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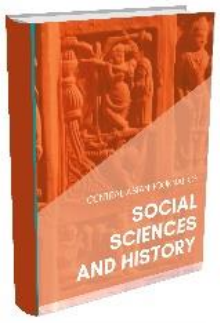

Coverage of the Development of Irrigation Systems in the Foreign Literature in the Reign of Amir Temur and the Temurids

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Abstract:
Many countries have conducted research on various aspects of Amir Temur's and the Temurids' history, but there has been no comprehensive study of the evolution of irrigation systems. This study looks at the international literature on irrigation systems during the reign of Amir Temur and the Temurids.

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More than 5,600 monographs, brochures, dissertations, albums, conference proceedings, textbooks in Uzbek, English, French, Arabic, Persian-Tajik, and Turkish, as well as articles published in the republic and abroad, are included in the bibliographic indexes of ASRU's State Museum of Temurid History [1]. This study has not been researched as a separate issue in Uzbekistan or elsewhere, according to the accessible literature.

Turkish Temurid scholar Ismail Aka in his book "The State of the Great Temur" gives a partial account of the irrigation system of Amir Temur and the Timurids [2], the articles "XV yüzyilin ilk yarisinda timurlular'da ziraî ve ticarî faaliyetler"[3], "The agricultural and commercial activities of the timurids in the first half of the 15th century"[4] are published in Turkish and English. These studies focus on the irrigation system along with agriculture and trade relations during the Timurid period.

Colorful mosques, madrasas, shrines, khanaqahs, and other complexes were built under the Timurids' patronage in the 15th century. During the Timurid period, a number of foreign architects and historians began to examine the architectural structures that have survived to this day.

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Bernard O'Kane, an American University of Cairo professor, is defending a two-part PhD dissertation on Timurid architecture in Khorasan [5]. The dissertation's main focus is on 61 Temurid architectural structures constructed between 1415 and 1510 [6]. Bernard O'Kane provides a full history of the dams built in the Khorasan region during the Timurid period, as well as a photograph of the dams in the dissertation's appendix.

Terry Allen, an American scientist, defended his doctoral dissertation on "Timurid Herat" at Harvard University in 1981, and the dissertation was then published as a monograph in 1983 [7]. T. Allen travels to Herat to obtain study materials, seeing firsthand the mosques, mausoleums, and shrines built during the Timurid period, and conducting research based on sources. The irrigation system of Herat during the Timurid dynasty was also studied.

German researcher D. Kraulsky translates Hafiz Abru's "Historical Hafiz Abru" into German. This work is published under the title "Hafiz Abru: Horäsän zur Timuridenzeit: nach dem Tärih-e Häfez-e Abru (verf. 817-823)" [8]. Hafizi Abru provides valuable information about the administrative structure, politics, economy, irrigation system, land use and agricultural crops of Khorasan region. Hafiz Abru describes the districts that belong to Khurasan province. This play describes the major rivers, canals and underground irrigation facilities (coriz) that supply water to the Khorasan region. The information left by Hafiz Abru serves as a valuable source in illuminating the irrigation system of Khorasan Province during the Timurid period.

Canadian scholar Lisa Glomberg and U.S. spy Donald Wilber compiled a catalog of 257 buildings built during the Timurid period (1360-1510) in Turan, Khorasan, and Iran and Mozandaran [9]. L. Golomberk and D. "The Timurid Architecture of Iran and Turan. Vol. I." published a two-volume monograph entitled [6]. The monograph contains 10 essays on the political history, architecture and architectural styles of the Timurid period. This architectural monograph also provides information about the reforms in the irrigation system of Khorasan region.

British archaeologists G. Herman and X. Kennedy published Monuments of Merv traditional buildings of the Karakum in 1999 [10]. On the basis of archeological and written sources, they study pavilions, palaces, awnings, cisterns, and yachts built in the Merv oasis of Turkmenistan from the 6th to the 19th centuries BC. The play provides information about the Anau cistern of the Timurid period.

"Timurids in Transition: Turko-Persian Politics and Acculturation in Medieval Iran" by Maria Subtelni, a professor at the University of Toronto in Canada, is a valuable study of 15th-century history of Central Asia and Iran, particularly the Khorasan region. In the play, the influence of the Timurids on the life of the Persians is based on sources [11]. Maria Subtel focuses on the reign of Sultan Hussein Boykaro in the play. Chapters 4 and 6 of the work consider three potential solutions to the economy of the Timurid period: farming during the Timurid period, the use of religious foundations and famous shrines as a place to manage agriculture. The play depicts Hussein Boykaro as the most interested ruler in agriculture. Under Hussein Boykaro, the management of hydraulic farming will rise to a new level [12]. Chapter 4 of the work focuses on the reforms carried out in the irrigation system during the Timurids. The section entitled "Expansion of Irrigation Networks" examines the irrigation system of Khorasan during the Timurids, the construction of irrigation facilities by the Timurids.

The book "Water and Irrigation Techniques in Ancient Iran", published by the National Committee for

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Irrigation and Drainage of Iran, describes ancient Iranian irrigation techniques, construction techniques for canals, ditches, and dams [13]. This book describes the structure and condition of the dams built during the Timurid period and provides a modern picture of the dams.

Irrigation and Water Resources Management Specialist B. Rout conducted a study on "How the Water Flows: A Typology of Irrigation Systems in Afghanistan" in collaboration with the AREU Research Center in Afghanistan [14]. In this study, a typology of irrigation systems in Afghanistan was developed and presented. The study reveals the current significance of the Jui Nav Canal, which was excavated during the reign of Hussein Boykaro.

Interstate Water Dispute Researcher, Department of Geography, University of India. Chokkakula Afghanistan in collaboration with the AREU Research Center "Chokkakula S. Interrogating Irrigation Inequalities. Canal Irrigation Systems in the Bible District, Herat "in 2009 [15]. This report presents the results of a case study on the irrigation system in Injil district, Herat province, Afghanistan. The aim of the study was to study the inequalities in irrigation distribution in a typical canal irrigation system. The study provides information about a source belonging to the Timurid period.

Mustafa Şahin, a researcher at the Gaziusmanposhsha Institute of Social Sciences in Turkey, defended his doctoral dissertation in 2013 on "The Middle Ages (from the establishment of the Ghaznavids to the fall of the Timurids) (961-1507)." [16]. The third chapter of this dissertation describes the history of irrigation of Herat during the Timurid period. Mustafa Şahinnig's research work "Agriculture, Irrigation and the Right to Irrigation in the Herat Region in the Middle Ages" also covers the history of irrigation in Herat during the reign of the Timurid dynasty on the basis of written sources [17].

Christina Nail-Karimi's The Pearl in Its Midst Herat and the Mapping of Khurasan (15th – 19th Centuries) is dedicated to the history of Herat in the 15th and 19th centuries. [18]. The play describes the development of Herat as an economic, political and cultural center in the 15th century as the capital of the Timurid period. The play explores the political history of Herat in later centuries and the reasons for its annexation to Afghanistan. The author tries to illuminate the irrigation systems of the territories of Khurasan region, based on the data of the historians of the Timurid period Hafizi Abru and Muyiniddin Isfizari.

In 2015, a group of Iranian researchers will publish a study entitled "The ancient dams built by the Timurids (1350 to 1490 A.D.) in the North East of Iran". [19]. This study discusses the history and structure of the dams, the materials used in the construction of the dam, the durability of the dam and its current significance - an irrigation facility built under the auspices of the Timurids and very complex for that period.

P. Kristensenning "The Decline of Iranshahr: Irrigation and Environments in the Middle East, 500 B.C. to A.D. 1500 "was first published in Copenhagen in 1993 and will be republished in London in 2016, 26 years later [20]. In the play, the author tries to reveal the importance of irrigation systems in the historical development of nature and society. This play tells the story of Amir Temur and the Timurid kingdom and the development of the irrigation system at that time.

Turkish researcher Ansar Masit's doctoral dissertation on "Azerbaijan in the time of the Timurids" based on Arabic, Persian and Turkish sources examines the role of Amir Temur in the history of

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Azerbaijan [21]. The dissertation consists of three chapters, the fourth sectionof the first chapter of the dissertation deals with the "Reconstruction of Baylakon and the opening of the Nahri Barlos Canal" it confuses the digging of canals in Azerbaijan by Amir Temur. E. In the appendix of Masit's dissertation, he now gives a picture of the Barlos Canal (actually the Baylaqon Canal).

Scientist from the University of Adelaide in Australia Z. Ranjbari "Botanic and Poetic Landscapes. A Reading of Two Persian Texts on Early Safavid Gardens "in 2018 [22]. The first source of this research is Irshad az-Ziroat by Qasim Ibn Yusuf Abu Nasr al-Kharawi. This novel deals with irrigated farming and agriculture, the horticultural art in the period of the Timurids.

In summary, the foreign literature contains more information about the irrigation systems of Khorasan Province during the Timurid period. Foreign researchers go to the site where irrigation facilities built during the Timurid period were built and practice, which increases the reliability of the research. These foreign literatures play an important role in enriching the content of our research.

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