

## CONFERENCE REPORT

# Towards a resilient society – Croatia & Japan cooperation

Zagreb, March 1<sup>st</sup> 2022



# IRMO

*Institut za razvoj i međunarodne odnose  
Institute for Development and International Relations*

**CONFERENCE REPORT**

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## About IRMO

Institute for Development and International Relations is a public, non-profit, scientific and policy research institute. It was founded by the University of Zagreb and the Croatian Chamber of Commerce in 1963 as the Africa Research Institute. Its research focus evolved from the study of post-colonial Africa, through the developing countries of Asia and Latin America and finally towards the global development processes. This was followed by changes in the research program and the name of the Institute. The Institute changed its name in 1971 to the Institute for Developing Countries.

The change of the Institute's research focus and the underlying work program were reflected three more times: in 1989 it changed its name to the Institute for Development and International Relations (IRMO); in 1996 it changed its name to the Institute for International Relations (IRMO); and in 2013 it changed its name back to the Institute for Development and International Relations (IRMO).

The fundamental mission of the Institute is developing and disseminating theoretical, methodological and technical knowledge and skills required for scientific and professional interpretation and evaluation of contemporary international relations which affect various human activities and related developmental trends important for the Republic of Croatia. Development tendencies are observed in the local, regional, European and global context.

The IRMO's research is mainly in the area of social sciences, primarily economics, political science, sociology and related disciplines, but IRMO's staff includes researchers in environmental area – biology, chemistry, math. This provides an opportunity to deal with research topics that cannot be studied within single discipline. IRMO focusses on various forms of interlinkages of international relations and developmental trends with political, economic and socio-cultural aspects. The basic programme areas of the research relate to: (i) international framework for economic development and cooperation (ii) Cultural, communication and media aspects of contemporary social processes and (iii) International political relations.

In addition to scientific research, IRMO activities include organisation of conferences and workshops, development of targeted training programs and dissemination of knowledge through the publication of scientific journals, books and other publications.

IRMO collaborates with various stakeholders - NGOs, scientific institutions, international organizations, business communities and others.

In cooperation with the Embassy of Japan, in the period 2002-2013 IRMO organized seven Croatia-Japan bilateral conferences on various topics (regional challenges, border issues, etc.), and IRMO researchers were visiting fellows at universities in Japan.



## CONFERENCE

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Zagreb, March 1<sup>st</sup> 2022

8<sup>10</sup> — 8<sup>30</sup> • **Registration**

*Speakers:*

8<sup>30</sup> — 8<sup>50</sup> • **Opening**

**session**

Ms Sanja Tišma, IRMO, Director

H.E. Misako Kaji, Ambassador of Japan to the Republic of Croatia

9<sup>00</sup> — 10<sup>30</sup> • **Panel 1**

*Towards a resilient society  
– how to reduce disaster  
risk and build back better*

Mr Haruo Hayashi, president, National Research Institute for Earth Science and Disaster Resilience (NIED)

Mr Robert Mikac, University of Zagreb, Faculty of Political Science

Ms Kristina Martinović, City of Zagreb

Ms Branka Bakšić Mitić, Deputy Mayor, City of Glina

*Moderator:* Ms Senada Šelo Šabić

10<sup>45</sup> — 12<sup>15</sup> • **Panel 2**

*Economic value of  
resilient society, roles of  
business sector*

Mr Velibor Mačkić, Special Adviser to the President of the Republic of Croatia for the Economy

Mr Kensuke Tsuchiya, president, Toyota Adria

Ms Ines Obradović, Director, International affairs, Croatian Chamber of Commerce

*Moderator:* Ms Nevenka Čučković

12<sup>30</sup> — 14<sup>00</sup> • **Panel 3**

*How we build resilient  
society through green and  
digital transformation*

Ms Naoko Ishii, former CEO and Chairperson of the GEF

Ms Nataša Mikuš Žigman, State Secretary, Ministry of Economy and Sustainable Development

Ms Marijana Šarolić Robić, PWMN Croatia

*Moderator:* Ms Ana-Maria Boromisa

14<sup>00</sup> — 14<sup>30</sup> • **Conclusions**

Ms Sanja Tišma, IRMO, Director

• **Lunch**

## Speakers CVs

**Dr. Haruo Hayashi** is President of the National Research Institute for Earth Science and Disaster Resilience (NIED) since 2015. He is also Professor Emeritus of Disaster Prevention Research Institute, Kyoto University where he has taught since 1994. The general focus of Dr. Hayashi's work is on societal and human reactions to disasters, risk communication and education, information system for disaster management, standardization of emergency operations, and multi-hazard risk assessment.

**Dr. Robert Mikac** is the professor at the Faculty of Political Sciences of the University of Zagreb with rich practical and theoretical experience from various structures of the security sector of the Republic of Croatia. Previously he served in the Armed Forces of the Republic of Croatia and NATO ISAF mission in Afghanistan, was the Head of the State Centre 112 and spent four years as the Commander of Civil Protection of the Republic of Croatia and the nation point of contact for CIP.

**Ms. Branka Bakšić Mitić** is the Deputy Mayor of Glina and a humanitarian activist. She is a co-founder of “Ljudi za ljude” (People for people) initiative that collects donations for those who live under difficult circumstances in Banovina and around it. Her initiative has helped hundreds of people. She received the *Pride of Croatia* award from 24sata media company and the *Fierce Women* prize from Vox Feminae.

**Dr. Velibor Mačkić** is the Special Advisor to the President of the Republic of Croatia for Economy. He is also the assistant professor at the Faculty of Economy of the University of Zagreb where he received his PhD in 2015. His research interests include political economy, analysis of competitiveness and election cycles. He received the Marijan Hanžeković award in 2013 and the annual award of the Society of University Professors and Other Scientists in 2014.

**Mr. Kensuke Tsuchiya** is the President/CEO of Toyota Adria and is involved in alternative fuels development (such as hydrogen) and smart city development.

**Ms. Ines Obradović** is the Director of the International affairs and EU sector of the Croatian Chamber of Commerce. She has been dealing with the field of international relations and support to Croatian companies in entering foreign markets for more than 17 years. She is also a member of the Governmental Working Groups on Internationalization and Regulatory Reform.

**Dr. Naoko Ishii** is the former CEO and Chairperson of the Global Environment Facility (GEF). She had led the development and implementation of the GEF's first long-term strategy. She helped the GEF address the underlying drivers of environmental degradation and catalyse systems transformation in energy, cities, and food systems while protecting critical ecosystems. Previously, she was Japan's Deputy Vice Minister of Finance and represented the Japanese Government during the design of the Green Climate Fund. She worked as the Country Director for the World Bank and held positions at the IMF and Harvard Institute for International Development.

**Ms. Nataša Mikuš Žigman** is the State Secretary in the Ministry of Economy and Sustainable Development of the Republic of Croatia. Previously she acted as the State Secretary of the Ministry of Economy, Entrepreneurship and Crafts (2016-2020), and as the Head and Deputy Head of the Central Finance and Contracting Agency of the European Union funded programmes and projects (2012- 2016). She was also the Deputy of the State Secretary of the Central State Office for the Development Strategy and Coordination of the European Union Funds (2006-2011), and expert assistant and head of a department in the Ministry of Foreign Affairs and European Integration (2000-2005).

**Ms. Marijana Šarolić Robić** is the President of the Professional Women's Network (PWMN Croatia/PWN Zagreb), a part of global movement of people working towards gender-balanced leadership through professional development and international, cross-industry, online and in-person networking. She is the attorney-at-law by trade and an enthusiast for artificial intelligence (AI). She works in the AI regulatory field to support AI companies in designing their business models in accordance with current regulatory trends.

**Ms. Kristina Martinović** works in the City of Zagreb Office for Emergency Management. She leads the project "Earthquake Risk of the City of Zagreb", which is among the strategic projects of the Republic of Croatia. After the earthquake in Zagreb in 2020, she has participated in organizing the response and since the declaration of the epidemic in Croatia she has provided operational support to the Civil Protection Headquarters of the City of Zagreb in the implementation of epidemiological measures.



## Summary

*This is not a verbatim report. The topics discussed in individual panels are presented under the three main Conference topics.*

### **Opening session** (highlights)

In the introductory part of the conference, the speakers (H.E. Misako Kaji and IRMO director Sanja Tišma) highlighted successful previous cooperation and outlined topics of common interest. In November 2019, IRMO held a conference titled “Extending Japan-EU Cooperation: New opportunities for Croatian EU Presidency”. In spite of the unexpected pandemic caused by COVID-19, Croatia had successfully completed its tasks in the rotating presidency of the EU Council in the first half of 2020. Following the COVID-19 crisis, the EU adopted the Next Generation plan to overcome the economic and social effect of the pandemic in Europe. Croatia is now at the doorstep of green and digital transformation, making use of the aforementioned EU mechanisms. This transformation shall come hand in hand with the recovery and reconstruction process after the two large scale earthquakes in March and December 2020. Japan experiences many natural disasters and shares its experiences and expertise with Croatia to support the undertakings to build back better and reduce disaster risks. Late February and early March 2021, the Embassy of Japan in Croatia, together with the Ministry of Construction of the Republic of Croatia, held an online seminar. Later in October 2021, earthquake detecting devices were put in place by a Japanese company in different places across Zagreb. It is however obvious that more needs to be done for reconstruction. Moreover, today when we also face global challenges such as global warming and infectious diseases, the whole international community is in search for answers to create resilient society.

Exactly 30 years ago, Japan together with many other states recognised the independence of the Republic of Croatia, followed by the establishment of a diplomatic relations between the two countries a year later. Since then, the cooperation between Croatia and Japan has only been enhanced. The two nations reached for help from each other, especially in times of hardship. Japan provided support for the post-war reconstruction and the revitalisation of the local community. Whereas Croatia had provided supports in the event of the Japanese earthquake and tsunami in 2011.

## Panel 1

### *Towards a resilient society – how to reduce disaster risk and build back better* highlights

**Dr. Haruo Hayashi** presented NIED's approach for improving disaster resilience which is based on digital twin. The top tier involves experts who can: predict, prevent, response to emergency and lead recovery or reconstruction. The bottom tier involves local community individuals to learn, prepare and to act for the top tier. In order to do so, NIED creates information products through interdisciplinary research. However, research is not the end of the process, it's just the beginning. The information products should trigger the action of the people, so they have to be delivered/disseminated in an appropriate way. In most cases we can't prevent disasters, so we have to understand that we should put the focus on recovery. Recovery should be always prioritised and go faster. The indicator of resilience is therefore how prepared we are for disasters.

How do we make Croatia more resilient to disasters? We need to focus on three elements: risk assessment or prediction function; prevention or mitigation function both structural and non-structural; and preparedness function for response, relief and recovery. The three functions are heavily interrelated. Hazards can be both natural or man-made (like terrorism). Croatia has high risk for earthquakes because of its location and geographical position, so three goals for this disaster risk reduction are: to protect human lives (as a first priority), to tackle functional loss and guarantee operational continuity, and lastly a long term commitment to protect property and reduce infrastructural damage. For effective response and recovery, Croatia has to: get a big picture view of what is going on, size up what to do, allocate necessary resources appropriately, empower the impacted people as much as possible, involve all stakeholders and not to hurry. In order to achieve life recovery, economic recovery (for businesses) and physical recovery (housing and land use planning) are necessary. Both economic recovery and physical recovery are necessary for restoration of social infrastructure and resulting life recovery. Croatia and Japan can and should collaborate together in fight for disaster risk reduction.

**Dr. Robert Mikac** presented disaster risk reduction in Croatia, which is based on four pillars: UN policy and activities (Sendai Framework for Disaster Risk Reduction), EU policy and activities (European Forum for Disaster Risk Reduction), regional activities and cooperation (Disaster Preparedness and Prevention Initiative for SEE) and Croatian

own tradition (Croatian platform for disaster risk reduction). National strategic documents relevant in this area include National Development Strategy of the Republic of Croatia until 2030, National Security Strategy 2017, Disaster Risk Assessment for the Republic of Croatia 2019 and Disaster Risk Reduction Strategy 2022 (currently in adoption procedure). Croatia has relevant the documents needed for the risk reduction. However, there is no single legal framework for disaster risk reduction, but only sectoral laws. There is a strong connection with EU DRR policies, where we have big use of EU funds (such as Defence of the city of Karlovac from floods). In Croatia, unfortunately prevention and reduction is not being a focus. However, reduction should always take precedence over reaction. Coordination and cooperation need to be raised to a higher level. Risk reduction is not obligation of one institution, all stakeholders should cooperate on their own level and capacity. In certain areas, such as forest fire prevention and forest fire fighting, Croatia's approach is recognised as the golden standard in the whole Europe.

**Ms. Kristina Martinović** highlighted the efforts of the City of Zagreb to increase resilience. Identified risks of the city of Zagreb are: earthquake, flood, epidemics and pandemics, industrial accidents (technical-technological accident with hazardous substances) and heat waves. Potentially in the future land slide will be added as a risk as well. Scenarios have been developed for each individual risk, and plans are developed based on those scenarios. The scenario represents the foundation for preventive planning and operational strengthening of civil protection in the City of Zagreb. In the last years, two hazards stroke Zagreb out of the five pre-identified (earthquakes and epidemic).

Zagreb is implementing a project Climate change and risk management (co-financed by European Structural and Investment Funds) which consists of multisensory aerial imaging of the Republic of Croatia and earthquake risk in the area of the city of Zagreb. The general goals of this project are: to develop a methodology for earthquake risk assessment applicable to all major cities in Croatia (as the earthquake is defined as a disaster risk on the national level.); to define seismic hazard; and to identify risk of earthquake buildings (residential, public, infrastructure, cultural heritage) and people; to create a complete database of buildings and population; earthquake risk assessment –mathematical calculation of seismic hazard, exposure and vulnerability; and transfer of earthquake risk knowledge.

## Q&A

*Q: Dr. Hayashi, do you have comments on what have you heard from the Croatian speakers as regards to the normative aspects and policies applied in Croatian context?*

A: As for the housing reconstruction issue, it sounds very familiar to us too. The biggest concern after a major earthquake is how to restore their living space. After the event, usually there is a temporary shelter, but usually it is limited up to 1,000 hours of stay. Later they need to relocate to somewhere that is not a shelter. Thus temporary housing becomes an important issue. The local and national government should come up with a recovery plan while the victims are in the temporary housing. In Kobe earthquake case, in 3 years we managed to build back more than 330,000 homes. In order to complete such a quick recovery, all stakeholders across Japan joined efforts. But then, they left when the projects were over so local communities also lost their jobs. In the next 6 years, people were left without jobs even though the houses were built back. This was why I highlighted the point of “don’t rush, take your time”.

*Q: When you write strategies and plans, do you count for volunteers who would work and go to the fields when disaster happens? Is it something you foresee or you deal with it when it happens?*

A: When Kobe earthquake happened, there were over 1.5 million volunteers and helpers in the area. They were gone after the new school year started, but it still initiated/triggered the collective effort. Later, the victims who suffered only minor damage became volunteers because they recovered quicker. Volunteer participation is one of the core activities for recovery. In the Croatian context, volunteerism is big and very important. We rely heavily on volunteers, sometimes up to 85% in every disastrous event. However, this can also create problem because of lack of coordination, which later only creates problem and attracts “disaster tourism”. The coordination of volunteers can and needs to be highly improved.

*Q: Does Zagreb collect other experiences to learn from?*

A: Yes. Transfer of knowledge is an important element. For our project in Zagreb we took the experience of Italy. Later we transferred the knowledge to different cities in Croatia. City of Zagreb also develops a Centre for Volunteers which can coordinate volunteers in the event of disaster.

## Panel 2

### *Economic value of resilient society, roles of business sector*

#### highlights

Panel 2 explored economic value of resilient society and the role of business sector.

**Dr. Velibor Mačkić** explained the concept of resilience, as the ability to withstand, adapt and recover from shock and stress. He stipulated that this process should not compromise the long term development. For instance, developments in Banija that had had a low development process due to the effect of war, the question of addressing the problem after the earthquake was rather complicated. The Office of the President tried to encourage and combine socio-economic, physical and economic recovery. As the Office doesn't have the executive authority it prepared scenario planning: identified factors of change; analysed and structured factors of change; selected factors for scenario development; discussed scenarios, selected scenarios for the long-term development vision; determined the development vision and provided recommendations. The vision itself is Banija as a renewed green area with distinctive characteristic and a high degree of self-sufficiency in food production and energy supply.

Proposals for key development initiatives include: specialisation of Top Terme Topusko health spa resort and health treatments using industrial hemp, cultivation and processing of industrial hemp, using sustainable energy sources to drive economic development, production of plant based meat substitutes, commercialisation of local products "made in Banija", wood industry as high value products and Good Food Academy. Infrastructure suggestions are: business infrastructure, optimisation of Zagreb-Sisak railway, urban revitalisation, local accessibility and rural laboratories. Highway is not considered as a good answer because it will encourage local community to move to Zagreb. Better option is connecting the rural areas within the area. Because reconstruction is still to be launched and it is expected to start this year, outlook is rather pessimistic.

**Mr. Kensuke Tsuchiya** explained that Toyota is committed to the SDGs and that it tries understand the agenda in every country, and use it as a basis for a business chance, how Toyota can contribute to create a sustainable society together with other companies. For this, Toyota talks with the NGOs, with the governments and with societies. A Toyota environmental challenge 2050 was launched six years ago. Its goal is not only to reduce the emission, but to go beyond zero emission. Toyota's ultimate goal is to mass produce

people's happiness through leading mobility innovations and technology. Mobility for all is what Toyota aims to provide: the best mobility for all humans, disable or able. Right after the Zagreb earthquake Toyota cooperated with Red Cross and provided products and physical supports (such as for Petrinja earthquake), and also sent mental support in collaboration with Olympians and Paralympians, and provided social contribution with children for hospitals and participated in other campaigns.

EU legislation regarding environment changes a lot. After 2035 internal combustion engines, including hybrid will not be sold any more. Thus all technologies are towards carbon neutrality. Replacement of 30% of European cars with electric cars requires 9 new nuclear plants to sustain this energy demand. Charging stations are also necessary. Currently 70% charging stations are in France, Netherlands and Germany. There is also the problem with obtaining raw materials to produce the batteries. Croatia is however in the bottom 5 of countries with affordability level of electric vehicle per capita. Having said that, Toyota has a growing hybrid sale across Europe for the last years. Hybrid requires no charging infrastructure and has lower prices, compared to electric. Toyota also offers the solution – hydrogen fuelled vehicle. If Croatia can produce hydrogen, this would be the answer to energy crisis. Toyota is building the Toyota Woven City, a 50,000 square meter city on the foot of Mt. Fuji, an ecosystem that is fully fuelled by hydrogen, with population of 360 people to begin with (more than 2,000 residents are expected in the future).

**Ms. Ines Obradović** outlined current trade relations between Croatia and Japan, two distant (more than 9,000 km) friendly countries. Croatian main trading partners are Germany, Italy, Slovenia, Austria and Hungary, whereas Japan is 39th partner (based on the trade volume). In 2020 Croatia-Japan trade was worth 82 million USD. Croatia exports fish, woods and animal nutrition to Japan, and import steel products, cars, bicycles, sugar and pure chemicals from Japan. Croatia is an attractive business destination for Japan. In the period 2005 to 2021 FDI from Japan reached almost 7 million euros. There is huge potential for bilateral economic cooperation: construction, mobility, food industry, tourism, green economy transition and digital transition. The maritime connectivity has a potential, as Rijeka can serve as an entry point to Europe. Since EPA came into force in 2019, almost all custom duties have been removed and unnecessary barriers of trade have been reduced. EPA provides opportunities for particular sectors: pharmaceuticals, medical devices, agro-food, vehicles and transport equipment.

## Q&A

*Q: Since we have companies like Rimac that develops innovative technologies, is there opportunity to export motor vehicle and change the pattern that it is Japan that exports cars to Croatia?*

A: Unfortunately, Croatia's export to Japan consists of mostly basic products that are not high-tech or need high technological processes. Croatia has a long tradition in car industry, though. Croatia doesn't produce cars, but has long history of producing parts of cars. Thus, it is encouraging to see that young people try to do more such as what Rimac is doing. However, Rimac also shows that it is not easy to grow and become part of the large players so you have to find a niche.

*Q: At the end of the battery life of cars, what can be done to reduce the negative impacts to the environment and prevent disposing batteries?*

A: Batteries are very difficult to recycle. We work very hard to improve this. For the cars, when it drops to around 80% of its capacity and can't be used for cars, we collect the batteries and use them for living areas or buildings. We already use this in Japan. But we have an office in Brussels that constantly work on these possibilities. However, we're focusing our technology towards hydrogen fuels currently.

*Q: Could you please tell us more about the problem with electronic components of cars? Why aren't there enough chips for cars while there are enough for cell phones and computers?*

A: It is a global supply chain problem. Toyota experienced many problems in the past, such as earthquakes and fires in its factories so this is why we don't stock on components. Probably next year a lot of brands of producers plan to increase its capacity.

*Q: How do you tackle individual involvement of each person who will be the inhabitant of the Woven City, in the sense of recognising individual need? Technology usually brings risks. Since Toyota is a private company, how will you tackle the inclusion issue?*

A: Social issue is always challenging. We even have this problem of awareness inside the company. Employees often don't understand why we need to do this, since our goal is to sell cars. Toyota is trying to make its employees and retailers socially responsible. It will work together with NGOs and other stakeholders to raise awareness.

From the side of Croatian Chamber of Commerce, regarding inclusion, it is important to advocate the need of companies to have a say in the decision making process.

*Q: In Croatian private sector that has been burdened with crises over the year, what concrete actions are your institutions going to tackle the mismatched priorities? There is mismatch in what is intended for the future, how do you bring the gap between the reality and the research?*

A: The Office of the President has a limited scope. There is only one policy needed: increase productivity, which is a problem now. This is maybe the time to fully commit for structural reform.

The Chamber of Commerce is a voice of the companies. Business friendly environment is necessary. Over the past few years, the Chamber of Commerce had a lot of activities to advocate the interests of companies - such as abolition for labour quota for foreign workers. The Chamber is a strong voice of the companies, providing activities to help them like business events to meet foreign partners, educational seminars on how to do business, etc.



### Panel 3

#### *How we build resilient society through green and digital transformation*

#### highlights

The panel explored role of green and digital transformation in building resilient society.

**Dr. Naoko Ishii** identified issues related to global commons in building resilience. Croatia is a small country by size but it has a huge biodiversity and has important shares of the global commons. At the global level we are approaching a tipping point that is critical for the human civilisation. There is a dramatic acceleration of change (climate change, marine fish capture, tropical forest loss, domestication of land, etc.) since the mid of the 20th century. Global leaders consider the global environmental issues as the top risk for the business. Human economic system is in the collision course with the earth system. Fundamental socio-economic system change is required to put our future on the sustainable pathway, and we have only 10 years left to set the system changes on track. Social transformation is needed to enable them. Selected systems to be transformed: human capacity, demography and health; consumption and production; decarbonisation and energy; food, biosphere and water; smart cities and digital revolution. Global commons stewardship (GCS) domains are: climate system, ozone layer, land biosphere, oceans and ice sheets and glaciers. Four key findings of GSC Index are: major transformations are urgently needed in all countries to address negative impacts on the Global commons; smaller, richer countries tend to perform better in terms of domestic impacts but they generate the largest share of the international spill overs; ambitious actions to protect and restore the Global commons domestically and internationally must go hand-in-hand with efforts to improve living standards everywhere; and G20 countries bear a special responsibility in reforming the governance of the Global Commons.

**Ms. Nataša Mikuš Žigman** outlined situation in Croatia and role of the National Recovery and Resilience programme in building the resilience.

After the sharp decline of the real GDP of Croatia caused by COVID 19, a sharp GDP increase emerged as Croatian companies that are quite resilient relaunched production and export. For the upcoming years, Croatia is projected to have intense recovery with a slower sustained recovery. People centred recovery consists of: economic and social resilience (active labour market policies, education and research, improve business environment, efficiency of public sector and justice system); green transition (investment

in energy efficiency and post-earthquake reconstruction, investments in sustainable mobility, low-carbon energy and boosting green economy) and digital transformation (digital skills for labour market, investment in telemedicine and digitalisation in oncology network and buildings renovation initiative).

**Ms. Marijana Šarolić Robić** discussed the role of artificial intelligence in transformation. Artificial intelligence (AI) is emerging and here to stay, so it is necessary to pay attention of what it brings to us. The EU is trying to address and transform the legal framework regarding AI, its ethical guidelines and how it affects people's lives. Trustworthy AI should be lawful (complying with laws and regulations), ethical (ensuring adherence to ethical principles and values) and robust (technically and socially). There are seven key requirements to achieve such trustworthy AI: human agency and oversight, technical robustness and safety, privacy and data governance, transparency, diversity and non-discrimination, societal and environmental wellbeing and accountability. Since AI is constantly evolving, it is very challenging to regulate it without suppressing creativity. AI is expected to enable over 30% smart city applications to significantly contributing to resilience including for disaster prevention. High increase of using AI leads to a significant increase of energy consumption, which needs to be tackled. Also, it is crucial to have enough resources to fund researches. There are good examples how AI supports transformation, such as Croatian start-ups: Agritech –leading farm management software for digital agriculture; and Fashion –bio based natural sneakers made from recyclable bio-based material.

## Q&A

*Q: There are a lot of opportunities you have pointed out. I have three comments: (1) there are not much green investments because there is a huge cost upfront and there is no measurement to predict the long-term cost, (2) regarding reducing carbon foot print, it might be just easier to transform the heavy carbon industry and reduce GHG dramatically than to change social behaviours such as making individuals buy electric cars, (3) Croatia always only look at the grants and public money for green and digital transformation. This is not profitable. My suggestion would be that private actors get together and discuss on which resources could be used for this.*

*A: I can agree with many points you made. The survey from a few months ago showed that there is very low awareness of green transition between the private sectors and businesses. This is exactly why the public funds are used – the private companies don't have*

sufficient funds to reduce carbon while maintaining competitiveness at the same time. We don't only talk about grants, but we also offer incentives especially for SMEs. It is usually combined and aimed at green and new technologies. The National Resiliency and Recovery Program allows support also for large factories that are big polluters. All kind of collaborations are welcome. In Croatia there is inspiring and ever growing start-up community and we the ability of academia should also be used. More start-ups and more academia should be invited to collaborate, not only in funding but also to research – so called smart money. But the investment conditions and environment should also be closely monitored and their impact on economic capital, but also social and human capital, environmental capital.

*Q: How do you see Croatian experience in the global effort? Do you see something is missing, or do you see a structural fault?*

A: The challenge that Croatia is facing is the same as Japanese. The question is how far can the political leaders see things as common goods? We need the support from the entire constituency to share this problem of the horizon. We need to come together to see that there is a common goal. At the end of the day this is the power of the society, we need to bring together businesses, politicians, scientists, the people to actually see it as one problem, the global common. I see a lot of commonality between Japan and Croatia, we need to continue to nurture the sense of common responsibility towards the future. This goal is very ambitious, and it is a real challenge to make everybody work. We can always make a goal, but we can't protect our earth if only parts or some of the stakeholders or leaders take active role. There is also the issue of sustainable production (for example to produce the small parts of AI related products –battery, chips, parts of cell phones, etc.), especially if they are imported.

*Q: What major issue we need to learn to make us a resilient society?*

A: I would say everything and nothing. We need to be open to listen to each other and to be able to react, to be super cautious; because the speed of development doesn't give us time to reflect. We learn today that even Japan took 50 years to implement resilience to a specific hazard such as earthquake. We need to constantly revisit what you are learning and what you are unlearning. There is no zero-sum game, it is constant alertness. We have to be open to the new ways, be flexible because we cannot foresee what will happen. Openness is important, but we also need to be science based, pay attention to the scientific messages.

## Main findings

- The issues related to resilience include global commons, natural hazards, human-caused disasters and require response from public and private actors at various levels (local, national, regional, global).
- There is potential to improve resilience of society by extending Croatia-Japan cooperation. Disaster response requires big picture. Narrow focus on Croatia/EU cannot provide sufficient information.
- To build disaster resilience, three elements need to be considered: risk assessment; prevention or mitigation; and preparedness function for response, relief and recovery. The three functions are heavily interrelated.
- It is necessary to have a single legal framework for Disaster Risk Reduction (DRR) as whole, instead of having many sectoral laws like in the case of Croatia. Prevention and reduction of risks have to always take precedence over reaction. However, reactive measures are more visible and those who react are considered heroes, not those who prevent.
- Improving resilience is a process. It is not an obligation of a person or organisation. Resilient society relies on community/society; thus volunteers are important. Coordination of volunteers can be improved and transfer of knowledge used.
- Private sector and companies might be able to fulfil environmental targets and carbon neutrality (such as in regards of electric cars), but there are more unanswered questions on further environmental impacts to it. Would Europe or the world be ready to sustain so many electric cars and to fuel them? Will there be enough capacity to produce electricity for these vehicles? Will we experience scarcity of raw materials to produce the batteries?
- Recovery should be people centred and consists of: economic and social resilience; green transition and digital transformation. However, fast digital transformation could have a negative impact to the environment if not done properly.
- Business sector, politicians, decision makers, scientists and the people need to see common problems and understand the common goods. Support from all stakeholders is needed in order to identify the problems and therefore the actions to be taken. Everyone needs to continuously nurture the sense of common responsibility towards the future.
- Improving resilience provides an opportunity for social transformation and also provides business opportunities. Changes are fast and some cannot foresee. The speed of development doesn't provide lots of time to reflect. Still, policies should always be science-based.

## **Some key points on how to build resilient societies through green and digital transformation**

- Currently, lots of opportunities fuelled by public funds are available for businesses. However, simultaneously, pursuing each one requires the expense of scarce resources. The ways to support companies to prioritise green objectives, while they navigate daily operational challenges and market uncertainties should be further explored, as mere availability is not increasing private sector participation beyond CSR.
- In the next decade, it would be necessary to determine the true cost of capital of existing business models, compared with the green alternatives.
- Given that the benefits of green transition are reaped much later, risk pricing adequacy should be prioritised i.e. who bears the high upfront costs? Additionally, the ways the burden is shared should be made clear.
- Investments are currently focused on RES (low-efficient), compared to R&D in breakthrough technologies (highly efficient) which may drastically impact the climate goals i.e. investing in wind and solar farms are favoured, vs. nascent technology that could decarbonise high emissions processes e.g. cement manufacturing.
- In dealing with advanced economies like Japan, new models of collaboration such as shared ownership models, information/knowledge exchanges, etc., could be mutually beneficial compared to the standard method of counting sales volumes of commodities.

## Promotion and dissemination of results

The conference gathered members of academic community, researchers, diplomats, policy makers, civil society representatives, entrepreneurs and the general public (total of 25 participants in Hotel Dubrovnik in person and 136 online). Following the conference, the conference was viewed online by more than 50 people: 8 on demand through woom platform (data until 3<sup>rd</sup> March) and 43 through IRMO Youtube channel.

(list of participants in person, online and through woom platform enclosed)

Most of the participants found out about the conference through IRMO channels (73%, Figure 1), mostly by e-mail or recommendation (Figure 2). These information channels are also used for dissemination of results.

Figure 1. Channels through which participants were informed about the conference

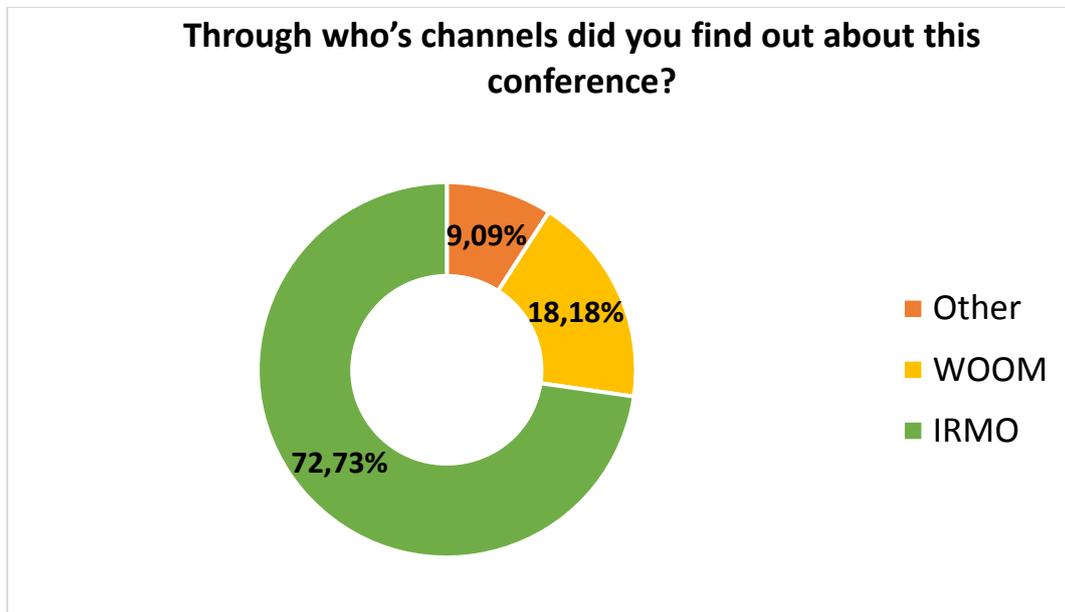
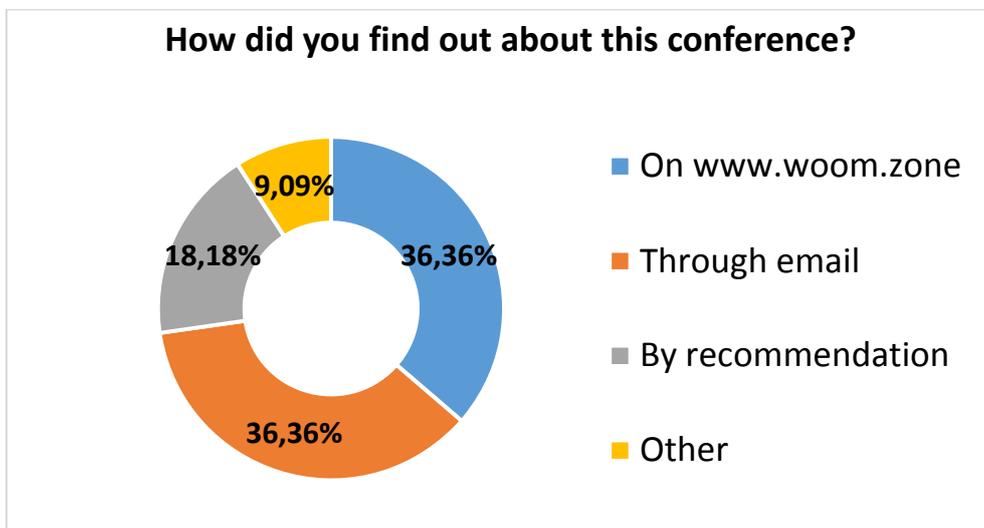


Figure 2. Channels through which participants were informed about the conference



The event was published on IRMO website and social media (2226 followers on Facebook, 262 followers on Twitter, 587 followers on Instagram and 51 subscribers on Youtube).

URLs of IRMO website and social media accounts about the event:

1. An article (a brief) about EU-Japan cooperation prior to the conference entitled “EU and Japan in COVID reality: towards resilient society” published February 24<sup>th</sup> 2022, in Croatian language: <https://irmo.hr/novosti/irmo-aktualno-eu-and-japan-in-covid-reality-towards-resilient-society/>
2. Announcement of the conference published February 22<sup>nd</sup> 2022 in IRMO website: <https://irmo.hr/eventi/najava-za-konferenciju-prema-otpornom-drustvu-suradnja-hrvatske-i-japana/>
3. The full programme of the conference uploaded to the website: <https://irmo.hr/wp-content/uploads/2022/02/Program.pdf>
4. Bio of all speakers uploaded to the website of IRMO: <https://irmo.hr/wp-content/uploads/2022/02/Biografije-govornika-1.pdf>
5. The full recording of the conference accessible permanently on Youtube channel of IRMO: <https://www.youtube.com/watch?v=fRKjxWbzFgU>
6. The final report of the conference
7. Link to IRMO’s facebook account: <https://www.facebook.com/irmo.institut>
8. Link to IRMO’s Instagram account: [https://www.instagram.com/irmo\\_zagreb/?hl=en](https://www.instagram.com/irmo_zagreb/?hl=en)
9. Link to IRMO’s twitter account: [https://twitter.com/irmo\\_hr](https://twitter.com/irmo_hr)

For dissemination of the results, IRMO channels are used. Video is available on IRMO you tube channel

<https://www.youtube.com/watch?v=fRKjxWbzFgU>

accessible also through IRMO web page

[Najava za konferenciju “Prema otpornom društvu – suradnja Hrvatske i Japana” - Institut za razvoj i međunarodne odnose \(irmo.hr\)](https://irmo.hr/najava-za-konferenciju-prema-otpornom-drustvu-suradnja-hrvatske-i-japana-institut-za-razvoj-i-medunarodne-odnose)

and linked from Embassy of Japan in Croatia webpage

<https://www.hr.emb-japan.go.jp/hr/2022/bilater-2022-3-irmo-conference.html>.

There were 43 views from you tube channel until 20 March 2022.

The video of the conference is also available on demand at [https://uso2web.zoom.us/rec/play/aQWMHYxJhe5VAgax-gSWHeagb\\_TA5WnggZipT7ykGxmdrtThi-0jHrIB1JheVXhdsXoC8xft6ZuZA5Yk.v3NH9tMnYamhcMuA](https://uso2web.zoom.us/rec/play/aQWMHYxJhe5VAgax-gSWHeagb_TA5WnggZipT7ykGxmdrtThi-0jHrIB1JheVXhdsXoC8xft6ZuZA5Yk.v3NH9tMnYamhcMuA).

Dissemination of the final report to registered participants is expected to boost visibility and dissemination of project results. Also, the report will be available on IRMO web pages.

Inspired by the Conference, the Ministry of Foreign Affairs of Croatia has contacted IRMO with proposal to facilitate contact with Sasakawa Peace Foundation and establish co-operation.

### **Performance evaluation**

Performance was at the end of the event. The survey among online participants included two questions:

1. How would you rate the quality of the topics on this conference?
2. How would you rate the choice of panellists on this conference?

Average achieved scores are 4.64 and 4.45, respectively, on the scale 1-5 (5 being the highest score).