



Learning Networks in the Workplace: Acquiring and Enhancing Knowledge for the Green Economy

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Introduction

Understanding the Green Transition

The 21st century faces unprecedented

- environmental challenges:**
- ❖ climate change, biodiversity loss, and depletion of natural resources
 - ❖ linear economic models (“take–make–dispose”) have proven unsustainable

- The Green Economy emerges as a development model:**
- ❖ reduces ecological risks and carbon emissions
 - ❖ ensures fair resource distribution and job creation
 - ❖ promotes long-term environmental, economic, and social resilience

The Central Role of Education and Learning

- ❖ The shift to a green economy is not just about policies or technologies - it is a deep cultural and behavioural transformation
- ❖ Adult education & lifelong learning are essential for:
 - ✓ updating knowledge and competencies across all professions
 - ✓ challenging unsustainable practices and assumptions
 - ✓ empowering individuals to take part in collective ecological change
- ❖ Learning networks in the workplace enable:
 - ✓ peer learning and collaborative problem-solving
 - ✓ integration of sustainable practices across departments
 - ✓ knowledge sharing on green innovations and soft skills

Aims of the Presentation

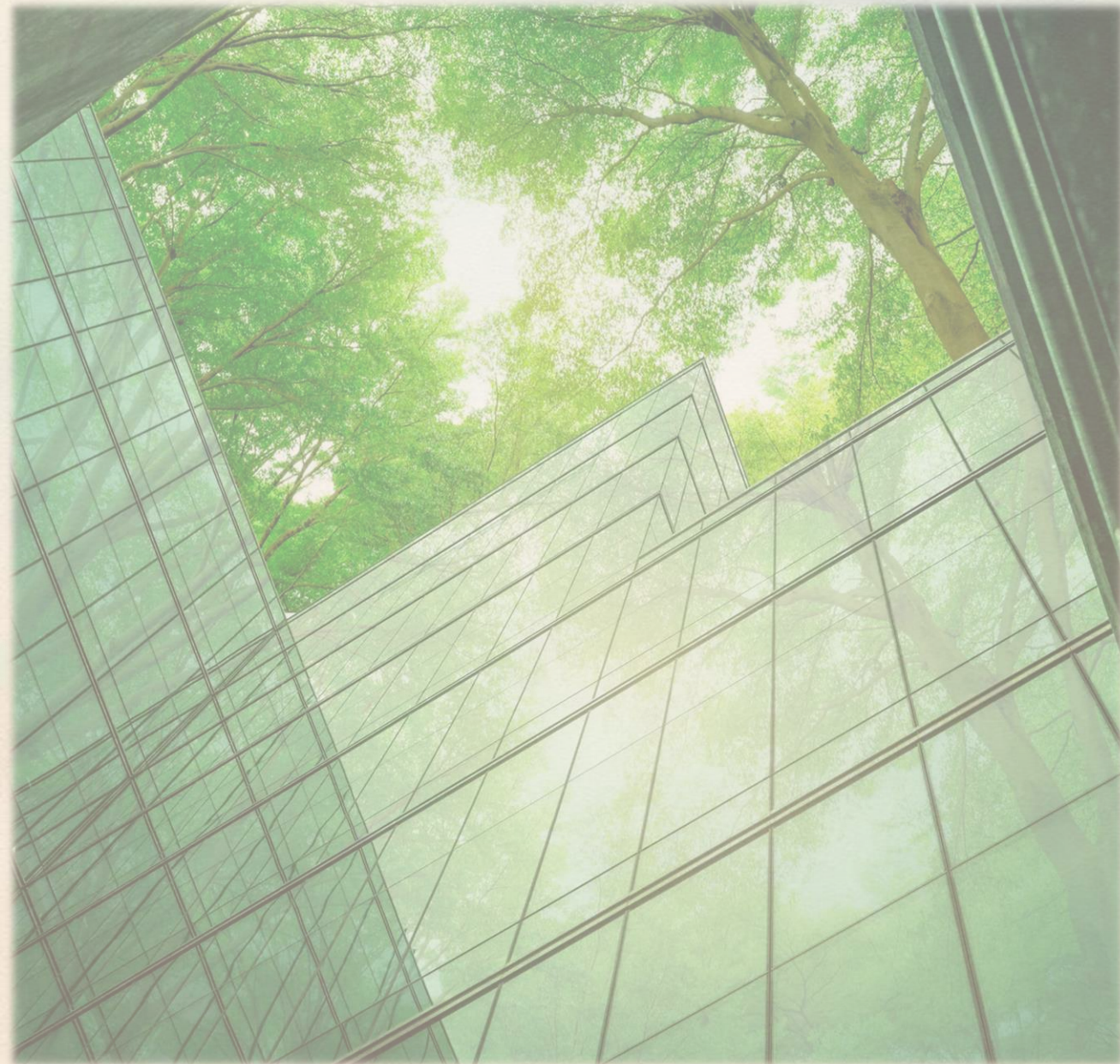
- ✓ To explore how adult education and human resource development respond to the demands of the green economy
- ✓ To analyse the contribution of learning networks as strategic tools for building green knowledge, values and skills
- ✓ To link theory (educational frameworks) with practice (HR strategies and workplace learning) in the context of sustainability
- ✓ To highlight how the workplace becomes a transformative learning environment for ecological transition and inclusive development



Important Definitions (1/2)

Adult Education

- ❖ A field focused on structured learning opportunities for individuals beyond formal schooling age
- ❖ Aims:
 - ✓ personal development
 - ✓ professional competence
 - ✓ social engagement and active citizenship
- ❖ Key principles:
 - ✓ voluntary and self-directed participation
 - ✓ based on learners' prior experiences
 - ✓ oriented toward practical, real-life application
 - ✓ emphasizes flexibility, relevance and experiential learning



Important Definitions (2/2)

Core Theories of Adult Learning

❖ Malcolm Knowles - Andragogy

- ✓ Adults are autonomous learners who need to know why, what, and how they are learning
- ✓ **Relevance:** Ideal for workplace training in green skills (e.g. energy efficiency, waste reduction)

❖ Jack Mezirow - Transformative Learning

- ✓ Learning as a process of critical reflection that transforms beliefs and worldviews
- ✓ **Relevance:** Essential for changing unsustainable mindsets and enabling deep ecological awareness

❖ Paulo Freire - Critical Pedagogy

- ✓ Education as a tool for emancipation, social justice, and collective action
- ✓ **Relevance:** Inspires action for climate justice, green citizenship, and inclusive development

Educational Value in the Green Economy

These theories are complementary and support different dimensions of green learning:

- ❖ **Andragogy** → Skill acquisition and practical relevance
- ❖ **Critical Pedagogy** → Collective empowerment and eco-social justice
- ❖ **Transformative Learning** → Inner change and values development



Lifelong Learning & Social Participation

Lifelong Learning: A Paradigm for Sustainable Societies

- ❖ Defined by UNESCO as: “All learning activities throughout life that improve knowledge, skills, and competences for personal, social, and professional development”
- ❖ Goes beyond formal education - includes non-formal and informal learning in: ✓ **The workplace** ✓ **Communities**
✓ **Homes** ✓ **Daily life**
- ❖ Key characteristics: 1. Continuous, flexible, personalized 2. Encourages self-direction, critical thinking and active citizenship

Why Lifelong Learning Matters for the Green Economy

- ❖ Enables constant reskilling and upskilling in response to evolving ecological and economic demands
- ❖ Builds green literacy - understanding of sustainable practices and environmental challenges
- ❖ Supports behavioural change at both individual and collective levels
- ❖ Empowers people to participate in:
 - ✓ **community-based environmental actions**
 - ✓ **green innovation at work and in daily life**
 - ✓ **sustainable consumption**

Community Participation and Local Sustainability

- ❖ Learning fosters collaborative action and creates communities of practice
- Encourages:**
 - ✓ **Democratic participation in local sustainability planning**
 - ✓ **Co-creation of solutions for green mobility, energy, food, and waste**
 - ✓ **Empowerment of citizens as agents of ecological and social transformation**

Human Resource Development (HRD)

Definition and Scope

- ❖ HRD: Structured efforts to develop knowledge, skills, attitudes, and performance
- ❖ Extends beyond training to include:
 - ✓ **personal development**
 - ✓ **leadership growth**
 - ✓ **innovation**
 - ✓ **social participation**

HRD in the Green Economy

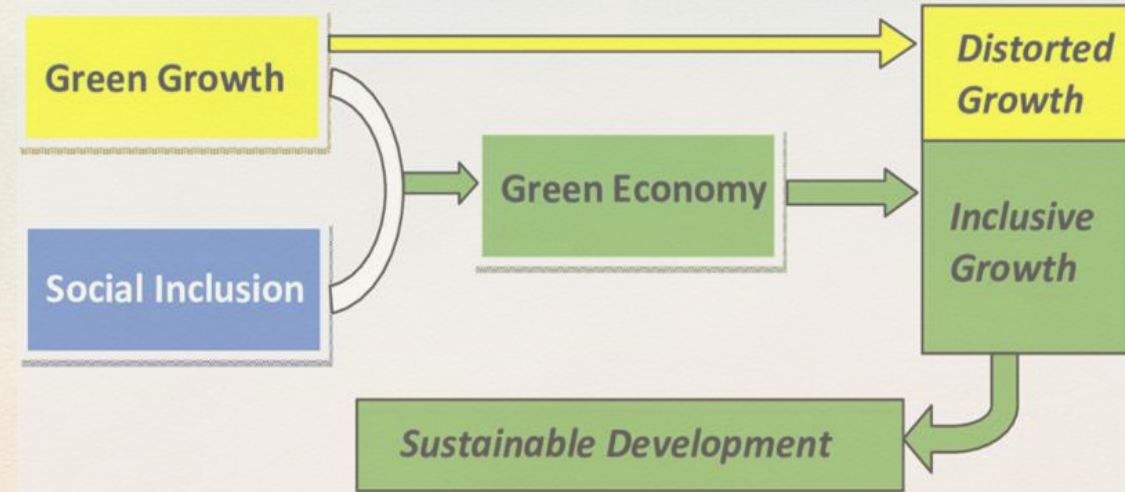
- ❖ Supports workforce adaptation to:
 - ✓ **environmental transitions**
 - ✓ **technological change**

Promotes:

- ✓ **green skills**
- ✓ **lifelong learning culture**
- ✓ **sustainability-driven innovation**

Key Functions

- ❖ Develops technical and soft green skills
- ❖ Fosters ecological values and behaviours in the workplace
- ❖ Encourages inclusive growth by supporting vulnerable groups
- ❖ Aligns employee performance with sustainability goals



https://www.researchgate.net/publication/312032619_Reforming_Fiscal_Policy_towards_Inclusive_Growth_in_Africa_From_Brown_Growth_to_Green_Economy

Connection to Adult Education

Applies adult learning principles:

- ❖ Self-directed and experience-based
- ❖ Relevant to real-world challenges

Adult education offers pedagogical depth; HRD ensures organizational integration

Knowledge Economy & Human Capital

The Knowledge Economy

Driven by:

- ❖ innovation
- ❖ digitalization
- ❖ intangible assets (skills, ideas, networks)

Replaces the traditional model based on raw materials and manual labour

Requires:

- ❖ highly educated, adaptive, and creative workers
- ❖ systems for lifelong learning and skill upgrading

Relevance for the Green Economy

Human capital is key for:

- ❖ Green job readiness
- ❖ Ecological innovation
- ❖ Sustainable decision-making

Investment in people and learning systems is essential for green transitions and inclusive growth

Human Capital as a Core Asset

Defined as: The knowledge, competencies, and personal qualities individuals bring to work

Unique and non-transferable - leaves with the employee

Strategic value:

- ❖ increases productivity
- ❖ drives innovation
- ❖ enhances organizational resilience



Green vs. Traditional Economy

Green Economy: Definition & Focus

A model that promotes: ❖ **human well-being** ❖ **social equity** ❖ **environmental preservation**

Based on: ✓ **Low-carbon development** ✓ **Efficient, circular use of resources** ✓ **Inclusive, fair access to opportunities**

Traditional Economy: Limitations

Prioritizes: ❖ **GDP growth** ❖ **profit maximization** ❖ **resource extraction**

Characteristics: ✓ **Linear model ("Take – Make – Dispose")** ✓ **Ignores externalities like pollution and inequality**
✓ **Leads to overconsumption and ecological degradation**

Dimension	Traditional Economy	Green Economy
Development Focus	Growth at all costs	Sustainability, quality of life
Resource Use	Intensive, extractive	Efficient, regenerative
Production Model	Linear: produce–consume–discard	Circular: reduce–reuse–recycle
Environmental Concern	Secondary or externalized	Core principle
Social Inclusion	Often neglected	Actively promoted (e.g. green jobs, local equity)
Job Market	Quantity-focused	Quality + green skills & social responsibility

❖ The green economy redefines how and why we produce and consume

❖ Education and lifelong learning are vital to shift from traditional mindsets to sustainable practices and just transitions

Adult Education & Green Skills

Adult Education for Behavioural Change

Encourages: ❖ **environmental awareness** ❖ **responsible consumption** ❖ **community participation**

Based on transformative and experiential learning: ✓ Dialogue, reflection, action ✓ Redefines unsustainable habits and attitudes

Learning = not just knowledge but identity and value transformation

What Are Green Skills?

Defined as the knowledge, abilities, values and attitudes needed to live, work, and act in a sustainable way.

1. Technical Green Skills

Application in specific sectors:

- ✓ renewable energy
(e.g. solar panel installation)
- ✓ green construction & efficiency
- ✓ waste & water management
- ✓ ecological agriculture

2. Transversal (Cross-cutting) Green Skills

Useful across all professions:

- ✓ critical thinking on sustainability
- ✓ systems thinking
(society–economy–nature interconnection)
- ✓ collaboration and problem-solving
- ✓ use of digital tools for green innovation

3. Ethical & Attitudinal Skills

Internalization of sustainability as a value:

- ✓ environmental empathy
- ✓ responsibility toward future generations
- ✓ participation in local environmental actions
- ✓ commitment to social and climate justice

- ✓ Green skills are not taught through theory alone - Require hands-on, participatory, and context-based approaches
- ✓ Adult education settings (workshops, fieldwork, mentoring) offer ideal environments for developing practical green competence

Green Jobs & Workforce Transformation

Emerging Green Professions

Growth in jobs related to: ✓ renewable energy systems ✓ energy-efficient construction ✓ circular economy logistics
✓ urban sustainability and green infrastructure

Transformation of Traditional Roles

Existing occupations are acquiring green characteristics:

- ❖ Engineers → sustainable design
- ❖ Farmers → organic/regenerative agriculture
- ❖ Teachers → environmental literacy promotion

Social Inclusion through Green Jobs

Adult education enables access to green careers for:

- ❖ unemployed individuals
- ❖ women re-entering the workforce
- ❖ migrants and low-skilled workers

Training Needs

- ✓ Combines technical, digital, and ethical skills
- ✓ Delivered through: ❖ vocational training ❖ upskilling & reskilling programs
❖ community learning and employer partnerships



HRD Practices in the Green Economy

Green-Oriented Training Strategies

- ✓ Sustainability integrated into onboarding, upskilling, evaluation
- ✓ Topics include: ❖ **energy management** ❖ **waste reduction** ❖ **ESG compliance** (Environmental, Social, Governance)

Experiential Learning Models

- ✓ Focus on: ❖ **problem-solving workshops** ❖ **team-based simulations and reflection** ❖ **real-life green projects**

Green Leadership Development

- ✓ Cultivates leaders who:
 - ❖ **inspire environmental responsibility**
 - ❖ **align business strategy with sustainability**
 - ❖ **promote participatory decision-making**

Recognition Tools

- ✓ Use of micro-credentials and short courses to validate green skills
- ✓ Supports continuous learning and employability in green sectors

Learning Networks

Workplace Learning Networks

Structured knowledge-sharing systems that:

- ❖ **foster collaboration across departments**
- ❖ **promote green practices and innovation**
- ❖ **empower employees through peer learning**

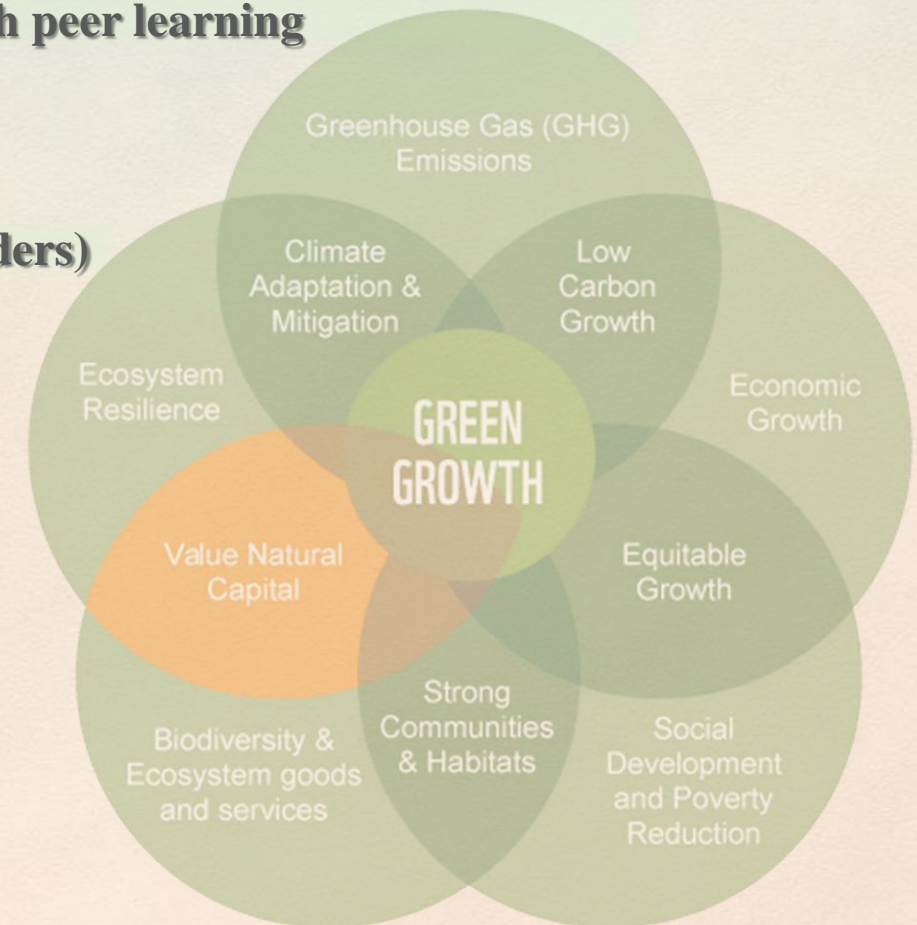
Examples: ❖ **“Green teams” in companies**

❖ **sustainability-focused mentoring circles**

❖ **cross-sector partnerships (e.g. NGOs, SMEs, training providers)**

Why Learning Networks Matter

- ✓ encourage collective responsibility and local action
- ✓ facilitate continuous, contextual, and reflective learning
- ✓ transform workplaces into learning ecosystems for sustainability



Key Proposals

Key Proposals for Action

- ✓ Integrate green content into all adult education programs
- ✓ Support lifelong learning structures at local level (e.g. community hubs, LLL centers)
- ✓ Use micro-credentials to validate green skills across all sectors
- ✓ Train adult educators in sustainability pedagogy
- ✓ Strengthen public–private cooperation for green upskilling and innovation



THANK YOU FOR YOUR ATTENTION

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