISSN 2278-2540 | DOI: 10.51583/IJLTEMAS | Volume XV, Issue VI, June 2026

- Representing others' findings faithfully and accurately.
- Citing all sources using APA style.
- Avoiding plagiarism by focusing on synthesis and analysis instead of simply reproducing content.
- Following best practices for systematic reviews to ensure fairness and minimize selection bias.

By keeping to these principles, the study maintains academic integrity and provides a trustworthy synthesis of evidence on climate-responsive HRM and workforce resilience.

FINDINGS

Overview of the Reviewed Studies

This systematic literature review brings together findings from 82 peer-reviewed studies published between 2015 and 2025. The studies cover a wide range of regions including Asia, Europe, North America, Africa, Australia, and Latin America with particular attention to areas facing severe climate vulnerability. Methodologically, the research spans quantitative, qualitative, mixed-methods, conceptual work, and case studies showing just how interdisciplinary climate change adaptation and Human Resource Management (HRM) have become.

The analysis points to growing scholarly interest in the intersection of climate adaptation and HRM, especially after 2020. This uptick lines up with greater global awareness of climate risks, the release of key climate reports, and the organizational lessons learned from COVID-19. Taken together, the literature shows that climate-responsive HRM is now seen as a strategic capability that can improve how employees adapt, boost organizational resilience, and support long-term sustainability.

Publication Trends

In the past five years, there's been a clear rise in publications on climate-responsive HRM. Earlier research focused on Green Human Resource Management (GHRM) and environmental sustainability. More recent work looks at workforce resilience, employee well-being, adaptive leadership, and how organizations prepare for climate-related disruptions.

The review spots three distinct phases in the field's development:

- 2015–2018: Early focus on environmental sustainability and Green HRM.
- 2019–2021: Attention shifts toward organizational resilience and disaster preparedness.
- 2022–2025: Emphasis grows on climate adaptation, workforce resilience, digital HRM, and employee well-being.

So, the focus is moving away from simple environmental compliance to more strategic HRM that helps organizations adjust to climate uncertainty.

Geographic Distribution of Research

The studies show an uneven geographical spread. Most empirical research comes from developed countries. Studies from developing and climate-vulnerable regions are much fewer.

ISSN 2278-2540 | DOI: 10.51583/IJLTEMAS | Volume XV, Issue VI, June 2026

Table 2 Geographic Distribution of Reviewed Studies

Region	Approximate Share	Key Research Focus
Europe	31%	Sustainable HRM, organizational resilience
Asia	28%	Climate adaptation, employee well-being
North America	18%	Leadership and crisis management
Australia & Oceania	9%	Disaster preparedness
Africa	8%	Climate vulnerability and workforce adaptation
Latin America	6%	Community resilience and organizational sustainability

The findings underscore a significant research gap. There's not nearly enough on HRM practices in highly vulnerable regions like Africa, South Asia, Southeast Asia, and small islands developing state, even though these areas face the highest climate risks.

Major Themes Emerging from the Literature

Seven main themes explain the role of HRM in climate adaptation and workforce resilience.

- Theme 1: Climate-Responsive HRM as a Strategic Capability

Most studies agree: HRM isn't just about personnel management anymore but it's now a strategic function that supports organizational resilience. Climate-responsive HRM weaves climate adaptation into workforce planning, employee development, occupational health, performance management, and leadership development.

Organizations that take proactive HR adaptation steps show:

- more flexibility,
- better crisis preparedness,
- higher employee engagement,
- stronger organizational learning,
- faster recovery from climate-related disruptions.

Basically, HRM is now central to climate adaptation strategies, not just an administrative add-on.

- Theme 2: Workforce Resilience Depends on Employee Capability Development

Continuous employee learning stands out as a key factor.

The studies are clear: workforce resilience increases when organizations invest in climate adaptation training, disaster preparedness, occupational safety, digital literacy, crisis management, leadership development, and ongoing professional learning.

Training helps employees anticipate environmental risks, adapt to changing work conditions, and recover after climate disruptions. Organizations that focus on ongoing learning see more innovation during crises because their employees are better problem solvers who adjust quickly.

ISSN 2278-2540 | DOI: 10.51583/IJLTEMAS | Volume XV, Issue VI, June 2026

- Theme 3: Employee Well-being is Central to Climate Adaptation

Nearly all the studies put employee well-being front and center.

Climate change affects employees through heat stress, injuries, fatigue, anxiety, burnout, mental health issues, work-family conflict, and even displacement after disasters.

HR practices that support well-being include:

- wellness programs,
- mental health counselling,
- employee assistance programs,
- flexible work schedules,
- ergonomic redesign,
- health monitoring,
- climate conscious safety policies.

Organizations that emphasize well-being see lower absenteeism, higher morale, stronger commitment, lower turnover, and better productivity.

- Theme 4: Flexible Work Arrangements Improve Organizational Resilience

There's broad agreement: flexibility matters.

Organizations now use remote work, hybrid setups, flexible schedules, digital collaboration, virtual leadership, and cloud-based HR systems.

These arrangements keep people safe from climate risks and keep organizations running during floods, heat waves, storms, or transport issues. Digital HR systems let organizations handle recruitment, performance management, learning, communication, and engagement even if the physical workplace is closed.

- Theme 5: Leadership Determines Organizational Adaptability

Adaptive leadership is a huge predictor of successful climate adaptation.

Good climate-responsive leaders:

- communicate risks clearly,
- support employees emotionally,
- encourage innovation,
- promote learning,
- coordinate crisis responses,
- foster collaboration,
- build trust.

ISSN 2278-2540 | DOI: 10.51583/IJLTEMAS | Volume XV, Issue VI, June 2026

Over and over, studies show that transformational and adaptive leadership styles build resilience by inviting employees to take part in planning and continuous improvement.

- Theme 6: Organizational Learning Enhances Long-Term Resilience

Organizational learning pops up as a key element of workforce resilience.

Learning organizations document what went wrong in disasters, adjust emergency procedures, boost planning, update policies, strengthen communication, and promote knowledge sharing.

Instead of just bouncing back from disruptions, resilient organizations keep getting better through institutional learning.

- Theme 7: Sustainable HRM Supports Climate Adaptation

The research points to tighter ties between Sustainable HRM and climate adaptation.

Organizations that practice Sustainable HRM blend in green recruitment, sustainability training, environmental performance metrics, employee involvement, responsible leadership, and a climate-aware organizational culture.

These moves improve environmental performance and make the workforce more resilient by aligning staff behavior with long-term sustainability goals.

Summary of Key HR Practices Identified

Table 3 HR Practices Supporting Workforce Resilience

HR Practice	**Primary Contribution to Climate Adaptation**
Workforce planning	Anticipates climate-related labor disruptions
Climate adaptation training	Develops employee adaptive capabilities
Occupational health & safety	Reduces climate-related health risks
Flexible work arrangements	Maintains business continuity
Employee well-being programs	Improves psychological resilience
Leadership development	Strengthens adaptive decision-making
Digital HR systems	Enables operational continuity
Performance management	Encourages resilience-oriented behaviors
Knowledge management	Facilitates organizational learning
Employee engagement	Enhances participation in adaptation initiatives

Integration of Theoretical Perspectives

These findings support using all four theoretical foundations proposed in this study.

- Human Capital Theory

ISSN 2278-2540 | DOI: 10.51583/IJLTEMAS | Volume XV, Issue VI, June 2026

The research consistently shows: organizations that invest in employee knowledge, competencies, health, and ongoing learning adapt more successfully during climate disruptions.

Building employee capabilities boosts resilience, sparks innovation, increases flexibility, and strengthens competitiveness over the long term.

- Dynamic Capabilities Theory

Organizations with dynamic capabilities stay alert to climate risks, revise HR policies, adopt new technologies, reconfigure workforce resources, and adapt their structures.

These adaptive habits build real organizational resilience.

- Organizational Resilience Theory

The evidence says resilience is a continuous process of getting prepared, responding, recovering, adapting, and learning.

HRM shapes every stage through workforce development, leadership, communications, and employee support.

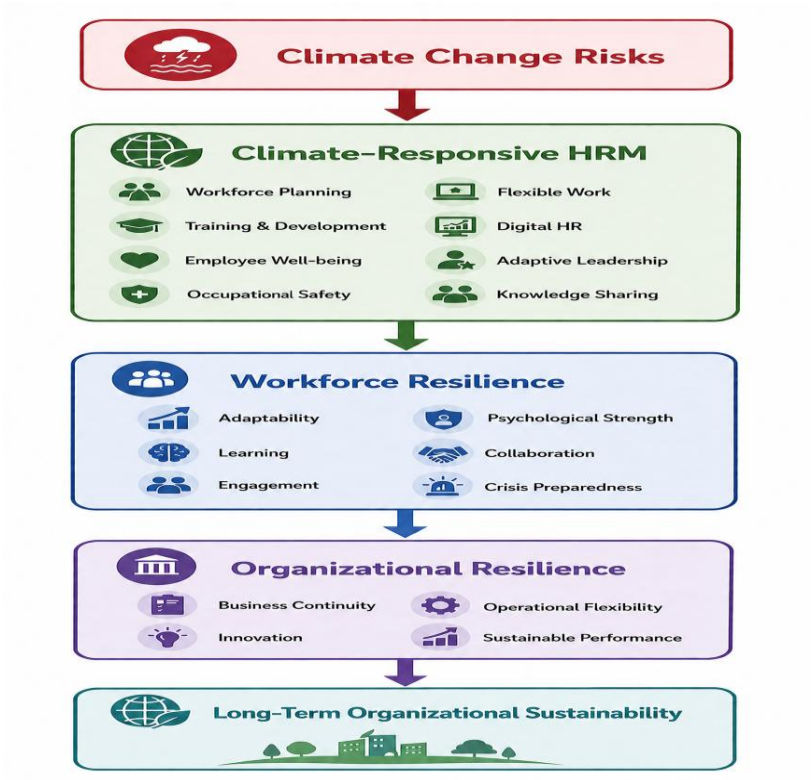
- Ability–Motivation–Opportunity (AMO) Framework

Climate-responsive HR practices build workforce resilience by strengthening abilities through training, boosting motivation with supportive leadership and recognition, and increasing opportunities through participative decision-making.

Organizations that address all three AMO dimensions develop more resilient workforces than those that just focus on technical fixes.

Proposed Integrated Framework Based on Findings

The reviewed studies support this integrated framework:



ISSN 2278-2540 | DOI: 10.51583/IJLTEMAS | Volume XV, Issue VI, June 2026

This model places workforce resilience at the heart of how climate-responsive HRM turns adaptation efforts into sustained organizational performance.

Practical Implications of the Findings

This review has real takeaways for organizations in climate-vulnerable regions:

- HR needs to add climate risk assessment to workforce planning and talent management.
- Continuous climate adaptation training, emergency preparedness, and digital upskilling aren't optional; they're essential.
- Employee health and well-being have to be part of every climate adaptation plan.
- Flexible work and solid digital HR systems are crucial for keeping the business running during disruptions.
- Leadership programs should teach adaptive leadership, crisis communication, and how to build resilience.
- Policymakers have a role too—they should encourage climate-responsive HRM with supportive labor rules, safety standards, and incentives for building workforce resilience.

All told, the evidence shows that organizations making climate adaptation a core HRM priority handle environmental shocks better, protect employee well-being, maintain performance, and become more resilient for the long run.

DISCUSSION

This systematic literature review shows that climate change adaptation has shifted. It's no longer just an environmental or operational issue but it's become a strategic priority for Human Resource Management (HRM). In nearly every study reviewed, workforce resilience stands out as the main way organizations tackle climate-related disruptions while keeping operations running and performance sustainable. The evidence is clear: climate-responsive HRM goes beyond traditional personnel management. It folds in climate risk awareness, focuses on employee skill development, protects occupational health, encourages adaptive leadership, and supports organizational learning as central pieces of workforce strategy.

One big takeaway is this: companies that invest in their people are better prepared for climate uncertainty. Following Human Capital Theory (Becker, 1964), the review confirms that building employee knowledge, skills, health, and fostering continuous learning boosts adaptive capacity and makes organizations more resilient. Training whether in climate adaptation, disaster preparedness, digital skills, or crisis management gives employees the tools they need to deal with a fast-changing environment. More and more, climate-ready organizations see continuous learning not as an occasional activity, but as a core strategy for resilience.

The findings back up Dynamic Capabilities Theory (Teece, 2007) as well. Organizations with strong dynamic capabilities keep an eye on environmental change, update HR policies, bring in new technologies, and adjust workforce resources to meet emerging climate risks. Adaptive HR systems power quick organizational responses through flexible workforce planning, digital HR platforms, remote work options, and agile leadership. HRM, then, becomes a strategic strength. It helps organizations spot climate threats, act on opportunities, and reshape internal processes for long-term survival.

Another key finding centers on employee well-being. Climate hazards like heat stress, floods, extreme weather, air pollution, or natural disasters have a direct impact on employees physical health, mental resilience, and job performance. Organizations that make occupational health and safety, mental health support, employee assistance, and flexible schedules top priorities build a more resilient workforce than those focused only on

ISSN 2278-2540 | DOI: 10.51583/IJLTEMAS | Volume XV, Issue VI, June 2026

keeping the business running. This underlines earlier research highlighting that employee well-being is crucial for sustainable performance (Bardoel et al., 2014; Berry et al., 2018).

The review also makes it clear: adaptive leadership plays a vital role in workforce resilience. Leaders, who respond to climate threats openly, support staff through crises, encourage new ideas, and drive collaborative problem-solving foster trust and loyalty. Employees then adapt faster to uncertainty. This fits with Organizational Resilience Theory (Duchek, 2020), which points to leadership, organizational learning, and adaptive decisions as pillars of resilience. Organizations led by adaptive leaders bounce back more quickly from climate events because employees feel empowered to help build resilience and improve practices.

Flexible work arrangements are also emerging as critical adaptation tools. The pandemic proved that digital technologies can keep businesses running even with massive disruption. Existing research shows flexible work policies keep employees safer from climate hazards while allowing business to continue during floods, heat waves, storms, or transport breakdowns. Digital HR systems like cloud recruitment, online training, virtual performance reviews, and digital communications make sure employees stay engaged and productive, even if the physical workplace is closed. Digital transformation, in this way, complements climate adaptation by making organizations more flexible and workers more accessible.

Thematic analysis reveals a growing overlap between Sustainable Human Resource Management (SHRM) and climate adaptation. Early SHRM research emphasized environmental responsibility and Green HRM. Now, the focus is expanding to workforce resilience, employee welfare, adaptive leadership, and climate risk management. SHRM today stresses a balance: environmental responsibility, employee well-being, organizational performance, and broader societal resilience. By weaving climate adaptation into HR strategy, organizations boost both competitiveness and sustainability.

But challenges remain. First, most research comes from developed countries. Vulnerable regions especially in Asia, Africa, Latin America, and small island states are still underrepresented. These areas face higher climate risks yet often lack resources, strong institutions, and robust labor markets. As a result, strategies built in wealthier countries don’t always fit developing contexts.

Second, many organizations still treat climate adaptation as an operational or environmental issue rather than strategic HR challenge. Too often, HR joins the conversation only after disruptions hit, instead of actively contributing to climate risk assessments, planning, and preparedness. Bringing HR professionals fully into climate governance could build readiness and lower workforce vulnerability.

Third, there’s not enough long-term research on workforce resilience. While many studies document disaster preparedness or employee health right after climate events, few track the lasting impacts of climate-focused HR practices specially on performance, retention, innovation, or competitive edge. Longitudinal research is needed to understand how resilience changes over time.

Finally, while several theories explain certain parts of climate-responsive HRM, very few studies tie together Human Capital Theory, Dynamic Capabilities Theory, Organizational Resilience Theory, and the Ability–Motivation–Opportunity (AMO) framework into one model. This study’s integrated framework fills that gap and it shows how climate-responsive HR practices build employee skills, motivation, and involvement, strengthening workforce resilience and supporting sustainable performance.

CONCLUSION

Climate change stands out as one of the biggest challenges organizations face in the twenty-first century. It’s not just about the environment but climate change shapes workforce availability, affects occupational health, influences employee well-being, and directly impacts how productive and sustainable organizations can be for the long haul. As climate disruptions hit more often and grow more intense, organizations need to go beyond just protecting their infrastructure or rolling out new technology. They have to get serious about managing their people, too.

ISSN 2278-2540 | DOI: 10.51583/IJLTEMAS | Volume XV, Issue VI, June 2026

This systematic literature review looks at how Human Resource Management (HRM) can help boost workforce resilience, especially in regions most at risk from climate impacts. The review pulls together findings from 82 peer-reviewed studies published from 2015 to 2025. The evidence shows that HR teams who focus on climate-responsive practices can significantly strengthen an organization's ability to adapt. They do this by building employee preparedness, boosting leadership skills, protecting occupational health, fostering organizational learning, and supporting flexible, digitally-enabled workforces.

The results point to workforce resilience as the critical link between climate-responsive HR practices and a resilient organization. Companies that invest in climate adaptation training, prioritize employee well-being and safety, encourage adaptive leadership, offer flexible work, and embrace knowledge sharing consistently perform better during climate crises. These HR practices help employees spot risks early, deal with crises more effectively, recover faster, and learn for the future.

Theory backs this up, too. Human Capital Theory, Dynamic Capabilities Theory, Organizational Resilience Theory, and the Ability–Motivation–Opportunity framework together provide a strong analytical base for understanding climate-responsive HRM. They show why investing in people, building adaptive processes, encouraging participation, and developing resilient leaders are essential for organizations to thrive amid climate uncertainty.

On the practical side, HR professionals need to play an active role in climate adaptation planning. Workforce planning must include climate risk assessment. Recruiting should focus on adaptability and resilience. Employee development should offer climate preparedness and digital skill-building. Leadership programs must strengthen crisis management and adaptive decision-making. Organizations should also weave in employee health, mental well-being, safety, and flexible work policies as part of their climate resilience plans.

There's also a wake-up call here for policymakers. Governments and regulatory bodies need to push organizations to build climate resilience into labor policy, health and safety regulations, workforce development, and disaster preparedness plans. Public-private partnerships can help, especially by supporting climate adaptation training, digital infrastructure, and resilient employment practices in vulnerable regions.

Of course, the study isn't without its limits. Since it's a literature review, it relies on what's already been published and it doesn't collect new empirical data. The review only covers English-language, peer-reviewed work, so research published in other languages or in the gray literature might be missing. Future studies should use longitudinal research, compare results across countries, and mix qualitative and quantitative methods to dig deeper into what really works over the long term. There's also a need for more research in developing economies and climate-vulnerable areas to understand how local realities shape adaptation.

To sum up: Climate change adaptation can't just be an environmental management problem. It's a core HRM responsibility. Organizations that work climate resilience into their HR policies, leadership development, employee well-being programs, and workforce plans are more likely to safeguard their people, keep their performance up, and stay competitive as the climate grows more unpredictable. By putting people at the heart of climate strategies, HRM plays a crucial role in building resilient organizations and promoting sustainable development in the regions that need it most.

REFERENCES

1. Adger, W. N., Barnett, J., Brown, K., Marshall, N., & O'Brien, K. (2013). Cultural dimensions of climate change impacts and adaptation. Nature Climate Change, 3(2), 112–117. https://doi.org/10.1038/nclimate1666
2. Appelbaum, E., Bailey, T., Berg, P., & Kalleberg, A. L. (2000). Manufacturing advantage: Why high-performance work systems pay off. Cornell University Press.
3. Bardoel, E. A., Pettit, T. M., De Cieri, H., & McMillan, L. (2014). Employee resilience: An emerging challenge for HRM. Asia Pacific Journal of Human Resources, 52(3), 279–297. https://doi.org/10.1111/1744-7941.12033

ISSN 2278-2540 | DOI: 10.51583/IJLTEMAS | Volume XV, Issue VI, June 2026

4. Becker, G. S. (1964). Human capital: A theoretical and empirical analysis, with special reference to education. University of Chicago Press.
5. Berrang-Ford, L., Siders, A. R., Lesnikowski, A., Fischer, A. P., Callaghan, M. W., Haddaway, N. R., Mach, K. J., Araos, M., Shah, M. A. R., Wannewitz, M., Doshi, D., Leiter, T., & Newman, P. (2021). A systematic global stocktake of evidence on human adaptation to climate change. Nature Climate Change, 11(11), 989–1000. https://doi.org/10.1038/s41558-021-01170-y
6. Berry, H. L., Bowen, K., & Kjellstrom, T. (2010). Climate change and mental health: A causal pathways framework. International Journal of Public Health, 55(2), 123–132. https://doi.org/10.1007/s00038-009-0112-0
7. Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. Qualitative Research in Psychology, 3(2), 77–101. https://doi.org/10.1191/1478088706qp063oa
8. Carnevale, J. B., & Hatak, I. (2020). Employee adjustment and well-being in the era of COVID-19: Implications for human resource management. Journal of Business Research, 116, 183–187. https://doi.org/10.1016/j.jbusres.2020.05.037
9. Duchek, S. (2020). Organizational resilience: A capability-based conceptualization. Business Research, 13(1), 215–246. https://doi.org/10.1007/s40685-019-0085-7
10. Ehnert, I. (2009). Sustainable human resource management: A conceptual and exploratory analysis from a paradox perspective. Physica-Verlag.
11. Elkington, J. (1997). Cannibals with forks: The triple bottom line of 21st century business. Capstone Publishing.
12. Huselid, M. A. (1995). The impact of human resource management practices on turnover, productivity, and corporate financial performance. Academy of Management Journal, 38(3), 635–672. https://doi.org/10.2307/256741
13. Jackson, S. E., Renwick, D. W. S., Jabbour, C. J. C., & Muller-Camen, M. (2011). State-of-the-art and future directions for green human resource management. Zeitschrift für Personalforschung, 25(2), 99–116. https://doi.org/10.1688/1862-0000_ZfP_2011_02_Jackson
14. Kramar, R. (2014). Beyond strategic human resource management: Is sustainable human resource management the next approach? The International Journal of Human Resource Management, 25(8), 1069–1089. https://doi.org/10.1080/09585192.2013.816863
15. Lengnick-Hall, C. A., Beck, T. E., & Lengnick-Hall, M. L. (2011). Developing a capacity for organizational resilience through strategic human resource management. Human Resource Management Review, 21(3), 243–255. https://doi.org/10.1016/j.hrmr.2010.07.001
16. Northouse, P. G. (2022). Leadership: Theory and practice (9th ed.). Sage Publications.
17. Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., … Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. BMJ, 372, n71. https://doi.org/10.1136/bmj.n71
18. Renwick, D. W. S., Redman, T., & Maguire, S. (2013). Green human resource management: A review and research agenda. International Journal of Management Reviews, 15(1), 1–14. https://doi.org/10.1111/j.1468-2370.2011.00328.x
19. Schein, E. H., & Schein, P. A. (2017). Organizational culture and leadership (5th ed.). Wiley.
20. Smit, B., & Wandel, J. (2006). Adaptation, adaptive capacity and vulnerability. Global Environmental Change, 16(3), 282–292. https://doi.org/10.1016/j.gloenvcha.2006.03.008
21. Teece, D. J. (2007). Explicating dynamic capabilities: The nature and microfoundations of sustainable enterprise performance. Strategic Management Journal, 28(13), 1319–1350. https://doi.org/10.1002/smj.640
22. Tranfield, D., Denyer, D., & Smart, P. (2003). Towards a methodology for developing evidence-informed management knowledge by means of systematic review. British Journal of Management, 14(3), 207–222. https://doi.org/10.1111/1467-8551.00375
23. United Nations. (2015). Transforming our world: The 2030 Agenda for Sustainable Development. https://sdgs.un.org/2030agenda

ISSN 2278-2540 | DOI: 10.51583/IJLTEMAS | Volume XV, Issue VI, June 2026

24. United Nations Environment Programme. (2023). Adaptation Gap Report 2023. https://www.unep.org/resources/adaptation-gap-report-2023
25. United Nations Framework Convention on Climate Change. (2015). The Paris Agreement. https://unfccc.int/process-and-meetings/the-paris-agreement
26. Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. MIS Quarterly, 27(3), 425–478. https://doi.org/10.2307/30036540
27. World Health Organization. (2023). Climate change. https://www.who.int/news-room/fact-sheets/detail/climate-change
28. International Labour Organization. (2024). Ensuring safety and health at work in a changing climate. https://www.ilo.org/publications/ensuring-safety-and-health-work-changing-climate
29. Intergovernmental Panel on Climate Change. (2023). Climate Change 2023: Synthesis Report. https://www.ipcc.ch/report/ar6/syr/
30. United Nations Development Programme. (2023). Human Development Report 2023/2024. https://hdr.undp.org
31. World Economic Forum. (2024). The Global Risks Report 2024 (19th ed.). https://www.weforum.org/reports/global-risks-report-2024
32. Aguinis, H. (2023). Performance management (5th ed.). Chicago Business Press.
33. Boxall, P., & Purcell, J. (2022). Strategy and human resource management (5th ed.). Red Globe Press.
34. Jabbour, C. J. C., & Santos, F. C. A. (2008). The central role of human resource management in the search for sustainable organizations. The International Journal of Human Resource Management, 19(12), 2133–2154. https://doi.org/10.1080/09585190802479389
35. Meyer, J. P., & Allen, N. J. (1997). Commitment in the workplace: Theory, research, and application. Sage Publications.
36. Ulrich, D., Younger, J., Brockbank, W., & Ulrich, M. (2012). HR from the outside in: Six competencies for the future of human resources. McGraw-Hill.