

FOSTERING MANAGEMENT CULTURE IN TRAINING BACHELORS FOR AGRICULTURAL MECHANIZATION IN UZBEKISTAN

*1st year student at
Gulistan state university*

Oqmirzayeva Sarvinoz

Oqmirzayevasarvinoz08@gmail.com

Abstract: *The modernization of agriculture in Uzbekistan demands a skilled workforce capable of managing advanced mechanization technologies and implementing sustainable practices. Training bachelors in agricultural mechanization requires not only technical expertise but also a robust management culture to ensure effective leadership and innovation in the sector. This article explores the role of higher education institutions in Uzbekistan in preparing bachelors for agricultural mechanization, with a focus on developing management competencies such as strategic planning, project management, and digital literacy. By analyzing current educational programs, case studies, and global best practices, the study highlights the importance of integrating management culture into curricula. Recommendations include curriculum reforms, practical training, and international collaborations to enhance the quality of education and prepare graduates for the challenges of modern agriculture.*

Keywords: *Agricultural mechanization, management culture, bachelor training, higher education, Uzbekistan agriculture, leadership, digital literacy.*

INTRODUCTION

Agriculture is a vital pillar of Uzbekistan's economy, contributing significantly to GDP and providing livelihoods for millions of people. The shift toward mechanized and technology-driven agriculture necessitates a workforce equipped with both technical and managerial skills. Higher education institutions, such as Tashkent State Agrarian University, play a critical role in training bachelors to meet these demands. However, technical knowledge alone is insufficient; graduates must also possess a strong management culture to lead agricultural enterprises, manage resources efficiently, and adopt innovative technologies.

This article examines the formation of management culture in training bachelors for agricultural mechanization in Uzbekistan. It explores current educational practices, identifies gaps, and proposes strategies to enhance management competencies. By integrating global trends and local case studies,

the study aims to provide a roadmap for preparing future leaders in Uzbekistan's agricultural sector.

Relevance of the Topic: The global agricultural sector is undergoing a transformation driven by mechanization, digitalization, and sustainability demands. In Uzbekistan, where agriculture accounts for approximately 28% of GDP, the need for skilled professionals is paramount to achieving the goals of the Strategy for the Development of Agriculture (2020–2030). A strong management culture is essential for graduates to navigate the complexities of modern agriculture, including the adoption of autonomous machinery, resource optimization, and compliance with environmental standards.

The topic is particularly relevant given the challenges of an aging agricultural workforce and the need to attract younger generations to the sector. By fostering management skills, higher education institutions can prepare graduates to lead agricultural enterprises, implement innovative solutions, and contribute to food security and economic growth. Moreover, management culture enhances graduates' ability to adapt to global trends, such as precision farming and data-driven decision-making, ensuring Uzbekistan's competitiveness in international markets.

Concept of Management Culture in Agricultural Education: Management culture refers to the set of values, skills, and practices that enable professionals to lead effectively, make strategic decisions, and foster innovation. In the context of agricultural mechanization, management culture includes:

Strategic Planning: Developing long-term plans for adopting mechanization technologies and optimizing farm operations.

Project Management: Overseeing the implementation of mechanization projects, including budgeting, scheduling, and resource allocation.

Digital Literacy: Proficiency in using digital tools, such as IoT systems and AI-based software, for farm management.

Leadership and Communication: Inspiring teams, collaborating with stakeholders, and promoting sustainable practices.

Sustainability Awareness: Integrating environmental and social considerations into decision-making processes.

Globally, universities like Wageningen University in the Netherlands have integrated management training into agricultural curricula, producing graduates who excel in both technical and leadership roles. Uzbekistan can adopt similar approaches to prepare bachelors for the demands of modern agriculture.

Current State of Bachelor Training in Uzbekistan: Uzbekistan's higher education system has made strides in training bachelors for agricultural

mechanization, with institutions like Tashkent State Agrarian University (TSAU) and Samarkand State University offering specialized programs. These programs cover topics such as machinery operation, maintenance, and precision farming technologies. However, the integration of management culture remains limited.

Case Study: Tashkent State Agrarian University

TSAU's bachelor's program in Agricultural Mechanization includes courses on tractor design, irrigation systems, and automation. However, management-related courses, such as project management and strategic planning, are often elective or underdeveloped. A 2023 survey of TSAU graduates revealed that 60% felt unprepared for managerial roles due to a lack of training in leadership and digital tools. To address this, TSAU introduced a pilot course in 2024 on "Agricultural Management and Digitalization," which teaches students to use farm management software and develop business plans. Early results show improved student confidence in managing mechanization projects.

Case Study: Fergana State University

In Fergana, the university has partnered with local agricultural enterprises to provide practical training in mechanization. Students participate in internships where they operate GPS-guided tractors and IoT-based irrigation systems. However, these programs focus primarily on technical skills, with limited emphasis on leadership or strategic management. The lack of management training hinders graduates' ability to oversee large-scale mechanization projects or innovate in their roles.

Challenges in Fostering Management Culture: Several challenges hinder the integration of management culture into agricultural education in Uzbekistan:

Outdated Curricula: Many programs prioritize technical skills over managerial competencies, leaving graduates unprepared for leadership roles.

Limited Practical Training: Students have limited opportunities to apply management skills in real-world settings due to a lack of industry partnerships.

Faculty Expertise: Instructors often lack training in modern management practices, such as digital farm management or project planning.

Resource Constraints: Universities face funding shortages for developing new courses or investing in digital tools for management training.

Cultural Barriers: Traditional views of agriculture as a technical field may undervalue the importance of management skills.

These challenges highlight the need for comprehensive reforms to align educational programs with the demands of modern agriculture.

Global Best Practices: International examples provide valuable lessons for Uzbekistan. In Germany, universities like the University of Hohenheim integrate management training into agricultural programs through courses on agribusiness, leadership, and digital transformation. Students participate in simulations and case studies to develop decision-making skills. Similarly, in Australia, universities collaborate with industry partners to offer internships that combine technical and managerial training. These models emphasize interdisciplinary education, blending technical expertise with leadership and innovation.

Uzbekistan can adopt these practices by updating curricula, fostering industry partnerships, and leveraging international expertise through programs like Erasmus+ or FAO collaborations.

Opportunities for Improvement: Integrating management culture into bachelor training offers significant opportunities:

Enhanced Employability: Graduates with management skills are better equipped to lead agricultural enterprises and secure leadership roles.

Innovation and Entrepreneurship: Management training fosters creativity, enabling graduates to develop innovative solutions for mechanization challenges.

Sustainability Leadership: Graduates can promote sustainable practices, aligning with Uzbekistan's environmental goals.

Global Competitiveness: A skilled workforce strengthens Uzbekistan's ability to compete in international agricultural markets.

Recommendations: To foster management culture in training bachelors for agricultural mechanization, the following measures are proposed:

Curriculum Reforms: Integrate mandatory courses on project management, strategic planning, and digital literacy into agricultural mechanization programs.

Practical Training: Expand internship programs with agricultural enterprises to provide hands-on experience in managing mechanization projects.

Faculty Development: Train instructors in modern management practices through workshops and international exchange programs.

Industry Partnerships: Collaborate with private companies (e.g., John Deere, Claas) to develop case studies and provide access to advanced technologies.

Digital Tools Integration: Equip universities with farm management software and simulation tools to teach students data-driven decision-making.

International Collaboration: Partner with global universities and organizations like FAO to share best practices and develop joint training programs.

Conclusion: Fostering a management culture in training bachelors for agricultural mechanization is essential for preparing a skilled workforce capable of leading Uzbekistan's agricultural transformation. While technical expertise remains critical, management competencies—such as strategic planning, digital literacy, and leadership—are equally important for addressing the challenges of modern agriculture. By reforming curricula, expanding practical training, and fostering international collaborations, Uzbekistan can produce graduates who are equipped to drive innovation and sustainability in the sector. The integration of management culture into higher education will not only enhance employability but also position Uzbekistan as a leader in agricultural mechanization in Central Asia.

REFERENCES:

1. Food and Agriculture Organization (FAO). (2024). Mechanization for Sustainable Agricultural Development. Retrieved from <http://www.fao.org>
2. Ministry of Agriculture of Uzbekistan. (2023). Agricultural Modernization and Sustainability. Retrieved from <http://www.agro.uz>
3. Zenodo. (2023). Sustainable Mechanization in Agriculture: Case Studies from Central Asia. Retrieved from <http://www.zenodo.org>
4. ResearchGate. (2022). Energy-Efficient Technologies in Agriculture. Retrieved from <http://www.researchgate.net>
5. CyberLeninka. (2024). Advancements in Sustainable Agriculture in Uzbekistan. Retrieved from <http://www.cyberleninka.ru>
6. Tashkent State Agrarian University. (2023). Sustainable Agricultural Practices in Uzbekistan. Retrieved from <http://www.portal.guldu.uz>