

歴史都市防災論文集 Vol.17 掲載論文・報告一覧

【特別講演】

1. 寺山炭窯跡の災害と復旧

Progress of Recovery and Repair from Disaster at the Terayama Charcoal Kiln

藤井大祐

This paper reports on the disaster at the Terayama Charcoal Kiln and its recovery and repair. The Terayama Charcoal Kiln is a Component Part of the World Cultural Heritage Property “Sites of Japan’s Meiji Industrial Revolution: Iron and Steel, Shipbuilding and Coal Mining.” In 2019, heavy rain caused a slope collapse, burying the charcoal kiln and causing the masonry to collapse. Subsequently, the soil and sand that had flowed into the site were removed, and investigations were conducted to recovery and repair the site. Designs were developed based on these results, and the slope was recovered in 2021 and the charcoal kiln in 2022. However, part of the charcoal kiln collapsed again. Preparations are currently underway to determine the cause and recover the site.

【論文】

1. 混入繊維長の壁土圧縮強度の寸法効果への影響

Influence of Fiber Length on Size Effect of Compressive Strength on Fiber Reinforced Mud Plaster

山田耕司

There is size effect in fiber reinforced mud plaster in previous report. In this paper, the size effect of compressive strength on fiber reinforced mud plaster is researched. Two kinds of fiber are adopted: straw and hemp string. Hemp string is chopped in 25mm or 50mm. The results are as follows:

1. The compressive strength of the mud plaster with fiber depends on both its size.
2. The compressive strength of the mud plaster with fiber depends on both the size of fiber and the mixing ratio of mud and sand.

2. 連続繊維シート等の補強による寸法変化させたモルタルの力学性状に関する基礎的研究

Study on Mechanical Properties of Dimensionally Modified Mortar Reinforced by Continuous Fiber Sheets and its Adhesive

白田太, 山本貴正, 秀熊佑哉

CFT (Concrete filled steel tube) columns using circular steel tubes have high toughness. However, CFT columns made of square steel tubes do not have high toughness due to local buckling of the flat plates. We considered that the columns can be reinforced with continuous fiber sheets to secure high toughness. First, a basic study using only mortar was conducted. The compressive strength of the mortar coated with the adhesive was found to correlate with the strength estimation formula under low lateral pressure. It was confirmed that the restraining effect of the continuous fiber sheet was exhibited in the plastic range of the mortar.

3. 楔なし通し貫接合部の貫に生じるめり込み変形と材料特性の評価に基づく接合部耐力の評価

Evaluation of Compressive Displacement of Perpendicular to the Grain at Nuki and Consideration about Strength of Nuki-Column Joint with Material Property

井上祥子, 村本真

In our previous work, we developed a numerical analysis method for wood frames. One crucial factor in this analysis is modeling the compressive displacement perpendicular to the grain at joints. However, existing knowledge about compressive displacement, as demonstrated by previous research, is insufficient for accurately predicting Nuki-column joint strength. To provide useful information for developing analysis modeling rules, this paper presents measurements of compressive displacement perpendicular to the grain at the Nuki

joint using Digital Image Correlation (DIC) and considers the material properties of the Nuki member.

4. 伝統的な木造軸組の制震ダンパー補強効果に関する検証実験

Experimental Verification of Effectiveness on Seismic Damper Reinforcement of Traditional Wooden Frame

中治弘行, 須田達, 吉富信太, 鈴木祥之, 閻崇兵

Horizontal cyclic loading tests were carried out to investigate the effects of visco-elastic dampers installed on a traditional timber frame. One specimen was prepared and tested twice: with two dampers and with four dampers. In the case of four dampers, the final damage was break of column foot joint (*Nagahozo+Komisen*). When the number of dampers is two, the rotation angle of column foot joints is proportional to the deformation angle of the specimen. In the case of four dampers, it is less proportional. As the number of dampers increases, both the restoring force and the damping factor increase.

5. 伝統木造建築の修繕工事に関する研究

－多様な継手加工と応急処理修繕材料の活用の提案－

A study on the construction management of seismic isolation retrofit

About the construction utilization of temporary supporting pile

猪口朝加, 持田泰秀

In this research, we investigate and analyze large-scale repair cases of cultural properties of typical traditional wooden buildings, and grasp the details of the repair work, including the repair of rotten column members and the correction of uneven subsidence. We will create repair judgment criteria and repair work procedures for column foundation members that have not been standardized so far, and plan to spread them to many engineers. Through experiments, we clarify how to ensure the structural performance of joints by various joint processing such as precutting and skilled carpenters. Furthermore, as an emergency measure for column members that have deteriorated due to decay, we will clarify through experiments the possibility of improving structural performance and reducing variations by coating with polyurea, a new material. It is intended to be useful for repair activities and life extension of traditional wooden buildings in the future.

6. 京町家の連棟間の接触部分が地震時応答に及ぼす影響に関する検討

A Study of the Influence of Contact Areas Between Connected Rows of Kyomachiya on Seismic Response

井上斐文, 吉富信太

Japanese traditional wooden buildings have a characteristic that multiple buildings are built with their walls touching each other. Although this characteristic assumes to affect the seismic resistance as a group of buildings, this effect has not been examined sufficiently. In this paper, the effect of the contact between two Japanese traditional residential buildings on the seismic response is examined by using microtremor measurement and numerical analysis considering the effect of the contact of actual existing buildings.

7. 電力供給面での京都市田の字地区のスマートシティ化に関する取組

－日射量シミュレーションと太陽光パネルの発電量の推定－

Efforts to Create a Smart City in the Tanoji Area of Kyoto City in Terms of Electricity Supply - Solar Radiation Simulation and Estimation of Photovoltaic Panel Power Generation -

福本真史, 本間睦朗

This research estimated the amount of electricity generated when solar panels are installed on the rooftops of buildings in the Tanoji area of Kyoto City in order to create a smart city using photovoltaic panels and storage batteries. In addition, the possibility of supplying electricity was examined by comparing it to electricity demand. Since Kyoto City is at high risk of power outages due to earthquakes, the previous study examined the possibility and feasibility of a specific supply using generators in the city. Based on it, this study aimed to simulate the amount of solar power generation in order to make Kyoto a smart city.

8. Simulating the Disaster Imagination Game (DIG) and Developing the Application in the Firuzağa Neighborhood, Istanbul - A Workshop with Local Volunteers

Tomoko Kano, Telat Aydın, Dowon Kim, Takeyuki Okubo, Meltem Vatan, Ebru Omay Polat, Ai Kubota, Zeynep GülÜnal, Masayoshi Ito, Junichi Kawamura

In this study, while using spatial analysis and the results of a interview survey, a Disaster Imagination Game (DIG) workshop is conducted to clarify the natural disaster risk areas in Istanbul's Firuzağa neighborhood in Türkiye, with the aim of using photographs and a 3D model to make DIG more accessible to participants and gather more familiar information from them. After collecting local risk information and awareness data, a disaster risk management (DRM) bases is proposed to address the gap between each stakeholder. Moreover, the effectiveness of the DIG workshop was evaluated, leading to the development of a DIG application. In this way, this study pursues the method that local volunteers and citizens are involved in disaster risk management (DRM) plan toward the resilient cultural tourism towns.

9. 国際的な文化遺産防災研修の変遷について

Transition of International Trainings on Cultural Heritage and Disaster Risk Management

宮崎彩

With the increasing impact of climate change, disaster risk management within the cultural heritage conservation is becoming a crucial topic in the international context. Capacity building of the significant stakeholders is one of the approaches taken to fortify disaster risk management to protect cultural heritage but a fixed methodology is yet to be achieved. Regionally, there are differences in how the capacity building on these two topics have developed and in the applied ideologies for each region. Even with such differences, there is a common denominator in the training process—ICCROM. Disaster Risk Management International Training Course on Disaster Risk Management of Cultural Heritage, run by Ristumeikan University since 2006, has also developed in close collaboration with ICCROM with an aim to developing the capacities of experts in cultural heritage and/or disaster risk management. While there is no one-fits-all model for training on cultural heritage disaster risk management, one cannot ignore the significant impact made by the intergovernmental organization to have created a standard framework in understanding how cultural heritage conservation and disaster risk management could be realized in different cultural contexts.

10. 文化財周辺の斜面災害復旧における植生回復過程に対する可視光画像解析による観測・評価システムの開発に向けた一考察

A Study Towards the Development of a Monitoring System Using RGB Image Analysis for Revegetation Process at Slope Disaster Recovery Sites Around Cultural Heritages

昌本拓也, 酒匂一成, 伊藤真一

Natural plant invasion methods are suitable for the slope disaster recovery around cultural heritages due to their capability for preservation of historical landscape. The Percentage of Vegetational Cover (PVC) is an indicator of the evaluation of the methods, however it is usually measured through visual inspection. In this study, RGB image analysis was introduced to measure the PVC, and the impacts of the natural sunlight to the PVC measurement results were investigated. Ultimately, under the conditions of this study, the PVC could be over/underestimated depending on the photographing time, and the PVC measurement results could vary approximately $\pm 8 - 10\%$ (95% prediction intervals).

11. 竹原重要伝統的建造物群保存地区における水害対策に関する研究

A Study on Flood Control Measures in Takehara Important Preservation District for Groups of Traditional Buildings

水野真希, 岡井有佳, 馬場美智子

While countermeasures of fire and earthquake have been taken in Important Preservation Districts for Groups of Traditional Buildings, measures against flood have not been sufficiently implemented. Takehara Important Preservation District for Groups of Traditional

Buildings, in Takehara City of Hiroshima prefecture, suffered two major floods in 2018 and 2021. This study aims to figure out the flood risks and past flood damage, to understand the post-flood recovery and future countermeasures, and to clarify the issues and policies for countermeasures against flood in this district. It is found that financial assistance is not provided enough for victims to recovery houses although it is difficult to reduce flood risks sufficiently due to the rising risks.

12. 歴史的な港町における防潮堤整備計画を伴う防災まちづくりの協議手法の開発

Community-based Pre-disaster Planning Method for Historical Waterfront Area with High Tsunami Risk

阿部俊彦, 岡田潤, 益子智之, 山下博美

The Katashima district of Sukumo City, Kochi Prefecture, is expected to be hit by the tsunami of the Nankai Trough earthquake. Kochi Prefectural office has announced a plan to raise the seawall to prevent long-term inundations of the sea after the tsunami. But the prefectural officers were not communicating how coastal activities and landscapes might or might not change. As an advisor for the Katashima district committee, we conducted workshops using 3D physical models of the area, as well as computer graphic images. By analyzing the results of the workshop, it became clear that the workshop method was effective for encouraging discussion on disaster prevention and landscape design.

13. 亀岡市旧城下町地区の防災・減災提案に向けた空き家と空地に関する研究

Research on Vacant Houses and Spaces for Disaster Prevention and Mitigation Proposals in the Former Castle Town District of Kameoka City

木村智, 米田恵規, 清水優真, 大場修

In recent years, the increase in the number of vacant houses has emerged as a social problem due to the declining and aging of the population. The increase in the number of vacant houses may lead to collapses, collapses, fires, and other problems. On the other hand, in cities with historical urban areas, there are growing expectations for regional development and urban planning that make the most of historical resources. However, in many cities, the development is limited to individual buildings and has not yet led to the development of the entire area, including the surrounding environment. The purpose of this study is to understand the current status of vacant houses in the old castle town area of Kameoka City as an area with a historical townscape, with the aim of utilizing vacant houses and proposing disaster prevention measures in order to designate the area as a traditional townscape district.

14. 社寺の拠点化によるマンション等在宅避難者への支援の可能性

～京都市上京区を例として～

The Study on the Capacity Building of Traditional Shrines and Temples as the Base for Supporting Earthquake Evacuees Staying in Their Reinforced Apartments in Case of Kamigyō, Kyoto

大窪健之, 松田明大, 金度源

When an earthquake occurred, evacuees living in the reinforced apartment buildings should stay at home because of capacity lack of public evacuation shelters. It is necessary to consider ways for them to receive support as much as those in shelters because it is difficult for them to get food and information. This study clarifies the possibility of utilizing the traditional shrines and temples as supporting bases for evacuees staying at homes instead of the shelters, and it will be helpful to develop the capacity building plan of communities with traditional resources.

15. 京都における公共路地の評価要因に関する考察と防災力向上のためのケーススタディー

Quantitative Analysis of the Attractiveness in Public Alleys of Kyoto and Evaluation of Disaster Prevention Power and Proposal of Alley Disaster Prevention Models

平尾和洋, 西岡里美, 大場修

The purpose of this paper is to analyze the attractiveness of public alleys in Kyoto City from

spatial and semantic viewpoints, and to propose alley disaster prevention models for improving disaster prevention capacity. The second and third Chapters found that when semantic information was given, the evaluation was higher than when spatial information was given, the tendency of item categories to raise the evaluation and evaluation fluctuations. The fourth Chapter proposed models to increase the disaster prevention capacity of alleys while preserving their attractiveness.

16. 日常利用を考慮した高機能型市民消火栓の評価と改良

ーデザインと利用方法に関するユーザー調査を通してー

Improvement of the High-Performance Citizen Hydrant for Daily Use: Through the User Evaluating Surveys on Logo Design and Usage

金度源, 谷口有里香, 大窪健之

The important preservation district of historic buildings in Japan is often crowded with wooden buildings. It is difficult to stop the spread of a fire when it breaks out, so initial fire extinguishing by the resident is very important. The government has installed the citizen hydrant, which is easy to operate by residents in the Kiyomizu area, one of the important preservation districts. It allows daily use by residents for the purpose of raising local disaster prevention possibilities. However, some residents in this area only use hydrants a little daily because operability challenges for these hydrants need more understanding of how to use them. This paper aims to improve issues by improving and evaluating hydrants.

17. 自然監視と防犯カメラの監視と抑止の範囲の可視化に基づく歴史的街路の防犯評価手法に関する研究 ー大阪府箕面市を対象としてー

Study on Evaluation of Historic Streets Based on Visualization Methods of Natural Surveillance and Monitoring and Deterrence Area of Security Cameras - A case of Minoh City in Osaka Prefecture -

阪口元貴, 宗本晋作, 藤井健史

This research provides a method of classifying and evaluating independently defined areas that consider the secondary effects of Natural surveillance by visualizing the area of natural surveillance on the street and the area of monitoring and deterrence of security cameras based on the amount of visibility. By superimposing the area of the effect of natural surveillance and security cameras, the streets divided into areas of independently defined CPTED elements. After evaluating the placement of security cameras based on this division, we demonstrated the rearrangement of the security cameras to monitor the dangerous area more efficiently applying our method.

18. 歴史都市における道路形成順序が道路構造と交通事故発生状況に及ぼす影響に関する分析 *An Analysis of the Influence of Road Construction Order on Characteristics of Road Structures and Traffic Accident Occurrence in Historical Cities*

小川圭一, 溝口万里江

In historical cities, land use extends back to ancient times, and the roads have been constructed for the traffic of citizens accordingly. The history of road construction is considered to affect the characteristics of road structures and it is considered to affect the traffic accident frequency. This study aims at analyzing the relationship between road construction order at intersections, characteristics of road structures, and traffic accident frequency in historical cities. As a result, it is shown that the road construction order at intersections and land use before road construction affect the characteristics of road structures and traffic accident frequency in historical cities.

19. 歴史的な仏教僧院における災害時の利活用

ーネパールの歴史都市パターンにおける地域空間の防災拠点化に関する研究ー

Exploring the Use of Historical Buddhist Monasteries in Disaster Management -A Study of Local Spaces as Disaster Prevention and Response Bases in Historic City Patan, Nepal-

サキヤラタ, 白野裕之, 田川龍, 大窪健之, 金度源

During the 2015 Gorkha earthquake in Nepal, victims who were evacuated to open spaces

experienced anxiety and stress. It is essential to evacuate to the interior of a building with good earthquake resistance for a safe evacuation. In this study, we aim to clarify how Buddhist monasteries in the historical city of Patan, a dense urban area, can be utilized during a disaster. To achieve this, we first examined the current architectural form and management system of 46 monasteries through a questionnaire survey and analyzed the data obtained. We found that although there are concerns about earthquake resistance, the courtyard, internal space, and management system of these monasteries have high potential for use as an evacuation center. This paper demonstrates the possibility of converting Buddhist monasteries into disaster prevention bases. However, in the future, more detailed research and analysis, such as the stockpiling situation, will be necessary to fully explore this potential.

20. 観光資源としての文化遺産の評価における交通時間価値の評価方法の影響に関する研究

A Study on the Influence of Value of Travel Time on the Evaluation of Urban Cultural Heritage as Tourism Resources

小川圭一, 森祐輔

It is necessary to make clear the necessity of cultural heritage disaster mitigation in disaster mitigation planning in historical cities, to reach a social consensus about protecting urban cultural heritage from natural disaster. For this purpose, it is necessary to show the necessity of cultural heritage disaster mitigation in historical cities objectively and quantitatively. In this paper, evaluation of cultural heritage as tourism resources in Kyoto City is estimated using travel cost method. Moreover, the influence of value of travel time on the evaluation of urban cultural heritage as tourism resources in historical cities is analyzed.

21. 夜間景観における「京都らしさ」の定量化の検討

Examination of the Quantification of “Kyoto-Identity” of Night View

本間陸朗

The scenery of Kyoto is clearly different from that of Tokyo. This time, I tried to quantify this qualitative “Kyoto-Identity” by consolidating various knowledge in the field of lighting environment. In order to maintain the scenery of Kyoto, various regulations have been established. It can be said that it owes these regulations that the “Kyoto-Identity” has been maintained. However, it is quite possible that the potential of LED light sources in recent years will not be restricted by the current regulations. We hope that the quantification that we tried this time will be useful for new landscape maintenance.

22. 文化財保全のための教材および支援システムの開発に関する研究

Research on the Development of Teaching Materials and Support Systems for the Conservation of Cultural Properties

荒井勇哉, 山田悟史

In recent years, there has been an increasing demand for the utilization of cultural properties for their preservation. In order to do so, it is necessary to raise awareness of the importance of cultural properties, especially among the younger generation. However, it is not easy to create teaching materials and curricula to raise awareness in elementary school education. In this study, we proposed a teaching material support system using digital technology, and created teaching materials and a curriculum. In addition, lectures were given to elementary school students to raise their awareness of cultural assets. As a result, we found the possibility of introducing the system into the educational curriculum of elementary schools.

【報告】

1. 軍艦島の環境と構造物群の経年変化

Environmental Influence on Time-related Changes in the Structures of Gunkan-jima

福山智子, 田中章夫

This paper discusses the aging of reinforced concrete structures on Gunkan-jima based on photographs. The external forces of deterioration specific to the island are identified as wind,

rain, and surge waves. The study also reveals rebar corrosion was found on the concrete members in areas where green stains indicate water provided. Recent research suggests that moisture is a critical factor in rebar corrosion, and the results of this study support this hypothesis.

2. Designing a Mobile Application to Raise Children’s Awareness of Disaster Management

Ai Kubota, Tomoko Kano, Telat Aydın, Dowon Kim, Takeyuki Okubo,
Junichi Kawamura, Meltem Vatan, Ebru Omay Polat, Masayoshi Ito

We designed prototype of a city-walking game aimed at promoting active learning about local disaster management among children and implemented in the Firuzaga neighborhood, located in the Beyoğlu district of Istanbul. In this game, the participants search for original characters called “Guardians,” whose motifs are emergency equipment. This paper reports specifications of the game and future tasks found through the implementation.

3. Reflections on the Disaster of Cultural Heritage in Turkey’s Earthquake and Countermeasures for Heritage Disaster Prevention

Mingyan Zhang, Shanlan Chen, Hongtao Liu

As a bridge between Asia and Europe, Turkey has rich historical heritage. On February 6, 2023, Turkey suffered two strong earthquakes above magnitude 7, and many cultural heritages in Turkey were damaged to varying degrees. Through literature research, this paper investigates the damage status of cultural heritage in the earthquake in Turkey, makes a statistical analysis of the damage status and causes of different types of cultural heritage, and discusses and reflects on the existing disaster prevention and mitigation measures in Turkey, aiming to provide reference for disaster prevention and mitigation measures of cultural heritage in the Middle East.

4. 伝統的な橋梁の洪水対策技術

Traditional Flood Protection for Bridges

原田紹臣, 藤本将光, 里深好文

Renowned both at home and abroad, bridges with traditional structures such as Japan’s famous *Kintaikyo* Bridge and submerged bridges have been used as “living roads” for a long time. In an attempt to preserve traditional bridges for the foreseeable future, this study considers the risk of bridge superstructures being washed away during excessive flood events and disasters arising from the blockages caused by woody debris. The likelihood of severe damage to a bridge increases when girders are installed below the virtual line connecting the upstream and downstream river levees, especially during flood events that exceed water level specifications. Through experiments, we identified a blockage mechanism at the balustrade involving the rotation of woody debris overflowing the bridge slab. In addition, we propose an improved method to reduce woody debris blockages in the constructs used for new bridges.

5. Investigating Landslide Mitigation Measures in Mount Pagos within the Framework of Cultural Heritage

Nihan Bulut, Selen Güler, Hülya Yüceer, Alper Baba

Cultural heritage sites are subject to various natural disasters that can cause damage and loss of historic fabric, community, and identity. One such disaster is the landslides that threaten the historically complex Mount Pagos in İzmir, Turkey. Experts have successfully implemented drainage projects in a limited area to reduce the risk of landslides. However, more comprehensive risk preparation is needed because many archaeological remains and traditional structures in the region are threatened. Therefore, the Sendai Framework, one of the main international guidelines for risk preparedness, was analyzed and reinterpreted to evaluate risk mitigation efforts from a comprehensive cultural heritage perspective.

6. An Investigation on the Effects of Heavy Rainfall on the Cultural Heritage Site of Shibam Hadramout and Strategies to Mitigate the Damage

Haitham, Xinbiao Li, Hongtao Liu

Heavy downpour events are becoming more and more dangerous for the city of Shibam Hadramaut, a UNESCO World Heritage Site, as they are predicted to occur more frequently and intensely as a result of climate change. Shibam Hadramaut was hit by a severe downpour in July 2020, which to varied degrees caused damage to the city's historic buildings. This study investigates the harm that heavy rains and torrential downpours cause to Shibam Hadramaut and identifies practical ways to lessen it. The author has categorized the harm done by catastrophes in Shibam Hadramaut using a range of literary surveys. Along with describing the harm caused to the community as a result of the rainy catastrophe and the emergency response measures, the author also examines the sources of the disaster damage. Based on research findings and local knowledge, the study generated a number of ways for historic communities to deal with rainfall calamities. The findings of this study should aid in the creation of long-term plans to protect Shibam Hadramaut, a World Heritage Site, from harm caused by rain.

7. 世界遺産「紀伊山地の霊場と参詣道」の避難時における土砂災害リスクー横垣峠の事例ー *Sediment Disaster Risk on Evacuation Routes at the World Heritage Site "Sacred Sites and Pilgrimage Routes in the Kii Mountain Range" -The Case of Yokogaki-Toge Pass-*

石田優子, 坂原秀亮, 平井千津子

The world heritage site "Sacred Sites and Pilgrimage Routes in the Kii Mountain Range" is located in three prefectures, and the pilgrimage routes extend 347.7 km. To ensure that tourists can safely reach evacuation sites, sediment disaster risk during the evacuation on the Iseji route was analyzed using geospatial information. The result shows all of the 20 tourist routes and approximately half of the evacuation places have sediment disaster risk. The analysis of the Yokogaki-toge Pass indicates that the distance from the pilgrimage route to the evacuation center is approximately 2.4 km and takes 30-45 minutes. In addition, there are slope failure and debris flow risks on the route.

8. Study on the Damage and Countermeasures of Heavy Rain Disaster in Sana'a Ancient City, Yemen World Heritage Site

Xinbiao Li, Haitham, Hongtao Liu

Starting from mid-to-late July 2022, continuous heavy rainfall has occurred in many parts of Yemen. Among them, the ancient city of Sana'a in Sana'a City, Yemen, was the most severely affected. Based on the detailed disaster investigation of the ancient city of Sana'a, this paper counts the number of damaged ancient buildings in the ancient city of Sana'a during heavy rainfall, and analyzes the disaster prevention measures in the process of heavy rainfall in the ancient city of Sana'a. At the same time, it summarizes a series of problems in the prevention of heavy rainfall disasters in the ancient city of Sana'a, and finally puts forward the practical countermeasures for the ancient city of Sana'a to deal with heavy rainfall disasters. It is hoped that this report can provide reference for other ancient cities and even world cultural heritage in dealing with heavy rainfall disasters.

9. 亀岡市における流域空間デザイン検討会議とその提言について

The River Basin Spatial Design Study Committee in Kameoka City and Its Proposals

武田史朗, 山口敬太, 花岡和聖, 並河杏奈, 中島秀明, 焦英楠, 中村恭輔

This paper reports on the background, process, and results of the preparation and management support for the 2022 Basin Spatial Design Study Group by the River Basin Spatial Design Study Group. To make a report including the background and results of this committee, this paper first reviews the flood control issues in the Kameoka Basin, and then examines the historical aspects of the Kameoka Basin in order to summarise the context within disaster mitigation studies on historic cities. Also, the "Kameoka 2070 Workshop for Living with the River" held in 2020 is explained briefly for the reader to better understand the background to this committee. And finally, the paper reports on the progress and results

of the committee.

10. グリーン・ブルースポット解析に基づく亀岡市川東地区における流域空間デザインの試行的計画

A Study on Spatial Design in Kawahigashi Area Kameoka City Based on GBS Analysis

焦英楠, 章俊華, 武田史朗

In recent years, heavier rains than ever have caused serious inundation damage beyond the river maintenance plan. In the Hozu River in Kameoka City, Kyoto Prefecture, flood damage will be inevitable not only along the main river but also in the tributary areas due to the narrowing of the Hozu Gorge and haze embankment, and improving the flow capacity of the main river alone will not eliminate the flood risk in the region. This proposal will clarify the rainwater regulation function of farmland and green areas in the Kameoka River East area, restructure the water network to create a regulating reservoir, restore the wet floodplain ecosystem, and create new industries and values by inheriting the local historic atmosphere, while maintaining and improving the original landscape of the Kawahigashi area.

11. 亀岡駅南城下町地区の町並修景と防火力向上に向けた予備的考察

Preliminary Consideration for Townscape Improvement and Fire Prevention in Kameoka Station South Castle Town District

大場修, 平尾和洋, 藤木大真

In this paper, preliminary consideration was made for the purpose of drafting the landscaping standards for Kameoka castle town and checking the vulnerability of fire spread for disaster prevention. As a result, it was shown that the spread of fire and the effect of the disaster prevention menu differed depending on the peculiarity of the area. We conducted detailed simulations for each block, and pointed out the need to take countermeasures while maintaining a balance with the landscaping effect.

12. 重要伝統的建造物群保存地区における防災計画の策定効果と課題

—全国自治体への現況調査を通して—

A Questionnaire Research on the Effects and Issues of Disaster Risk Management Plan in the Preservation District for Groups of Traditional Buildings in Japan

金度源, 山根雅也, 大窪健之

The improvement of disaster prevention functions in historical settlements is an urgent issue. Formulating a disaster prevention plan is essential to protect towns and people's lives from disasters. In this study, they investigate the current situation and problems of disaster prevention plans for the Preservation Districts for Groups of Traditional Buildings in Japan. As a result, the following status of disaster prevention plans for 108 districts is proven. It turns out that some undeveloped Preservation Districts have their plans.

13. 伝統的な平入の町家群における類焼特性に関する研究

A Study on the Fire Spread Characteristics of Traditional Townhouses with Side-Gabled Roof

遠藤裕太郎, 大窪健之, 金度源

Fire spread characteristics between adjacent traditional townhouses with side-gabled roof was analyzed. The analysis was conducted by using FDS. The results show fire tend to spread from under the eaves to adjacent traditional townhouse and gradually spread from the junction between the eaves and the wall in the direction of the adjacent building.

