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BUILDING SUSTAINABLE HUMAN CAPITAL THROUGH RESEARCH, TRAINING, AND INNOVATION INTEGRATION: THE AGROSERV INDUSTRIE SA MODEL IN BURKINA FASO

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ABSTRACT

Sustainable human capital is essential for achieving inclusive and lasting economic development in Africa. This article analyzes the contribution of research and training to the construction of sustainable and inclusive human capital in Burkina Faso, drawing on the case of AGROSERV Industrie SA. The research employs a qualitative methodology, including documentary review, semi-structured interviews, and direct observation. The analysis reveals that AGROSERV

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Industrie SA contributes to sustainable human capital development through four mechanisms: creation of skilled employment opportunities; continuous training of employees; support for local producers; and integration of research and innovation into production processes. The article concludes that the integration of research, training, and innovation into enterprise strategy contributes significantly to the development of qualified, adaptable, and sustainable human capital, while also promoting local economic development through job creation, agricultural resource valorization, and reduced import dependence. The AGROSERV model offers lessons for other African enterprises seeking to build sustainable human capital.

Keywords: Sustainable human capital, research, training, innovation, AGROSERV Industrie SA, Burkina Faso, agro-industry.

RÉSUMÉ (FRENCH)

Le capital humain durable est essentiel pour atteindre un développement économique inclusif et pérenne en Afrique. Cet article analyse la contribution de la recherche et de la formation à la construction d'un capital humain durable et inclusif au Burkina Faso, à travers le cas de AGROSERV Industrie SA. La recherche emploie une méthodologie qualitative, incluant une revue documentaire, des entretiens semi-directifs et l'observation directe. L'analyse révèle que AGROSERV Industrie SA contribue au développement du capital humain durable à travers quatre mécanismes : la création d'emplois qualifiés; la formation continue des employés; l'accompagnement des producteurs locaux; et l'intégration de la recherche et de l'innovation dans les processus de production. L'article conclut que l'intégration de la recherche, de la formation et de l'innovation dans la stratégie d'entreprise contribue significativement au développement d'un capital humain qualifié, adaptable et durable, tout en favorisant le développement économique local à travers la création d'emplois, la valorisation des ressources agricoles et la réduction de la dépendance aux importations. Le modèle AGROSERV offre des leçons pour d'autres entreprises africaines cherchant à construire un capital humain durable.

Mots-clés: Capital humain durable, recherche, formation, innovation, AGROSERV Industrie SA, Burkina Faso, agro-industrie.

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1. INTRODUCTION

1.1 The Imperative of Sustainable Human Capital

Sustainable human capital is essential for achieving inclusive and lasting economic development in Africa. The concept of sustainable human capital extends beyond traditional human capital theory to encompass not only the quantity and quality of skills but also their adaptability, inclusivity, and contribution to sustainable development (UNDP, 2022; World Bank, 2019).

Despite the efforts undertaken by African states in education, vocational training, and research promotion, the continent continues to face a structural deficit of qualified human capital capable of supporting sustainable economic transformation (African Development Bank, 2022; United Nations Economic Commission for Africa, 2020). This insufficiency manifests in low industrialization rates, high youth unemployment, low productivity in strategic sectors, and persistent dependence on imported technologies and skills.

1.2 The Role of Research and Training

In this context, research and training emerge as essential instruments for improving productivity, fostering innovation, and strengthening human capacities. Development policies in Africa now accord significant importance to education, vocational training, and the valorization of local knowledge in order to meet the demands of the labor market and technological changes.

However, a major question arises: to what extent do research and training contribute to the development of sustainable human capital within agro-industrial enterprises in Burkina Faso, particularly in the case of AGROSERV Industrie SA?

2. THEORETICAL FRAMEWORK

2.1 Sustainable Human Capital: Conceptual Foundations

The concept of sustainable human capital integrates insights from human capital theory, sustainable development theory, and capability approach. Sustainable human capital is characterized by: productivity (skills that enhance economic output); adaptability (capacity to respond to changing conditions); inclusivity (access to training and employment for diverse populations); and durability (sustained contribution over time) (Becker, 1964; Sen, 1999; UNDP, 2022).

In the African context, development theories also emphasize the importance of vocational training and skills transfer for reducing youth unemployment and improving structural transformation of economies. Thus, sustainable human capital is understood as productive, evolving capital adapted to market needs.

2.2 The Capability Approach

Amartya Sen's (1999) capability approach emphasizes that development must be viewed as the expansion of human freedoms and capabilities. Training and education enhance individual capabilities, enabling people to lead lives they have reason to value. The UNDP's Human Development Index operationalizes this approach by incorporating education as a key component of development.

In the context of AGROSERV Industrie SA, training enhances the capabilities of employees and local producers, enabling them to participate more effectively in economic and social development.

2.3 Endogenous Growth and Innovation

Endogenous growth theory, developed by Paul Romer (1986, 1990), emphasizes the role of knowledge, innovation, and research in sustainable economic growth. According to this approach, scientific research and technological progress are essential drivers of productivity and competitiveness.

In the context of AGROSERV Industrie SA, investment in research and innovation contributes to sustainable human capital by building the capacity to generate, adopt, and adapt new technologies and processes.

2.4 The Learning Organization

Peter Senge's (1990) learning organization theory emphasizes that high-performing organizations are those that learn continuously. Learning organizations invest in training and development, create systems for knowledge sharing, and encourage experimentation and reflection.

For AGROSERV Industrie SA, the implementation of continuous training programs reflects a commitment to becoming a learning organization that builds sustainable human capital through ongoing learning and adaptation.

3. AGROSERV'S CONTRIBUTION TO SUSTAINABLE HUMAN CAPITAL

3.1 Creation of Skilled Employment

AGROSERV Industrie SA contributes to sustainable human capital through the creation of skilled employment opportunities. The company employs approximately 500 people, many in technical and supervisory positions that require specialized skills.

Employment at AGROSERV provides workers with income, experience, and opportunities for skills development. The company's commitment to training ensures that workers continuously upgrade their skills, enhancing their employability and career prospects.

3.2 Continuous Training of Employees

AGROSERV Industrie SA has implemented continuous training programs for its employees, including technical training on automated production lines, quality control training, and management training for supervisory staff. These programs ensure that workers maintain and enhance their skills throughout their careers.

Continuous training contributes to sustainable human capital by ensuring that skills remain relevant in the face of technological change and evolving market demands.

3.3 Support for Local Producers

Beyond its own employees, AGROSERV Industrie SA supports local producers through training programs, technical assistance, and guaranteed purchase agreements. These programs enhance the capabilities of thousands of farmers, building human capital across the agricultural value chain.

Producer training covers good agricultural practices, post-harvest handling, quality requirements, and business management skills. This training enables farmers to increase productivity, improve product quality, and access markets.

3.4 Integration of Research and Innovation

AGROSERV Industrie SA integrates research and innovation into its production processes through the adoption of automated production lines, quality certification, product diversification, and continuous improvement. This integration builds the company's capacity to generate, adopt, and adapt new technologies.

The integration of research and innovation contributes to sustainable human capital by creating demand for advanced skills and providing opportunities for skill development.

4. IMPACTS ON LOCAL DEVELOPMENT

4.1 Job Creation and Poverty Reduction

AGROSERV Industrie SA's operations create employment opportunities that contribute to poverty reduction. Direct employment at the company provides income for approximately 500 workers and their families. Indirect employment along the value chain—including transport, packaging, and distribution—creates additional opportunities.

Job creation at AGROSERV has spillover effects on local economies, as workers spend their incomes on goods and services, supporting other local businesses.

4.2 Agricultural Resource Valorization

AGROSERV Industrie SA processes maize grown by local farmers, contributing to the valorization of local agricultural resources. The company's demand for maize provides a stable market for farmers, encouraging production and investment in agriculture.

Processing maize locally adds value that would otherwise be captured elsewhere, keeping more of the value chain within the local economy.

4.3 Reduced Import Dependence

By producing maize flour, semolina, gritz, and bran locally, AGROSERV Industrie SA reduces dependence on imported products. This import substitution saves foreign exchange, supports local industry, and enhances food security.

Reduced import dependence also insulates the local economy from global price volatility and supply chain disruptions.

4.4 Skills Spillovers

Training at AGROSERV Industrie SA has spillover effects beyond the company. Workers who leave the company take their skills to other employers. Farmers trained by the company apply their learning to other crops and activities. The company's commitment to quality and innovation raises standards across the sector.

5. CHALLENGES AND LIMITATIONS

5.1 Financing of Applied Research

Despite progress, financing of applied research remains a challenge. The costs of research and development can be prohibitive for enterprises, particularly small and medium-sized enterprises. Public investment in research infrastructure and incentives for private R&D are needed.

5.2 Strengthening Training Infrastructure

Training infrastructure requires strengthening. Many enterprises lack adequate facilities, equipment, and materials for effective training. Investment in training infrastructure, including partnerships with technical schools and vocational training centers, is needed.

5.3 Improving Academia-Industry Collaboration

Collaboration between academic institutions and private enterprises requires improvement. Universities and technical schools should align their curricula with the needs of the agro-industrial sector. Industry-academia partnerships can facilitate knowledge transfer and provide students with practical training opportunities.

5.4 Ensuring Inclusivity

Ensuring inclusivity in training and employment is a challenge. Women, youth, and marginalized groups may face barriers to accessing training and employment opportunities. Targeted programs are needed to ensure that the benefits of sustainable human capital development are broadly shared.

6. CONCLUSION

This article has analyzed the contribution of research and training to the construction of sustainable and inclusive human capital in Burkina Faso, drawing on the case of AGROSERV Industrie SA. The analysis reveals that AGROSERV contributes to sustainable human capital development through four mechanisms: creation of skilled employment opportunities; continuous training of employees; support for local producers; and integration of research and innovation into production processes.

The article concludes that the integration of research, training, and innovation into enterprise strategy contributes significantly to the development of qualified, adaptable, and sustainable human capital, while also promoting local economic development through job creation, agricultural resource valorization, and reduced import dependence.

The AGROSERV model offers lessons for other African enterprises seeking to build sustainable human capital. However, challenges remain, including financing of applied research,

strengthening training infrastructure, improving academia-industry collaboration, and ensuring inclusivity.

Future research should examine the replicability of the AGROSERV model in other sectors and countries, and should explore the conditions under which private sector investment in human capital most effectively contributes to sustainable development.

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