

South Ethiopia Regional State

Institute of Capacity Building and Policy Studies

Capacity Building and Policy Studies Thematic
Areas (2026- 2030)

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Message of General Director of the Institute of Capacity Building and Policy Studies of South Ethiopia Regional State!

We aspire to emerge as a leading centre of excellence in technology-driven capacity building and impactful policy studies by 2023 E.C. To that end, our institute is committed to produce evidence-based research and actionable policy recommendations, deliver high quality digitally enabled training to strengthen institutional capacity, provide result oriented consultancy services to enhance policy implementations, strengthen institutional systems, human capital, and knowledge management and build strategic alliances and mobilize resources to maximize impact in our region.

In a rapidly changing world, effective governance requires strong analytical capacity, skilled human resources, and collaborative partnerships. Our institute works closely with regional government bureaus, academic institutions, development partners, and community organizations to ensure that policies are well-informed, inclusive, and responsive to the needs of our citizens. We believe that investing in research, training, and institutional development is essential for building a resilient and prosperous country and region. By strengthening leadership skills, improving administrative systems, and promoting innovation in public service, we strive to contribute our fair share to efficient governance and sustainable socio-economic development.

Over the past few years, we have worked tirelessly to strengthen institutions, empower individuals with necessary skills and knowledge, and advance evidence-based policy studies. Capacity building is not merely about providing trainings-it is about nurturing resilience, fostering innovation, and equipping leaders, experts and public servants to meet the challenges of our time. Policy studies, when grounded in rigorous research and inclusive dialogue, provide the roadmap that guides researchers, institutions and organizations toward sustainable prosperity and social justice.

The Institute of Capacity Building and Policy studies is focusing on agriculture, tourism, manufacturing industries, mining, information and technology, and social affairs. In order to realize these focus areas, the Institute has developed a five-year (2026-2030) thematic areas plan to conduct capacity building and policy studies based on needs assessment (potentials, opportunities, and challenges) in South Ethiopia Regional State for preparing the thematic areas.

Finally, my gratitude extends to all the individuals and professionals who are involved directly or indirectly in developing the thematic areas.

Professor Takele Tadesse

General Director

Institute of Capacity Building and Policy Studies, South Ethiopian Regional State

Background

The Institute of Capacity Building and Policy Studies (ICBPS) of the South Ethiopia Regional State was established as a strategic institutional response to the growing need for evidence-based policy formulation, rigorous research, and targeted capacity development within the newly formed regional state. The Institute serves as a regional think tank and research hub, designed to support the South Ethiopia Regional State in addressing its unique socio-economic, administrative, and governance challenges through knowledge generation, policy analysis, and capacity building initiatives.

As part of the regional government's commitment to sustainable and inclusive development, the ICBPS plays a central role in strengthening public sector performance, fostering informed policy dialogue, and enhancing institutional capacities across government sectors and civil society stakeholders. The mandate of the Institute includes conducting applied research on priority development issues, generating actionable policy recommendations, and designing tailored training and capacity development programs aligned with the region's strategic development agenda.

The Institute also acts as a bridge between regional public institutions, academic bodies, and national or international research partners to promote collaborative research, knowledge exchange, and best practices in policy studies and implementation. For example, ICBPS has signed strategic partnerships with national research institutions such as the Policy Studies Institute (PSI) to harmonize research agendas and co-create policy solutions tailored to regional development contexts.

By grounding its work in empirical evidence and focusing on the socio-economic realities of the South Ethiopia Regional State, the ICBPS contributes directly to strengthening governance systems, enhancing policy coherence, and building long-term institutional capacities that support effective public service delivery and sustainable development outcomes.

In this regard, the office of ICBPS has prepared thematic areas based on the current agenda to ensure quality research and associated policy solutions. Therefore, this document has been prepared on Thematic areas for the next five years (2026- 2030) by the office which helps it get the organizational and administrative tasks, so does advice that promotes and runs its mission and continues its contributions to the national development.

Mission, Vision, Core values and Motto

Mission

To strengthen leadership and institutional implementation capacity and promote sustainable and holistic development through evidence based policy and strategic research, quality technology-driven capacity-building training, and practical advisory services.

Vision

To emerge as a leading centre of excellence in technology-driven capacity building and impactful policy studies by 2030.

Core Values

- Excellence – Commitment to quality and high performance
- Integrity -Transparency, accountability, and ethical conduct
- Evidence - Driven Approach – Decisions grounded in scientific data
- Innovation – Promoting creative and modern solutions
- Inclusiveness – Equity and stakeholder participation
- Collaboration – Strategic partnerships and teamwork

Strategic Pillars

- Policy and Strategic Research Excellence- Producing evidence-based research and actionable policy recommendations.
- Capacity Building and Digital Transformation- Delivering high quality digitally enabled training to strengthen institutional capacity.
- Professional Advisory and Technical Support- Providing result oriented advisory services to enhance policy implementation.
- Institutional Excellence and Governance- Strengthening internal systems, human capital, and knowledge management.

- Partnership and Resource Mobilization- Building strategic alliances and mobilizing resources to maximize impact.

Motto

Knowledge for Holistic Prosperity!

Major thematic areas for focus areas

Agriculture

Introduction

Food security remains a top development priority and a pressing challenge for Ethiopia, including the South Ethiopia Regional State, where agriculture constitutes the foundation of livelihoods, income generation, and rural employment. The issue of food security is firmly embedded in the 2030 Agenda for Sustainable Development and is equally central to Ethiopia's national and regional development agendas. From a human development and capability perspective, food security is indispensable, as access to sufficient, safe, and nutritious food underpins essential human capabilities, including health, productivity, and resilience. In South Ethiopia—characterized by high population density, land fragmentation, and climate sensitivity—strengthening food systems through agricultural transformation is particularly critical.

Agriculture in South Ethiopia is predominantly smallholder-based, integrating crop production, livestock rearing, and, in some areas, agroforestry and perennial farming systems. The region encompasses diverse agro-ecological zones ranging from highland mixed farming systems to mid-altitude and lowland areas suitable for cereals, enset, coffee, pulses, oilseeds, fruits, vegetables, and livestock production. Enset-based farming systems, which are unique to south and southwestern Ethiopia, play a vital role in household food security and resilience against climatic shocks. Despite this diversity and potential, agricultural productivity in the region remains low due to limited access to improved technologies, declining soil fertility, climate variability, livestock disease pressures, and weak market integration.

Globally, agriculture has evolved from low-input traditional systems to highly technology-intensive production models that utilize precision agriculture tools such as sensors, drones, GIS, GPS-based machinery, and data-driven decision-making platforms. While such technologies have significantly increased productivity and efficiency elsewhere, their

adoption in South Ethiopia remains limited. This gap reflects broader patterns across Sub-Saharan Africa, where underinvestment in agricultural research, extension, and innovation systems has resulted in slower productivity growth and constrained adaptive capacity. Nevertheless, agriculture remains the most effective pathway for poverty reduction in the region, as rural households are overwhelmingly dependent on farming and livestock for both food and income. Consistent with regional and continental evidence, growth in agriculture is substantially more effective in reducing poverty than growth in non-agricultural sectors.

Agriculture in South Ethiopia contributes directly to food availability, dietary diversity, employment, and local economic development. However, the sector faces mounting challenges, including increasing population pressure on land, recurrent droughts and erratic rainfall, land degradation, limited irrigation coverage, post-harvest losses, and gender-based constraints that disproportionately affect women farmers. Women play a central role in crop production, livestock management, food processing, and household nutrition, yet their access to land, credit, technologies, and extension services remains limited. Addressing food insecurity and malnutrition in the region therefore requires integrated, gender-responsive, and nutrition-sensitive agricultural approaches.

At the national level, agriculture is the backbone of the Ethiopian economy, employing over 80 percent of the labor force and serving as the primary source of livelihood for the majority of the population. This structural reality is even more pronounced in South Ethiopia, where alternative employment opportunities outside agriculture are limited. Accordingly, regional development strategies emphasize increasing agricultural production and productivity, strengthening value chains, promoting climate-resilient farming practices, and improving market access for smallholder farmers. However, rising demand for food—driven by population growth and urbanization—is not being matched by commensurate increases in local production, despite the region’s considerable natural and human resource potential.

Key constraints to agricultural transformation in South Ethiopia include socio-economic limitations, environmental stressors, low adoption of improved crop and livestock genetics, inadequate access to modern inputs, weak extension-research-farmer linkages, and institutional capacity gaps at regional and local levels. Overcoming these challenges requires a shift toward science-based decision-making, evidence-informed policy design, and the systematic use of productivity-enhancing and climate-smart technologies tailored to local agro-ecological conditions.

In this regard, universities, research institutes, and regional policy and capacity-building institutions have a pivotal role to play in supporting agricultural transformation in South Ethiopia. Through applied research, technology testing and demonstration, farmer training, and community-based capacity development, these institutions can help translate scientific knowledge into practical solutions for smallholder farmers. Moreover, by generating context-specific evidence and policy insights, they can inform regional planning, strengthen implementation capacity, and support the scaling up of successful innovations. Against this backdrop, the proposed thematic areas and sub-themes are designed to guide problem-solving research, informing policy, and the scaling of agricultural innovations and technologies that respond directly to the development challenges and opportunities of the South Ethiopia Regional State.

Thematic Areas for Agriculture

Theme 1. Crop production and management

Theme 2. Quality of crop product quality, development and reduction of postharvest losses

Theme 3. Livestock and fish production, product handling and processing

Theme 4. Honey, and silk production

Theme 5. Animal health care

Theme 6. Soil, water, and Watershed Management

Theme 7. Irrigation water management

Theme 8. Forest and wildlife management and conservation

Theme 9. Climate change adaptation and mitigation

Theme 10: Economics, innovation and extension of agricultural production

Theme 11: Agricultural marketing, trade and institutions

Theme 12: Agricultural business management and value chain management.

Theme 1. Crop Production and Management

➤ Crop production and productivity

□ Crop management and improved cropping system practices,

- Adjusting and model based recommendations planting date,
- Identification of drought resistant cultivars
- Irrigated grain crop production in the idle lands in lowland areas (e.g. wheat, maize).
- Crop improvement
 - Crop genetic resource improvement, conservation and use,
 - Improved seed multiplication through PPP
 - Establishing technology village and introducing crop productivity enhancing technologies
- Crop protection
 - Identification of pests and diseases on crops (cereal crops, pulse crops, root and tuber crops, industry and oil crops, fruit crops, horticultural crops and post-harvest / storage)
 - Interpreted pest and disease management
- Soil fertility management
 - Optimum nutrient recommendation for individual crops and nutrient types,
 - Improving fertilizer and nutrient use efficiency
 - Integrated use of organic and inorganic nutrient sources
 - Identification of blended fertilizer (N, P, K, S, Zn, B, Cu) for efficient crop cultivars
 - Integrated use of soil amendments with tolerant crop varieties and nutrient management to mitigate soil acidity problems (acidity, alkalinity, salinity, sodicity, etc.)

Theme 2. Crop Product Quality, Development and Reduction of Post-Harvest Losses

- Crop and horticultural product marketing and supply chain management
- Product quality, safety and nutrition improvement
- Agro-processing and value- addition

Theme 3. Livestock and Fish Production, Product Handling and Processing

- Genetic improvement/ breeding strategies/programs
- Feed resources, processing and feeding/nutrition

- ✓ Analyse various nutritional parameters and developing alternative feeding strategies/packages based limiting nutrients for smallholder livestock farmers
 - ✓ Animal feeds and Nutrition
- On-farm testing/action research of animal production technologies with the farming communities
- Identification and designing of appropriate livestock intervention strategies for alleviating problems to improve productivity and market orientation
- Role/contribution of livestock production for food security, income and employment generation
- Characterizing indigenous livestock species to avoid gene dilution and extinction particularly in the lowlands
- Analyzing/clustering catchment areas for their livestock production potential (dairy, poultry, meat and feed) and prospects of agro-processing
- Developing ways of adding value and branding local products such as butter, beef, milk, eggs
- Quality of hide/skin, efficient method of collection and processing
- Milk quality improvement
- Branding local animal products and indigenous knowledge
- Manure disposal mechanism in urban dairying
- Demand-supply gaps of livestock products
- Medium/large scale investment in livestock production
- Strategic and sustainable development approaches to coordinate and make institutional linkages among the different livestock actors for advancement and utilization of technologies and practices
- Grain crop, forage and forage seed production in the idle lands in lowland areas, conservation-based forage development on degraded lands and feed conservation,
- Fish production and processing
 - ✓ Capture fisheries potential of the aquatic resources for sustainable fishery development and management
 - ✓ Determine maximum sustainable yield estimates fish stock and reservoirs
 - ✓ Promote appropriate culture technology for small-scale fish farming development on reservoirs, dams, ponds

Theme 4. Honey, and Silk Production

- Intensive beekeeping system
- Developing ways of adding value and branding local honey product
- Rearing silkworms and silk processing

Theme 5. Animal Health Care

- Veterinary Public Health
 - ✓ Veterinary public health (zoonotic diseases, food borne disease, food safety, and nonfood borne diseases and tuberculosis, etc.)
- Veterinary Service Delivery
- Emerging and persistent diseases and pests
- Epidemiology of infectious and non-infectious animal diseases
- Animal diseases prevention and control strategies
- Indigenous/ ethno-veterinary medicine
- Welfare/protection of working animals
 - ✓ Evaluation of improved power farm implements and harness used in animal traction
 - ✓ Husbandry and veterinary practices of working animals

Theme 6. Soil, Water, and Watershed Management

- Evaluation of soil and water conservation technologies
- Up-to-date land use and land cover changes analysis
- Water resources depletions /land degradation: soil, water quality and quantity
- Wetlands degradation
- Ecosystem services and functions
- Land use planning and land evaluation
- Design and diagnosis of agroforestry systems
- Water and climate change and salt-affected water management need to be assessed
- Species selection and environmental rehabilitation
- Documenting and developing indigenous knowledge on sustainable natural resources management

Theme 7. Irrigation Water Management

- Identification of irrigation potential areas

- Identification of irrigation techniques and efficiency
- Analyzing the relationship between irrigation and food security

Theme 8. Forest and Wildlife Management and Conservation

- Assessment deforestation and forest degradation
- Wildlife sanctuary resources assessment
- Ecotourism potential /destinations assessment
- Agroforestry systems and practices

Theme 9. Climate Change Adaptation and Mitigation

- Climate change impact and vulnerability
- Adaptation and mitigative strategies/Climate-smart agriculture and resilience

Theme 10: Agricultural Productive Economics, innovation and Extension

- Poverty reduction and resource management
- Sustainable development
- Rural economy, entrepreneurship and livelihood
- Gender empowerment and social development
- Food security and integrated agriculture
- Rural innovation and agricultural transition
- Rural and agricultural information/communication and advisory services
- Economics of land and water conservation
- Environmental externalities (agrochemicals)
- Commercialization of agriculture
- Cost of production and impact evaluation
- Agricultural marketing, product development and finance

Theme 11: Agricultural Marketing, Trade and Institutions

- Agricultural commodities and support services
- Economics of enterprise and entrepreneurship
- Collective action and resource governance

Theme 12: Agricultural Business and Value Chain Management

- Integrated farm business management

- Agricultural price analysis
- Applied risk analysis
- Agri-business finance
- Local value chain and input supply
- Agri-cooperatives and financial institutions
- Supply, market and agro-processing value chains
- Agri-business development and partnerships
- Agri-food market and digital solutions

Tourism

Introduction

Tourism is increasingly recognized as a strategic sector for inclusive economic growth, employment creation, cultural preservation, and environmental sustainability. Globally, tourism contributes significantly to income generation and local development, particularly in regions endowed with rich cultural heritage, diverse landscapes, and unique natural ecosystems. In Ethiopia, tourism has been identified as a priority sector within national development strategies due to its strong linkages with agriculture, small and medium enterprises, transport, culture, and environmental conservation. Within this national context, the South Ethiopia Regional State holds exceptional but underutilized tourism potential.

South Ethiopia is one of the most culturally and ecologically diverse regions of the country. The region is home to numerous ethnic communities with distinct languages, traditions, festivals, and indigenous knowledge systems, making it a unique destination for cultural and community-based tourism. In addition, the region possesses outstanding natural attractions, including national parks and wildlife reserves, rift valley lakes, mountains, forests, hot springs, waterfalls, and scenic landscapes. World-renowned destinations such as the Lower Omo Valley cultural landscape, along with other historical, religious, and archaeological sites, position South Ethiopia as a key tourism corridor with both national and international significance.

Despite its immense potential, tourism development in South Ethiopia remains at an early stage and is characterized by limited infrastructure, weak destination management, low levels of service quality, inadequate marketing, and fragmented institutional coordination. Accessibility to many tourism sites is constrained by poor road networks, limited

accommodation facilities, and insufficient visitor services. Moreover, the benefits of tourism are not equitably distributed, with limited community participation and weak linkages to local livelihoods, including agriculture, handicrafts, and small businesses. These challenges have hindered the sector's contribution to employment, income generation, and poverty reduction at the local level.

Tourism in South Ethiopia is closely linked to sustainable natural resource management and cultural heritage conservation. Many tourism assets are located in environmentally sensitive areas and culturally significant landscapes, where unplanned development could threaten biodiversity, traditional livelihoods, and social cohesion. At the same time, well-planned and inclusive tourism can serve as a powerful incentive for conservation, cultural revitalization, and community empowerment. This underscores the need for tourism development approaches that are sustainable, community-centered, and climate-resilient, particularly in the face of increasing environmental pressures and climate variability.

The tourism sector also offers significant opportunities for youth and women employment, entrepreneurship, and skills development in South Ethiopia. Services such as guiding, hospitality, transport, food services, cultural performances, and creative industries can generate diversified income sources in both rural and urban areas. However, realizing these opportunities requires targeted capacity building, improved institutional frameworks, and stronger linkages between tourism education, research, and industry practice.

Given these realities, the development of clearly defined thematic areas is essential to guide evidence-based tourism research, policy formulation, capacity building, and investment planning in South Ethiopia. Thematic areas can help focus interventions on priority issues such as destination development, infrastructure and accessibility, community-based tourism, cultural and natural heritage management, tourism governance, marketing and digital promotion, and human capacity development. By aligning tourism development with regional socio-economic priorities and sustainability principles, South Ethiopia can harness tourism as a transformative sector that contributes to inclusive growth, cultural pride, and environmental stewardship.

Thematic Areas for Tourism

Theme 1: Sustainable Destination Development and Management

Focus: Planning, development, and management of tourism destinations to ensure sustainability and competitiveness.

Sub-Themes:

- Destination planning and zoning in South Ethiopia
- Integrated tourism corridor development (Rift Valley–Omo–Highlands)
- Visitor management and carrying capacity assessment
- Climate-resilient and environmentally responsible tourism development
- Tourism infrastructure standards and quality assurance
- Public–private partnerships (PPPs) in destination development

Theme 2: Cultural Heritage, Identity, and Community-Based Tourism

Focus: Leveraging cultural diversity and heritage assets for inclusive and community-driven tourism.

Sub-Themes:

- Indigenous cultures, traditions, and living heritage tourism
- Community-based tourism (CBT) models and best practices
- Cultural festivals, rituals, and creative industries
- Safeguarding intangible cultural heritage
- Benefit-sharing mechanisms and local ownership
- Ethical tourism and respect for community rights

Theme 3: Natural Heritage, Eco-Tourism, and Conservation

Focus: Conservation-oriented tourism that supports biodiversity and ecosystem services.

Sub-Themes:

- Eco-tourism development in national parks and protected areas
- Wildlife-based tourism and habitat conservation
- Sustainable use of forest, lake, and landscape resources

- Tourism as a tool for conservation financing
- Environmental impact assessment (EIA) in tourism projects
- Climate change adaptation and mitigation in tourism sites

Theme 4: Tourism Infrastructure, Accessibility, and Visitor Services

Focus: Improving physical and service infrastructure to enhance visitor experience.

Sub-Themes:

- Road, transport, and connectivity to tourism sites
- Accommodation facilities and service quality standards
- Visitor information centers and signage systems
- Digital infrastructure for tourism services
- Inclusive infrastructure for women, youth, and persons with disabilities
- Safety, security, and emergency services for tourists

Theme 5: Tourism Value Chains, Local Livelihoods, and Inclusive Growth

Focus: Strengthening linkages between tourism and local economic systems.

Sub-Themes:

- Tourism–agriculture linkages (food supply, agro-tourism)
- Handicrafts, creative industries, and souvenir development
- Small and medium enterprises (SMEs) in tourism
- Women- and youth-led tourism enterprises
- Local procurement and market integration
- Poverty reduction and income diversification through tourism

Theme 6: Human Capacity Development and Skills Enhancement

Focus: Building a skilled and professional tourism workforce.

Sub-Themes:

- Tourism and hospitality education and training
- Professional tour guiding and interpretation skills
- Customer service and hospitality standards
- Entrepreneurship and business development skills
- Language, digital, and intercultural competencies
- University–industry–community linkages in tourism training

Theme 7: Tourism Governance, Policy, and Institutional Coordination

Focus: Strengthening governance frameworks and institutional effectiveness.

Sub-Themes:

- Tourism policy analysis and reform at regional level
- Institutional roles and coordination mechanisms
- Decentralized tourism governance and local administration
- Regulatory frameworks and licensing systems
- Data, statistics, and tourism information systems
- Stakeholder engagement and multi-sectoral coordination

Theme 8: Tourism Marketing, Branding, and Digital Promotion

Focus: Enhancing visibility and competitiveness of Southern Ethiopia as a destination.

Sub-Themes:

- Destination branding and image development
- Digital marketing and social media promotion
- Market segmentation and product diversification
- Domestic tourism promotion strategies
- Tourism information systems and smart tourism tools

- Collaboration with tour operators and travel platforms

Theme 9: Research, Innovation, and Knowledge-Based Tourism Development

Focus: Evidence-based decision-making and innovation.

Sub-Themes:

- Tourism research and data-driven planning
- Innovation in tourism products and services
- Technology adoption (GIS, digital platforms, smart tourism)
- Monitoring and evaluation of tourism impacts
- Indigenous knowledge and innovation in tourism
- Policy-oriented and action research for tourism development

Theme 10: Resilience, Risk Management, and Responsible Tourism

Focus: Enhancing resilience to shocks and promoting responsible practices.

Sub-Themes:

- Tourism resilience to climate, health, and economic shocks
- Crisis preparedness and risk management in tourism destinations
- Responsible and ethical tourism practices
- Conflict-sensitive and peace-building tourism
- Health, safety, and hygiene standards
- Post-crisis tourism recovery strategies

Manufacturing

Introduction

Manufacturing is widely recognized as a key driver of structural transformation, economic diversification, employment creation, and technological upgrading. Globally, the expansion of manufacturing has enabled countries to move from primary-commodity dependence toward higher value-added production, increased productivity, and sustained economic

growth. In Ethiopia, manufacturing is a priority sector within national industrialization strategies, including the promotion of light manufacturing, agro-processing, and industrial parks, as a means to accelerate inclusive growth and reduce reliance on agriculture alone. Within this national framework, the South Ethiopia Regional State holds significant but underdeveloped potential for manufacturing development.

South Ethiopia is endowed with a large and youthful labor force, diverse agricultural raw materials, and a strategic geographic position that links major domestic markets. These characteristics provide a strong foundation for agro-processing and light manufacturing industries, including food and beverage processing, leather and leather products, textiles and garments, wood and bamboo products, construction materials, and small-scale metal and machinery fabrication. The region's strong agricultural base—producing cereals, pulses, oilseeds, coffee, fruits, vegetables, livestock, and forest products—creates natural opportunities for forward and backward linkages between agriculture and manufacturing, thereby enhancing value addition, reducing post-harvest losses, and increasing rural incomes.

Despite these advantages, manufacturing in Southern Ethiopia remains at an early stage of development and contributes only a modest share to regional output and employment. The sector is dominated by micro, small, and medium enterprises (MSMEs) operating with low levels of technology, limited access to finance, weak managerial capacity, and inadequate quality and standards compliance. Infrastructure constraints—such as unreliable electricity, limited industrial land, inadequate transport and logistics, and weak digital connectivity—further hinder industrial growth. In addition, limited industrial skills, weak innovation systems, and fragmented institutional coordination constrain productivity, competitiveness, and private sector investment.

Manufacturing development in Southern Ethiopia is also closely linked to broader challenges and opportunities related to urbanization, employment, and inclusive growth. With rapid population growth and increasing pressure on agricultural land, the expansion of manufacturing offers a critical pathway for absorbing surplus rural labor, particularly youth and women, into productive non-farm employment. Light manufacturing and agro-processing enterprises have the potential to generate jobs across the value chain, from input supply and processing to packaging, transport, and marketing, while fostering entrepreneurship and local enterprise development.

Sustainability and resilience are central considerations for manufacturing development in the region. Many existing enterprises rely on resource-intensive and environmentally inefficient production processes, which can exacerbate pollution, waste, and resource degradation if left unaddressed. At the same time, Southern Ethiopia has significant potential to adopt green manufacturing practices, resource-efficient technologies, and circular economy approaches that improve competitiveness while minimizing environmental impacts. Aligning manufacturing growth with climate resilience and environmental sustainability is therefore essential for long-term industrial development.

Given these dynamics, the development of clearly articulated thematic areas is essential to guide manufacturing-related research, policy formulation, capacity building, and investment promotion in Southern Ethiopia. Such thematic areas can help prioritize interventions in agro-processing and value addition, industrial infrastructure and clusters, MSME development, skills and technology upgrading, innovation and quality assurance, and industrial governance and sustainability. By grounding manufacturing development in local resource endowments, institutional realities, and sustainability principles, Southern Ethiopia can harness manufacturing as a transformative sector that supports economic diversification, job creation, and inclusive regional development.

Thematic Areas for Manufacturing

Theme 1: Agro-Processing and Value Addition

Focus: Transforming agricultural outputs into higher-value manufactured products.

Sub-Themes:

- Food and beverage processing (cereals, pulses, oilseeds, fruits, vegetables, dairy, meat)
- Coffee, spice, and horticultural product processing and packaging
- Post-harvest loss reduction through processing technologies
- Quality, food safety, and standards compliance (HACCP, ISO)
- Packaging, storage, and cold-chain development
- Market-oriented product diversification

Theme 2: Light Manufacturing and Resource-Based Industries

Focus: Expanding labor-intensive and locally resourced manufacturing subsectors.

Sub-Themes:

- Textile and garment manufacturing
- Leather and leather products
- Wood, bamboo, and forest-based products
- Construction materials (cement, ceramics, aggregates, prefabrication)
- Small-scale metal works and machinery fabrication
- Household and consumer goods manufacturing

Theme 3: Micro, Small, and Medium Manufacturing Enterprises (MSMEs) Development

Focus: Strengthening MSMEs as the backbone of regional manufacturing.

Sub-Themes:

- MSME productivity and competitiveness enhancement
- Access to finance and investment readiness
- Business development services and incubation
- Formalization and scaling-up of informal enterprises
- Cluster-based and cooperative manufacturing models
- Women- and youth-led manufacturing enterprises

Theme 4: Industrial Infrastructure, Parks, and Clusters

Focus: Creating enabling physical and spatial conditions for manufacturing growth.

Sub-Themes:

- Development of industrial parks and agro-industrial zones
- Small-scale industrial clusters and sheds

- Reliable energy, water, and waste management systems
- Transport, logistics, and supply-chain connectivity
- Digital and ICT infrastructure for manufacturing
- Public–private partnerships (PPPs) in industrial infrastructure

Theme 5: Technology Upgrading, Innovation, and Digital Manufacturing

Focus: Enhancing productivity through technology adoption and innovation.

Sub-Themes:

- Appropriate and affordable manufacturing technologies
- Automation and digitalization in small-scale manufacturing
- Technology transfer and adaptation to local conditions
- Research–industry linkages and applied innovation
- Digital tools for production planning and quality control
- Intellectual property and local innovation systems

Theme 6: Skills Development and Industrial Human Capital

Focus: Building a skilled workforce for modern manufacturing.

Sub-Themes:

- Technical and vocational education and training (TVET) for manufacturing
- Industry-oriented curriculum development
- Apprenticeship and on-the-job training models
- Managerial, entrepreneurial, and leadership skills
- Occupational safety and health (OSH)
- University–industry–TVET collaboration

Theme 7: Manufacturing Value Chains, Markets, and Trade

Focus: Strengthening market linkages and competitiveness.

Sub-Themes:

- Domestic market development and import substitution
- Export-oriented manufacturing and market access
- Branding, labelling, and product differentiation
- Logistics, distribution, and supply-chain efficiency
- Standards, certification, and quality assurance systems
- Regional and cross-border trade integration

Theme 8: Green Manufacturing and Environmental Sustainability

Focus: Promoting environmentally responsible and climate-resilient manufacturing.

Sub-Themes:

- Resource-efficient and cleaner production technologies
- Waste reduction, recycling, and circular economy approaches
- Renewable energy use in manufacturing
- Environmental impact assessment and compliance
- Climate change mitigation and adaptation in industry
- Sustainable industrial water and waste management

Theme 9: Manufacturing Governance, Policy, and Institutional Systems

Focus: Strengthening the regulatory and institutional framework.

Sub-Themes:

- Industrial policy analysis and implementation
- Regulatory frameworks and ease of doing business
- Institutional coordination at regional and local levels
- Data, statistics, and industrial information systems
- Investment promotion and incentive mechanisms

- Public–private and multi-stakeholder dialogue

Theme 10: Inclusive, Resilient, and Future-Ready Manufacturing

Focus: Ensuring manufacturing contributes to inclusive and resilient development.

Sub-Themes:

- Gender-responsive industrial development
- Youth employment and entrepreneurship in manufacturing
- Manufacturing resilience to economic and climate shocks
- Crisis preparedness and business continuity
- Social responsibility and ethical manufacturing
- Long-term industrial transformation pathways

Cross-Cutting Issues (Mainstreamed Across All Themes)

- Gender equality and social inclusion
- Youth skills and employment
- Digital transformation
- Climate resilience and sustainability
- Innovation and research
- Institutional capacity building

Mining

Introduction

Mining is a strategic sector with the potential to contribute significantly to economic diversification, employment creation, foreign exchange earnings, and regional development. Globally, the mining sector plays a critical role in supplying raw materials for industrialization, infrastructure development, and energy transition technologies. In Ethiopia, mining has been identified as an emerging growth sector within national development plans, particularly for its potential to support industrial development, export diversification, and regional economic transformation. Within this national context, the Southern Ethiopia

Regional State possesses considerable mineral resource potential that remains largely underexplored and underutilized.

Southern Ethiopia is endowed with a variety of metallic, non-metallic, and construction minerals, including gold, gemstones, industrial minerals, and quarry materials such as limestone, marble, sand, and aggregates. These resources provide opportunities for both large-scale and artisanal and small-scale mining (ASM), which already serves as an important livelihood source for many rural and peri-urban communities in the region. In particular, ASM plays a critical role in income generation where alternative employment opportunities are limited, especially among youth. However, much of this activity remains informal, characterized by low productivity, limited access to technology and finance, occupational safety risks, and environmental degradation.

Despite its potential, mining in Southern Ethiopia contributes only a modest share to regional economic output and employment. Key constraints include limited geological data and exploration coverage, weak institutional and regulatory capacity, inadequate infrastructure, and limited private sector investment. Environmental and social challenges—such as land degradation, water pollution, unsafe working conditions, and community conflicts—have further constrained the sector’s development and public acceptance. These challenges underscore the importance of transitioning toward responsible, transparent, and sustainable mining practices that balance economic benefits with environmental protection and social inclusion.

Mining development in Southern Ethiopia is closely linked to broader regional development objectives, including industrialization, infrastructure expansion, and local value addition. The availability of construction minerals is essential for regional urban development, housing, and road construction, while industrial and metallic minerals can supply downstream manufacturing and processing industries. Strengthening linkages between mining and local economies—through procurement, processing, and skills development—can significantly enhance the sector’s developmental impact. At the same time, effective governance and community engagement are critical to ensure equitable benefit sharing and conflict prevention.

Environmental sustainability and resilience are central to mining development in the region. Many mineral resources are located in ecologically sensitive and agriculturally productive areas, where unregulated mining can undermine livelihoods and natural resource systems.

Climate variability further exacerbates these risks, particularly in relation to water availability and land use competition. As such, mining development in Southern Ethiopia must be guided by robust environmental and social safeguards, land rehabilitation practices, and climate-responsive planning.

Given these dynamics, the development of well-defined thematic areas is essential to guide mining-related research, policy formulation, capacity building, and investment planning in Southern Ethiopia. Clearly articulated themes can help prioritize interventions in geological exploration, artisanal and small-scale mining formalization, environmental management, local value addition, institutional strengthening, and community development. By aligning mining development with sustainability principles and regional development priorities, Southern Ethiopia can harness its mineral resources as a catalyst for inclusive growth, industrial linkages, and long-term economic resilience.

Thematic Areas for mining

Theme 1: Geological Exploration and Resource Assessment

Focus: Expanding knowledge of mineral resources to support investment and sustainable development.

Sub-Themes:

- Geological mapping and mineral resource surveys
- Identification of metallic and non-metallic mineral deposits
- Assessment of construction and industrial mineral potentials
- Use of geospatial and remote-sensing technologies
- Data management systems for regional mining resources
- Collaboration with universities and research institutions for exploration

Theme 2: Artisanal and Small-Scale Mining (ASM) Development

Focus: Formalizing and supporting ASM for livelihoods, safety, and productivity.

Sub-Themes:

- Legal frameworks and licensing systems for ASM

- Access to technology and mechanization for small-scale miners
- Safety, occupational health, and risk management
- Capacity building and technical training for ASM operators
- Market access and cooperative models for ASM products
- Gender and youth inclusion in ASM activities

Theme 3: Mining-Based Industrial Linkages and Value Addition

Focus: Enhancing the contribution of mining to regional industrialization and economic diversification.

Sub-Themes:

- Mineral processing and beneficiation (e.g., gold, gemstones, industrial minerals)
- Local manufacturing linkages (construction materials, cement, ceramics, metal works)
- Value chain development for minerals from extraction to market
- Support for small and medium enterprises (SMEs) in mineral-based industries
- Export promotion and compliance with international quality standards
- Product diversification and market-oriented innovation

Theme 4: Environmental Management and Sustainable Mining

Focus: Promoting responsible mining practices and natural resource conservation.

Sub-Themes:

- Environmental and social impact assessments (ESIA)
- Land rehabilitation and reclamation after mining
- Waste management, pollution control, and water conservation
- Climate-smart and low-impact mining technologies
- Biodiversity protection and ecosystem management
- Community-based environmental monitoring and awareness

Theme 5: Mining Infrastructure, Technology, and Innovation

Focus: Strengthening technological and infrastructural capacity for efficient mining.

Sub-Themes:

- Transport, logistics, and accessibility to mining sites
- Mechanization and adoption of modern mining technologies
- Use of digital tools, GIS, and remote monitoring systems
- Exploration and extraction equipment modernization
- Energy-efficient and renewable energy technologies for mining
- Research and development in mining innovations

Theme 6: Human Capital and Capacity Building

Focus: Developing skilled workforce and institutional capacity for sustainable mining.

Sub-Themes:

- Technical and vocational training in mining operations
- Professional development for geologists, engineers, and technicians
- Occupational safety and health (OSH) training
- University–industry–government collaboration for knowledge transfer
- Entrepreneurship and business skills for mining communities
- Gender-sensitive and youth-focused training programs

Theme 7: Mining Governance, Policy, and Institutional Coordination

Focus: Strengthening regulatory frameworks and governance systems for the mining sector.

Sub-Themes:

- Mining policy formulation and implementation at regional level
- Regulatory compliance, licensing, and enforcement systems
- Multi-stakeholder institutional coordination (government, private sector, communities)
- Transparent benefit-sharing mechanisms and revenue management

- Data collection, reporting, and monitoring systems
- Integration of mining development with regional socio-economic planning

Theme 8: Community Development and Social Inclusion

Focus: Ensuring mining benefits contribute to local development and social well-being.

Sub-Themes:

- Community engagement and participatory planning in mining areas
- Livelihood diversification programs for affected communities
- Social infrastructure development (schools, health centers, water)
- Conflict resolution and grievance mechanisms in mining areas
- Gender equity and youth inclusion in mining benefits
- Corporate social responsibility (CSR) and mining-led development projects

Theme 9: Mining Market Development and Trade

Focus: Strengthening market linkages and commercial viability of minerals.

Sub-Themes:

- Local, national, and international market development for minerals
- Pricing, quality assurance, and certification systems
- Supply chain optimization and logistics support
- Export promotion and trade agreements
- Branding of local minerals and sustainable sourcing
- Market information and intelligence systems

Theme 10: Resilience, Risk Management, and Responsible Mining

Focus: Building a mining sector that is sustainable, resilient, and socially responsible.

Sub-Themes:

- Risk assessment and disaster preparedness in mining operations

- Conflict-sensitive and responsible mining practices
- Climate change adaptation strategies for mining sites
- Health and safety emergency response systems
- Sustainable financing and insurance mechanisms for miners
- Monitoring, evaluation, and continuous improvement

Health

Introduction

Health is a fundamental pillar of human development, social well-being, and economic productivity. Access to quality healthcare, disease prevention, and health promotion is essential for improving life expectancy, reducing poverty, and enhancing the overall quality of life. In Ethiopia, health has been identified as a top development priority, reflected in the National Health Sector Transformation Plan (HSTP) and aligned with the United Nations Sustainable Development Goals (SDG 3: Good Health and Well-being). Within this national framework, the Southern Ethiopia Regional State faces unique health challenges and opportunities due to its diverse population, geographical disparities, and varied socio-economic conditions.

Southern Ethiopia is home to a wide range of rural, urban, and pastoralist communities, each with distinct health needs. The region faces multiple public health challenges, including maternal and child health issues, communicable diseases (malaria, tuberculosis, HIV/AIDS), malnutrition, water- and sanitation-related illnesses, and emerging non-communicable diseases (NCDs) such as diabetes, hypertension, and cardiovascular disorders. Geographic and infrastructural constraints, limited access to health facilities, and workforce shortages exacerbate health disparities, particularly in remote and marginalized areas. Women, children, and pastoralist populations are disproportionately affected by limited access to essential health services, reinforcing social and economic inequalities.

Despite these challenges, the Southern Ethiopia Regional State has made progress in expanding primary healthcare coverage, immunization programs, and community-based health initiatives such as the Health Extension Program (HEP). These initiatives have improved access to preventive and curative services, health education, and community participation in health governance. However, the region continues to face gaps in health

infrastructure, service quality, referral systems, medical supply chains, human resource capacity, and health information management. Strengthening these areas is critical to achieving equitable and sustainable health outcomes.

Health in Southern Ethiopia is closely intertwined with socio-economic development, education, nutrition, and environmental conditions. Malnutrition, poor water and sanitation, limited health literacy, and inadequate maternal and child care are major factors influencing health outcomes. Addressing these determinants requires integrated, multi-sectoral approaches that connect health interventions with broader development programs, including agriculture, education, water and sanitation, and social protection. Additionally, increasing the resilience of the health system to shocks such as pandemics, climate-related disasters, and population displacement is essential for safeguarding public health and sustaining regional development.

Given these realities, the development of well-defined thematic areas is critical to guide research, policy formulation, capacity building, and program implementation in Southern Ethiopia's health sector. Thematic areas can focus on improving primary healthcare, maternal and child health, disease prevention and control, nutrition, health workforce development, health infrastructure, digital health innovations, governance, and community engagement. By aligning health development strategies with regional needs, equity considerations, and sustainability principles, Southern Ethiopia can enhance population health, strengthen human capital, and contribute to inclusive socio-economic growth.

Thematic Areas for Health

Theme-1: Communicable/infectious diseases

Theme 2: Antimicrobial drug resistance (AMR)

Theme-3: Reproductive, sexual, maternal, neonatal and child health

Theme-4: Non-communicable diseases, psychological, mental health and rehabilitative services

Theme-5: Pharmaceutical sciences

Theme-6: Quality and equity of health services

Theme-7: Food and nutrition security

Theme-8: Emerging and re-emerging diseases and health system resilience

Theme 9: Hygiene and environmental sanitation/health

Theme-1: Communicable/Infectious Diseases

In this theme, the research questions related to epidemiology, associated factors, transmission/source, pathogenesis and immunity, molecular mechanisms, diagnostics, prevention and control, immunization and vaccine, biomarker analysis, antimicrobial drug resistance and the application of OMICS (Genomics, proteomics, Bioinformatics and Microbiome) techniques to infectious diseases will be focused.

Identified sub-themes include

- Malaria (Top urgent selected by all areas)
- Respiratory diseases (pneumonia and TB)
- Intestinal parasitic diseases
- Sexual transmitted diseases
- Food and water borne diseases (particularly typhoid fever)
- Zoonotic diseases
- Neglected tropical diseases
- Vector borne diseases
- Diarrheal diseases
- Urinary Tract Infectious (UTI)
- Vaccine preventable diseases and vaccine efficacy
- Viral diseases: Human papilloma virus, hepatitis, severe acute respiratory syndrome (SARS), Para influenza virus infection, adenovirus infection, rotavirus infection, warts, herpes, ebola, dengue fever, yellow fever, polio, viral meningitis, viral encephalitis, and rabies

Theme 2: Antimicrobial Drug Resistance (AMR)

- Magnitude and distribution of drug-resistant pathogens
- Transmission and sources of AMR genes
- Drug-resistant microbes in health centers and hospital settings
- Abundance and diversity of AMR genes in domestic waste
- Mechanisms of antimicrobial drugs resistance

- Developing local minimum inhibitory concentration (MIC) breakpoints, a comparison with clinical and laboratory standards institute (CLSI) and European Committee on Antimicrobial Susceptibility Testing (EUCAST)
- Antimicrobial consumption and appropriateness of antibiotic treatment

Theme-3: Gender, Reproductive, Sexual, Maternal, Neonatal and Child Health

In this theme, the focal areas are maternal health, reproductive and sexual health issues with a particular emphasis on women, children, and adolescents, traditional practice on young people, women, and children.

- Maternal health and maternal health services
- Neonatal and child health
- Adolescent and youth health
- Gender and violence
- Reproductive and population health
- Traditional practice on young people, women, and children

Theme-4: Non-Communicable Diseases, Psychological, Mental Health and Rehabilitative Services

Non-Communicable Diseases

- Cancer: cervical cancer, breast cancer, colorectal cancer, blood cancer, prostatic cancer, thyroid cancer
- Renal diseases: emphasis on dialysis
- Diabetic mellitus
- Cardiovascular diseases
- Injury related problems: trauma, Road traffic accident,
- Hepatic diseases
- Chronic respiratory diseases (Asthma, COPD)
- Eye diseases

Psychological, Mental Health and Rehabilitative Services

- Substance use disorders (alcohol, smoking, 'chat', and illicit drug)
- Common mental illnesses

- Life style and chronic disease
- Health related behavioral study

Theme-5: Pharmaceutical Sciences

- Drug and excipient discovery, design, development and therapeutics
- Pharmaceutical supply chain, regulation and quality control
- Traditional (herbal) and modern medicine practices
- Substance abuse, toxicology and pharmacovigilance
- Safe and effective use and handling of drugs

Theme-6: Quality and Equity of Health Services

- Monitoring and evaluation of efficiency and effectiveness of health care delivery systems
- Continuum of midwifery care
- Quality of health/patient care
- Equity of health services
- Quality of MNH care
- Health financing and leadership
- Perioperative and critical care
- Impact of health tire system on health care syste
- Environmental and occupational safety problems

Theme-7: Food and Nutritional Security

- Food security
- Nutrition problems

Theme-8: Emerging and Re-Emerging Diseases and Health System Resilience

This thematic aspect emphasizes on coping with: surveillance of emerging diseases, emerging local/global and domestic threats in the zone, f is, a severe and acute shock; moreover, how the system can absorb, adapt and transform such problems.

- Surveillance of any emerging diseases as epidemic or pandemic like COVID-19. yellow fever, dengue fever
- Health system resilience: Design, analyze, and interpret cost-effectiveness

- Assessment, management and evaluation of emergency health interventions to emerging and re-emerging diseases.

Theme 9: Hygiene and Environmental Sanitation/Health

Education

Introduction

Education is a cornerstone of human development, social empowerment, and economic growth. Access to quality education enables individuals to acquire knowledge, skills, and competencies necessary for personal advancement, civic participation, and sustainable livelihoods. In Ethiopia, education is a key priority within national development agendas, including the Growth and Transformation Plan (GTP) IV and the Education Sector Development Programs (ESDPs), aligning with the United Nations Sustainable Development Goal 4 (SDG 4: Quality Education). Within this national framework, the Southern Ethiopia Regional State faces unique opportunities and challenges in expanding equitable, relevant, and high-quality education across its diverse population.

Southern Ethiopia is characterized by cultural, linguistic, and geographic diversity, encompassing urban centers, rural settlements, and pastoralist communities. This diversity presents both opportunities and challenges for education delivery. While significant progress has been made in expanding access to primary and secondary education, challenges remain in achieving equitable coverage, improving quality, and reducing dropout and repetition rates, particularly among girls, children from pastoralist households, and children in remote rural areas. Educational outcomes are also affected by socio-economic factors, limited infrastructure, shortage of qualified teachers, and insufficient instructional materials.

Higher education and technical and vocational education and training (TVET) are critical components of the regional education system. Southern Ethiopia hosts several universities, colleges, and vocational institutions that provide opportunities for higher learning, research, and skills development. However, higher education faces challenges in research capacity, linkage to labor market needs, quality of instruction, and innovation. Strengthening these institutions is essential for producing skilled professionals, supporting regional development initiatives, and fostering local innovation systems.

Education in Southern Ethiopia is intrinsically linked to socio-economic development, gender equity, health, and social inclusion. Expanding access to education for marginalized groups,

promoting literacy and lifelong learning, and integrating digital and science-based learning approaches are essential to equip learners with the skills necessary to participate in the knowledge economy. Additionally, aligning education with local development priorities—including agriculture, industry, tourism, health, and governance—ensures that learning outcomes contribute directly to regional socio-economic transformation.

Given these realities, the development of well-defined thematic areas is essential to guide education research, policy, capacity building, and program interventions in Southern Ethiopia. Thematic areas can focus on equitable access, quality improvement, curriculum relevance, teacher training, higher education and research capacity, technical and vocational skills, digital and innovative learning, governance, and community engagement. By prioritizing these areas, education in Southern Ethiopia can be strengthened to enhance human capital, reduce inequalities, and support sustainable and inclusive regional development.

Thematic Areas for Education

Theme 1: Access, Equity, and Inclusion in Education

Focus: Ensuring all children and youth have equitable access to quality education.

Sub-Themes:

- Expanding access to primary, secondary, and non-formal education in rural and remote areas
- Inclusion of girls, children from pastoralist and marginalized communities
- Support for children with disabilities and special needs
- Policies and interventions to reduce dropout and repetition rates
- Alternative learning pathways for out-of-school children and youth
- Early childhood development and pre-primary education

Theme 2: Quality of Teaching and Learning

Focus: Enhancing learning outcomes through improved pedagogy and instructional quality.

Sub-Themes:

- Teacher recruitment, training, and professional development
- Curriculum relevance and contextualization for regional needs
- Assessment, evaluation, and student learning outcomes monitoring
- Instructional materials, libraries, and laboratory resources
- Multilingual education and mother-tongue instruction
- Inclusive and learner-centered pedagogical approaches

Theme 3: Higher Education and Research Capacity

Focus: Strengthening universities and colleges to support regional development and innovation.

Sub-Themes:

- Expansion and quality assurance of higher education institutions
- Research capacity development in universities and colleges
- University-industry-community linkages for applied research
- Innovation hubs, knowledge transfer, and commercialization of research
- STEM education and technology integration in higher education
- Governance and leadership in higher education institutions

Theme 4: Technical and Vocational Education and Training (TVET)

Focus: Equipping youth and adults with market-relevant skills for employment and entrepreneurship.

Sub-Themes:

- Skills development aligned with regional labor market and industrial needs
- Apprenticeship, mentorship, and workplace-based learning programs
- Capacity building of TVET instructors and trainers
- Entrepreneurship, innovation, and small business support

- Integration of digital skills, ICT, and emerging technologies
- Certification, accreditation, and employability tracking

Theme 5: Education Governance, Policy, and Institutional Capacity

Focus: Strengthening education systems, planning, and management at regional and local levels.

Sub-Themes:

- Education policy formulation and implementation at regional and district levels
- Institutional coordination and decentralized education management
- Planning, budgeting, and resource allocation efficiency
- School leadership and management capacity development
- Data collection, monitoring, and information management systems
- Accountability, transparency, and community participation

Theme 6: Digital and Innovative Learning

Focus: Leveraging technology to improve access, quality, and efficiency in education.

Sub-Themes:

- E-learning platforms, virtual classrooms, and distance education
- Integration of ICT in teaching and learning processes
- Digital literacy for students, teachers, and administrators
- Access to affordable digital devices and connectivity in schools
- Development of local educational content and resources
- Monitoring and evaluation of digital learning outcomes

Theme 7: Lifelong Learning and Adult Education

Focus: Promoting continuous learning opportunities for all age groups.

Sub-Themes:

- Literacy and numeracy programs for adults

- Skills training for out-of-school youth and working adults
- Community education initiatives and knowledge dissemination
- Health, financial, and civic education integrated into adult learning
- Recognition of prior learning and flexible certification pathways
- Engagement with local communities and civil society organizations

Theme 8: Education, Health, and Nutrition Linkages

Focus: Integrating health, nutrition, and well-being into the education system.

Sub-Themes:

- School feeding programs and nutrition education
- Health education, sanitation, and hygiene promotion in schools
- Mental health and psychosocial support services for learners
- Reducing absenteeism due to health-related challenges
- Collaboration between education and health sectors
- Safe and inclusive learning environments

Theme 9: Community Engagement and Social Participation

Focus: Strengthening the role of communities and parents in education.

Sub-Themes:

- Parent-teacher associations and community school management committees
- Participatory school planning and decision-making
- Social accountability mechanisms and local monitoring
- Civic and citizenship education for learners
- Collaboration with NGOs, development partners, and local organizations
- Promoting cultural values and indigenous knowledge within curricula

Information and communication (ICT)

Introduction

Information and Communication Technology (ICT) is a critical enabler of socio-economic transformation, innovation, and inclusive development. Globally, ICT has become a driving force for productivity, efficiency, access to information, and service delivery across multiple sectors, including education, health, agriculture, manufacturing, finance, governance, and commerce. In Ethiopia, ICT is recognized as a key pillar in national development strategies, including the Digital Ethiopia 2025 strategy, aiming to foster a knowledge-based economy, expand digital infrastructure, and promote digital literacy. Within this national framework, the Southern Ethiopia Regional State presents both significant opportunities and challenges for leveraging ICT as a driver of regional development.

Southern Ethiopia is characterized by diverse urban and rural communities, varying levels of connectivity, and uneven access to ICT infrastructure. While urban centers have seen increased access to mobile networks, internet services, and digital platforms, rural and remote areas still face limited connectivity, inadequate digital literacy, and infrastructural challenges such as unreliable electricity and poor telecommunications coverage. These gaps restrict the equitable use of ICT for economic activities, social services, and governance, thereby limiting the potential of the digital economy in the region.

ICT has transformative potential in multiple sectors of Southern Ethiopia's economy. In education, ICT can improve access to learning resources, virtual classrooms, and digital skills training. In health, it enables telemedicine, electronic health records, and health information systems. In agriculture, ICT facilitates market information, precision farming, weather forecasting, and mobile-based extension services. For business and industry, digital technologies support e-commerce, financial inclusion, digital marketing, and small and medium enterprise (SME) development. Furthermore, ICT strengthens governance, transparency, and citizen engagement through e-government services, data-driven policy-making, and participatory decision-making platforms.

Despite these opportunities, ICT development in Southern Ethiopia faces multiple challenges. Infrastructure limitations, insufficient ICT-trained human resources, low digital literacy, limited investment in technology adoption, and weak coordination among public and private sector actors hinder the effective deployment and utilization of ICT solutions. Addressing these challenges requires a multi-dimensional and integrated approach, encompassing

infrastructure development, capacity building, innovation ecosystems, regulatory frameworks, and inclusive digital strategies.

Given this context, the development of well-defined thematic areas for ICT is critical to guide research, policy formulation, capacity building, and program implementation in Southern Ethiopia. Such thematic areas can focus on expanding digital infrastructure and connectivity, improving digital literacy and skills, promoting e-services in key sectors, fostering innovation and entrepreneurship, strengthening ICT governance and policy, and ensuring equitable and inclusive access to digital technologies. By strategically leveraging ICT, Southern Ethiopia can accelerate socio-economic development, enhance service delivery, create employment opportunities, and build a resilient knowledge-based regional economy.

Thematic Areas for ICT

Theme 1: Digital Infrastructure and Connectivity

Focus: Expanding reliable and inclusive ICT infrastructure to support regional development.

Sub-Themes:

- Expansion of broadband, fiber-optic, and mobile network coverage
- Affordable internet access in rural and remote areas
- Reliable electricity and energy solutions for ICT infrastructure
- Development of ICT hubs, data centers, and telecommunication facilities
- Satellite and alternative connectivity solutions for hard-to-reach areas
- Public-private partnerships for infrastructure investment

Theme 2: ICT Skills and Human Capacity Development

Focus: Building a skilled ICT workforce to support digital transformation.

Sub-Themes:

- Digital literacy programs for students, teachers, and the general population
- ICT professional training for software development, network management, and cybersecurity
- Capacity building in emerging technologies: AI, IoT, big data, and cloud computing

- Integration of ICT in higher education and vocational training programs
- Entrepreneurship and innovation skills for youth in ICT
- Gender-responsive ICT training to empower women and girls

Theme 3: E-Government and Digital Governance

Focus: Leveraging ICT for efficient, transparent, and participatory governance.

Sub-Themes:

- Development of e-government platforms and online public services
- Digital record-keeping and management systems
- Citizen engagement platforms and participatory decision-making tools
- Regulatory frameworks for ICT policy, data protection, and cybersecurity
- Capacity building for government institutions in digital service delivery
- Open data systems for transparency and accountability

Theme 4: ICT for Education and Research

Focus: Enhancing teaching, learning, and research through technology.

Sub-Themes:

- E-learning platforms, virtual classrooms, and distance education programs
- Digital libraries, online resources, and educational content development
- ICT integration into school and university curricula
- Research on ICT adoption, innovation, and impacts
- Smart classroom technologies and ICT-enabled pedagogy
- Capacity building for educators in digital tools and methodologies

Theme 5: ICT for Health and Social Services

Focus: Improving health outcomes and service delivery through digital technologies.

Sub-Themes:

- Telemedicine and remote health consultation services
- Electronic health records and health information management systems
- Mobile health (mHealth) solutions for awareness, monitoring, and reporting
- Digital training for health professionals
- ICT-enabled disease surveillance and early warning systems
- Integration of ICT with nutrition, maternal, and child health programs

Theme 6: ICT for Agriculture and Rural Development

Focus: Supporting productivity, market access, and knowledge dissemination in agriculture.

Sub-Themes:

- Mobile platforms for market information, weather forecasts, and advisory services
- Precision agriculture tools and farm management software
- ICT-enabled extension services for smallholder farmers
- E-commerce and digital marketplaces for agricultural products
- ICT solutions for livestock monitoring and feed management
- Data-driven decision-making for regional agricultural policy

Theme 7: ICT for Business, Industry, and Innovation

Focus: Enhancing economic growth, entrepreneurship, and competitiveness through digital technologies.

Sub-Themes:

- E-commerce platforms for SMEs and micro-enterprises
- Digital payment systems and financial technology (FinTech) solutions
- Smart manufacturing and digital supply chain management
- ICT-enabled start-ups and innovation hubs
- Technology transfer and incubation centers

- Skills and training for digital entrepreneurship

Theme 8: Cyber security, Data Protection, and Digital Resilience

Focus: Ensuring secure, safe, and reliable use of ICT across sectors.

Sub-Themes:

- Cyber security policies and regulations for government, business, and communities
- Data protection frameworks and privacy safeguards
- Awareness campaigns on safe online behavior and cyber risks
- Disaster recovery and ICT resilience planning
- Capacity building for ICT security professionals
- Monitoring and incident response systems

Theme 9: ICT Governance, Policy, and Institutional Development

Focus: Strengthening institutional capacity and regulatory frameworks for ICT adoption.

Sub-Themes:

- Regional ICT policy development and implementation
- Institutional coordination for ICT across sectors
- Standards, licensing, and compliance mechanisms
- Public-private partnerships for ICT development
- Monitoring and evaluation of ICT projects and initiatives
- Evidence-based planning using ICT statistics and analytics

Theme 10: Social Inclusion, Gender, and Youth Empowerment through ICT

Focus: Ensuring equitable access and participation in the digital economy.

Sub-Themes:

- Programs to increase ICT access for women, youth, and marginalized groups
- Community ICT centers and digital literacy hubs
- Youth-focused innovation and entrepreneurship competitions
- Inclusive digital content and services
- Monitoring gender and inclusion outcomes in ICT initiatives
- Policy interventions to bridge digital divides

Thematic Areas for Cross-cutting Issues

Ethiopia's national priorities include food security, poverty reduction, gender equality, social inclusion, job creation and ensuring sustainable use of environmental resources. Despite the numerous efforts made so far, the country is still suffering from a critical food shortage and a substantial proportion of its population lives in poverty, necessitating empirical evidence in order to design appropriate interventions and attain middle-income status by the year 2025. Given the importance of the emerging and contemporary cross-cutting issues such as equity (gender, region, disability, urban-rural, central-peripheral, education injustice), climate change, etc. in all the different themes, it needs to mainstream these issues in all the themes as they are critically lacking.

Therefore, the thematic areas related to cross-cutting issues will focus on the following:

- Gender and youth mainstreaming
- Incapacity
- Corrupt practices
- Tolerance, national values, integrity, and accommodativeness
- Work culture, skill development, voluntarism, community empowerment, and sustainability
- Sport and physical activity
- Crisis and disaster risk management
- Management of Information and Knowledge

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