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All time Citations: ~480; h-index 10; i10-index: 11

An academic with the support of a fruitful research collection including more than 90 published journal articles and 10 years of teaching at various academic levels. Proven mastery in various fields of water resources management and performance management of agricultural units using mathematical programming tools and operations research. Interested in working with research teams in various fields of agricultural, natural resources and environmental economics.

APPOINTMENTS AND WORK EXPERIENCES	ACHIEVEMENTS
Associate Professor, ASNRUKH, October, 2022-Present	• Introduced a new interval meta-goal programming to determining of sustainable cropping pattern. • Proposed a new mathematical programming model to managing agricultural production resources (a Water-Food-Energy nexus approach). • Evaluated Eco-efficiency of saffron producers in Iran. • Developed a Sustainable Agricultural Production. Decision Support System (SAP_DSS) software in Iran. • Executive director of the National Project of Mathematical Modeling of Iran's Agricultural Cropping Pattern. • Developed a Multi-objective fractional programming model to determine sustainable optimal cropping pattern. • Introduced a robust DEA approach to measuring performance of irrigation and drainage networks. • Supervisor and Advisor of M.Sc. and Ph.D. students. • Lecturer: application of mathematical programming in agriculture (M.Sc. and B.Sc. Student), Natural resource economics (M.Sc. and B.Sc. Student), Agri-business management, Engineering economics, Farm management unit (M.Sc. and B.Sc. Student).

Head of the flourishing center of creativity and innovation, ASNRUKH 2020-2021	• Forming the office of the flourishing center of creativity and innovation in the ASNRUKH • Holding the "Smart Agriculture" event • Establishment of 8 scientific cores in the center
Head of Agricultural Economics Department, ASNRUKH June 2021, present	• Obtaining the Copyright for Higher Education permission (master's degree students) in the field of agricultural economics for the ASNRUKH • Consulting with the Agricultural Economics Association of Iran to hold the 12th Agricultural Economics Conference at the ASNRUKH • Obtaining financial support from the governorate of Khuzestan province, Iran, to finance the holding of the 12th Iranian Agricultural Economics Conference • Participation in revising and updating the chapters of agricultural economics courses in Iran
Assistant Professor, ASNRUKH 2018-2022	• Established the department of agricultural economics in ASNRUKH • Supervisor and Advisor of M.Sc. and Ph.D. students • Lecturer: application of mathematical programming in agriculture (B.Sc. Student), Farm management unit (B.Sc. Student), supply chain management of inputs, Natural resource economics (B.Sc. Student), Engineering economics • Developed robust optimization approach for water resource management users • Introduced linear robust data envelopment analysis with application in agricultural sector • Developed Hydro-economic for integrated management of water resources • Developed a non-linear programming model to optimize FGT poverty index • Developed a Multi-objective programming model to determine optimal cropping Pattern • Measured performance for different
Visiting Assistant Professor, ASNRUKH 2016-2018	• Evaluation of the technical efficiency of the irrigation and drainage networks of Great Karun, Khuzestan, Iran • Lecturer: Environmental economics, Accounting for Farming and Agriculture, Engineering economics, economics of natural resources
Assistant researcher, Isfahan Agriculture and Natural Resources Research and Education Center 2012-2016	• Participation in the development of a decision support system of the cropping pattern of Isfahan province (ICP_DSS), Iran • Participation in the creation of the cropping pattern database of Isfahan Province, Iran, using Microsoft Access and SQL Server
Invited lecturer,	• Mathematical economics, Natural resource economics

Payame noor university (Shahrekord Unit) 2014-2016	

Academic Qualifications

Ph.D. in Agricultural Economics, University of Zabol, Iran, 2012-2016.
Dissertation Title: "Designing decision support system of cropping pattern in Esfahan province: multi-objective regional planning approach".
Dissertations Advisor: Alireza Nikouei, Ph.D.
Fields for qualifying exams: Mathematical Programming, Simulation, Econometrics, Production Economy

M.Sc. in Agricultural Economics, University of Zabol, Iran, 2009-2011.
Thesis Title: "Optimization of water allocation in Nekuabad irrigation network under uncertainty".
Master's Thesis Advisor: Mahmoud Sabouhi Ph.D.

B.Sc. in Agricultural Economics, Payame noor university (Shahrekord Unit), Iran. 2005-2009.
Thesis Title:"Estimate of tourists' willingness to pay for the protection of the Zayandehroud River."

HONORS and AWARDS

Top Researcher Award of University of Zabol, Iran, 2013.

Award for Outstanding Post-Graduate Alumni, University of Zabol, 2016.

Top award for extracurricular research projects (industry partners),
Agricultural Sciences and Natural Resources University of Khuzestan, 2023.

FIELDS OF INTEREST

Primary: Water resource management, Climate change, Performance management in agriculture

Secondary: Agribusiness, Food security

Teaching Portfolio

Mostafa has a robust and high-quality educational collection in different academic levels (M.Sc. and B.Sc.), which shows his interest in teaching students. With 2 years of teaching as an invited lecturer and more than 8 years of university teaching experience in the positions of associate and assistant professor, he has shown an exceptional ability to effectively transfer knowledge in various subjects. One of the strong points in Mostafa's teaching approach is the background of cooperation with executive institutions, especially agricultural institutions, which leads to a strong analytical approach to real world problems and combining it with theoretical topics. This issue has led to a deep understanding of course topics among his students. Among his activities in the field of teaching, it is possible to mention the presentation of courses including the application of

mathematical programming in agriculture, natural resource economics, engineering economics and other cases. Mostafa's teaching philosophy is to use real-world examples when explaining theoretical foundations, which leads to the training of students with strong analytical power and ready to be absorbed in various job positions. In addition to outstanding scientific and research achievements in academic position, Mostafa is a committed lecturer who has successfully shared his knowledge and expertise in industrial institute. With the history of conducting various training courses in various subjects and institutions, he has maintained his effective communication with outside the university. Using his extensive background in optimization models in agriculture, Mostafa has consistently provided engaging learning experiences for non-academic learners. Mostafa's passion for teaching shines through the excellent teaching quality assessment scores provided by the students. These scores show his exceptional ability to inspire and guide students in their educational journeys.

Research Portfolio

Natural resources management: Mostafa's research has continuously focused on developing methods for managing natural resources, especially water and land resources. He has pioneered the use of various mathematical programming techniques under uncertainty for the integrated water and land resources management in different regions. His work has not only contributed to the theoretical foundations of natural resource management, but also provided practical insights for agricultural sector policy makers. A significant part of Mostafa's research has focused on the sustainability of the use of agricultural production resources. By introducing innovative methods in the field of water-energy-food nexus, he has provided solutions for optimal and sustainable use of resources. The cropping pattern resulting from these methods has led to the presentation of a codified program for the subsistence policy of the agricultural sector.

Performance management in agriculture: Mostafa's interest in increasing productivity in the agricultural sector, especially the performance of agricultural producers, encouraged him to conduct extensive research in the field of various efficiency measurement methods. In this regard, his research has been very helpful both in terms of developing data envelopment analysis (DEA) models and in terms of providing practical solutions for agricultural production units for optimal use of production inputs. Of course, it should be known that his approach to measure the efficiency of units from three perspectives, technical, environmental, and economic, is combined, which leads to the uniqueness of some of his researches.

Climate change and adaptation: Many of Mostafa's researches have been aimed at investigating the effects of climate change on various parameters affecting farmers' livelihoods. He understood the urgency to conduct such research at the right time and put a lot of effort into providing practical solutions to adapt to these great challenges. Presenting innovative hydrological-economic models to better understand the effects of climate change in agriculture and publishing them in prestigious international journals is a proof of this continuous effort.

Decision Support Systems: Mostafa's research goes beyond the above and includes decision support systems. He has used various computing tools and languages, including database management tools, to develop applications that lead to informed decision-making by various levels of management. His expertise in software development has been demonstrated in various projects such as Sustainable Agricultural Production Decision Support System (SAP_DSS) and Decision Support System of the Cropping Pattern of Isfahan Province (ICP_DSS).

Knowledge Exchange Portfolio

During his professional life, Mostafa has led and participated in various research projects and received financial assistance from reputable organizations. The executive director of the National Mathematical Modeling Project of Iran's Agricultural cropping Pattern has been one of the most prominent of these projects. Mostafa is an active member of scientific and professional associations. It is worth mentioning that I have been the executive director of the National Conference of Agricultural Economics of Iran and have participated in many conferences related to agriculture. He actively works as a reviewer of prestigious scientific journals, including ecological indicators, journal of cleaner production, Science of The Total Environment, etc. Mostafa's cooperation with industrial partners such as the Khuzestan Water and Electricity Organization and the Organization of Agriculture and Natural Resources Research and Education in Iran emphasizes his commitment to transform academic insights into practical solutions. I believe in sharing knowledge beyond the university. Mostafa has been in close contact with Science and Technology Parks and has reviewed a large number of their innovative ideas in different events.

Managerial and Administrative Portfolio

Mostafa's administrative and managerial skills are remarkable with his key roles in various organizations. As a research assistant in the Isfahan Agriculture and Natural Resources Research and Education center, Iran, he began to perform the tasks assigned in a very favorable manner. He played a key role in removing the obstacles to the implementation of the planned cropping pattern model in that organization by setting various guidelines. His ability to justify these complex and key instructions led to brilliant results in the organization. The establishment and management of Khuzestan University's creativity and innovation center is another reason for his ability to achieve his management goals. By establishing this center, he proved his ability to do unprecedented things. The establishment and management of the Department of Agricultural Economics and obtaining the Copyright for Higher Education permission (master's degree students) in this university is another proof of this great ability. His numerous and exceptional administrative and managerial capabilities have turned him into one of the most valuable human resources in the university, research and extensive communication of the university with industrial partners.

Selected RESEARCH and GRANTS

1. **Agriculture and Natural Resources Research and Education organization**, National Project of Mathematical Modeling of Iran's Agricultural Cropping Pattern, $80K. 2023-Present.
2. **Presidential Scientific and Technological Vice President**, Iran, Sustainable Agricultural Production Decision Support System (SAP_DSS), $120K. 2021-2023.
3. **Saffron Research Institute of Torbat Heydarieh University**, Iran, Evaluated Eco-efficiency of saffron producers in Iran, $21K. 2022-2023.
4. **Khuzestan Water and Power Organization**, Iran, Evaluation of the technical efficiency of the irrigation and drainage networks of Great Karun, $12K. 2016-2018.
5. **Isfahan Agriculture and Natural Resources Research and Education Center**, Iran, Decision support system of the cropping pattern of Isfahan province (ICP_DSS), $23k. 2012-2016.

SCIENTOFIC AND PROFESSIONAL MEMBERSHIP

1. Member of the Scientific Association of Agricultural Economics of Iran
2. Scientific Committee Member of 12th Iranian Agricultural Economics conference, 2021
3. Executive Committee Member of the second national conference of agricultural and environmental researches of Iran, 2022.

PUBLICATION (BOOKS)

a) Compilation (**In Persia)**

1. **Mardani Najafabadi M.**, Nikouei A., Ohadi, N. (2020). The basics of Optimizing cropping pattern of Iranian crops and horticulture (Challenges and solutions). ISBN: 978-622-98989-0-1.
2. **Mardani Najafabadi M.**, Abdeshahi A., Ataei K., (2023). Agricultural business management (Theoretical and operational basics). In press.

b) Compilation (**In English)**

3. **Mardani Najafabadi M.**, Marzban Z. (2023). Mathematical programming for sustainable planning of agricultural products: A robust optimization approach. Chapter Book. Springer publisher. **Accepted for publication**.
4. **Mardani Najafabadi M.** Robust and Fuzzy Data Envelopment Analysis to Model Uncertainty and Imprecise Data. Chapter Book. Springer publisher. **1th review**.

SELECTED PUBLICATION (SCIENTIFIC JOURNALS)- (15 OUT OF 90 TOTAL)

1. **Mardani Najafabadi, M.**, Magazzino, C., Valente, D., Mirzaei, A., & Petrosillo, I. (2023). A new interval meta-goal programming for sustainable planning of agricultural water-land use nexus. Ecological Modelling, 484, 110471. https://doi.org/https://doi.org/10.1016/j.ecolmodel.
2. **Mardani Najafabadi, M.**, Kazmi, H., Shirzadi Laskookalayeh, S., & Abdeshahi, A. (2023). Investigating the ability of fuzzy and robust DEA models to apply uncertainty conditions: an application for date palm producers. OPSEARCH. https://doi.org/10.1007/s12597-023-00631-6
3. Shirzadi Laskookalayeh, S., **Mardani Najafabadi, M** & ,.Shahnazari, A. (2022). Investigating the effects of management of irrigation water distribution on farmers' gross profit under uncertainty: A new positive mathematical programming model. Journal of Cleaner Production, 351, 131277. https://doi.org/https//:doi.org/10.1016/j.jclepro.2022.131277
4. **Mardani Najafabadi, M.**, Mirzaei, A., Azarm, H., & Nikmehr, S. (2022). Managing Water Supply and Demand to Achieve Economic and Environmental Objectives: Application of Mathematical Programming and ANFIS Models. Water Resources Management, 36 (۹), ۳۰۲۷-۳۰۷۰. https://doi.org/10.1007/s11269-022-03178-1
5. Sadeghi, B., Borazjani, M. A., **Mardani, M** ,.Ziaee, S., & Mohammadi, H. (2022). Systemic Management of Water Resources with Environmental and Climate Change Considerations. Water Resources Management. https://doi.org/10.1007/s11269-022-03388-7

6. **Mardani Najafabadi, M.**, & Ashktorab, N. (2022). Mathematical programming approaches for modeling a sustainable cropping pattern under uncertainty: a case study in Southern Iran. Environment, Development and Sustainability. https://doi.org/10.1007/s10668-022-02458-5
7. **Mardani Najafabadi, M.**, Sabouni, M., Azadi, H., & Taki, M. (2022). Rice production energy efficiency evaluation in north of Iran; application of Robust Data Envelopment Analysis. Cleaner Engineering and Technology, 6, 100356. https://doi.org/https://doi.org/10.1016/j.clet.2021.100356
8. Mirzaei, A., Azarm, H., Yazdanpanah, M., & **Mardani Najafabadi, M**. (2022). Socio-economic, social-capital, and psychological characteristics and climate change adaptive behavior of farmers in Iran. Climate Research, 87, 1-12. https://www.int-res.com/abstracts/cr/v87/p1-12 /
9. Kalbali, E., Ziaee, S., **Mardani Najafabadi, M.**, & Zakerinia, M. (2021). Approaches to adapting to impacts of climate change in northern Iran: The application of a Hydrogy-Economics model. Journal of Cleaner Production. https://doi.org/10.1016/j.jclepro.2020.124067
10. Chenani, E., Yazdanpanah, M., Baradaran, M., Azizi-Khalkheili, T., & **Mardani Najafabadi, M.** (2021). Barriers to climate change adaptation: Qualitative evidence from southwestern Iran. Journal of Arid Environments, 189, 104487. https://doi.org/https://doi.org/10.1016/j.jaridenv.
11. **Mardani Najafabadi, M.,** & Taki, M. (2020). Robust data envelopment analysis with Monte Carlo simulation model for optimization the energy consumption in agriculture. Energy Sources, Part A: Recovery, Utilization, and Environmental Effects, 1-15 .
12. **Mardani Najafabadi, M.,** Ziaee, S., Nikouei, A., & Ahmadpour Borazjani, M. (2019). Mathematical programming model (MMP) for optimization of regional cropping patterns decisions :A case study. Agricultural Systems, 173, 218-232 .
13. Sabouhi, M., & **Mardani, M.** (2017). Linear robust data envelopment analysis: CCR model with uncertain data. International Journal of Productivity and Quality Management, 22(2), 262-280 .
14. **Mardani, M.**, & Salarpour, M. (2015). Measuring technical efficiency of potato production in Iran using robust data envelopment analysis. Information Processing in Agriculture, 2(1), 6-14 .
15. Sabouni, M. S., & **Mardani, M.** (2013). Application of robust optimization approach for agricultural water resource management under uncertainty. Journal of Irrigation and Drainage Engineering, 139(7), 571-581.

SELECTED PUBLICATION (PROCEEDING)-(4 OUT OF 20 TOTAL)

1. **Mardani Najafabadi, M.** "A Decision Support System for Determining Regional Cropping Patterns: Case study in Iran." 5th International Agriculture Congress. Ankara University, Turkey, August 2019.
2. Forouzani, M., Rahmkhoda, N., & **Mardani Najafabadi, M.** "Who has a Better Knowledge? Study of the Relationship between Water Management Knowledge and Level of Rural Development." 5th International Agriculture Congress. Ankara University, Turkey, August 2019.
3. **Mardani Najafabadi, M.,** Zebari, Y., & ohadi, N. "Determining the technical and economic efficiency of rice production in Gotvand region of Khuzestan province under uncertainty." The 12th National Conference on Agricultural Economics of Iran, Kurdistan, Iran. June 2021.
4. Abdeshahi, A., Nikmehr, S., & **Mardani Najafabadi, M.** "The effects of climate change on the agricultural situation of South Karun sub-basin: the application of economic-hydrological model." The 12th National Conference on Agricultural Economics of Iran, Kurdistan, Iran. June 2021.

GRADUATE STUDENT COMMITTEE ACTIVITES-(12 OUT OF 22 TOTAL)

1. Fatemeh Yavari. “Application of Approximately Robust Data Envelopment Analysis to Estimate Technical Efficiency, A case study: broiler Farms of sari city.” Ph.D. dissertation. Sari University of Agricultural Sciences and Natural Resources. 2019. Major academic advisor.
2. Farzaneh Salehi. “Economic analysis of the effect of changes in the supply and salinity of water on irrigated agriculture in Kerman province under uncertainty.” Ph.D. dissertation. University of zabol.

2019. Major academic advisor.
3. Elham Kalbali. "Effects of climate change on agricultural production and its adaptation in the Ghareh-Sou Basin." Ph.D. dissertation, University of zabol.2020. Supervisor.
4. Hadis Kavand. "Assessing the consequences of internalization of water pollution externalities on water quality and quantity management of the Zayandeh-rud basin." University of zabol. 2020. Major academic advisor.
5. Nasrin Ohadi. "Analysis and Ranking of Enviromental Efficiency in Iran and Selected Countries (Fuzzy Dynamic Multi-Objective and Cooperative Game Theory Approach)." Ph.D. dissertation, University of Sistan & Baluchestan. 2019. Major academic advisor.
6. Khadijeh Samareh Hashemi. "Modelling water market in Hamoun -Jazmoriyan watershed Ph.D. dissertation." University of zabol. 2022. Major academic advisor.
7. Hamideh Daneshgar. "Evaluation of Climate change Effects on Water Resources and Adaptation of Irrigated Agriculture in Booshkan Basin: Application of Hydro-economic Modeling." Ph.D. dissertation." Payame noor university. 2020. Supervisor.
8. Behnam Sadeghi. "Systematic water resources management with environmental and economic considerations in Aras basin under conditions of uncertainty." Ph.D. dissertation. University of zabol. 2021. Major academic advisor.
9. Ali Khodadadi. "Investigating the Effect of Climate Change on Crop Pattern in Uncertainty Conditions in Khuzestan Province (Case Study: Azadegan Plain)." M.Sc. thesis, Ferdowsi University of Mashhad., 2018. Major academic advisor.
10. Mehdi Sabaghi Alamshiri. "Application of data envelopment analysis under uncertainty for evaluation and improvement of energy efficiency for kiwi fruit in Mazandaran province." M.Sc. thesis, 2022 Agricultural Sciences and Natural Resources University of Khuzestan. Major academic advisor.
11. Fatemeh Sayeban. "Optimizing Poverty Index by the optimal utilization of agricultural production inputs in the city of Behbahan." M.Sc. thesis, 2019 Agricultural Sciences and Natural Resources University of Khuzestan. Supervisor.
12. Roya Yousefi. "Analyzing virtual water trade balance in agricultural sector of Khuzestan province." M.Sc. thesis, 2019 Agricultural Sciences and Natural Resources University of Khuzestan. Major academic advisor.

Skills

a) **Industry Knowledge**

1. Water resources management
2. cropping pattern development
3. Evaluation of the efficiency of agricultural units/ Non-Parametric models such as DEA
4. Mathematical programming under uncertainty

b) **Software**

5. Programming (GAMS)
6. Spreadsheet (M.S. Excel)
7. Data Base (M.S. Access, M.S. SQL server)
8. Statical (SPSS)