

Theme 3: Respond

15 April 2021

Transcription

Start Time: 16:00 UTC

1. Housekeeping Remarks, Lindsay Arthur: Lindsay Arthur:

Welcome, good afternoon, good morning to everyone. My name is Lindsey Arthur and I'm from the Icelandic Ministry of Education, Science and Culture. I'm part of the third Arctic Science Ministerial Organizing committee. We'd like to begin with this Arctic land acknowledgement, which is adapted from the IASC state of the Arctic Report for use in our webinar today.

The circumpolar Arctic is the contemporary home to many different Indigenous peoples. Wherever you may be participating in this webinar, we honour and recognize the place based knowledge of Arctic Indigenous peoples and their ancestral and contemporary stewardship of their homelands, and we welcome you to do the same.

Just a note: this webinar is being recorded and it will be posted to the European Polar Board YouTube page and shared on the ASM3 website. Your microphones and cameras are off for those of you in the audience and you're automatically muted. If you're having any trouble, please use the chat box and ask for assistance, or you can see the zoom website support page. The full program for today is available on the ASM3 website and will also post a link in the chat here. Any questions that you have today for any of the speakers can be typed directly into the Q&A box and will address all questions as they come. We hope to have a short Q&A right at the end. Please use the Q&A box for your questions, not the regular chat box. We really appreciate that. For this webinar IASC has kindly agreed to let us use their code of conduct developed for ASSW 2020. The link to this code of conduct is posted in the chat. What's most important is that we create a respectful atmosphere and listen and ask questions with an open mind. Abuse or harassment of any kind will not be tolerated.

Just a quick overview of where we are in our ASM3 process. We have solicited updates on Arctic science and research from many different channels. All of the participating countries, Indigenous peoples, organizations, and international organizations engaged in Arctic education and science, as well as working groups of the Arctic Council have submitted project updates as well as new projects and a survey on international cooperation through the ASM3 science process. We've solicited feedback online, held webinars and community workshops online as well. All of that content was reviewed by the ASM3 Science Advisory Board and then submitted through that process. That's where we have this webinar series coming from. It's our opportunity to share with you all of the science that has been submitted through this process in a way to kind of share some of the key highlights findings and look at where we're going in terms of actions with all of this research. As the ministerial draws closer, we're also wrapping up all of our final products of the ASM3. We have collaborated on a joint statement of ministers with input from Indigenous peoples organizations and the final report is being developed and we're also planning to share more online resources, recordings from this whole webinar series are available, a research page on international research opportunities will be available, Arctic research overviews submitted from all the ASM3 participants as well as a new product which is an online project database of the project submitted through the process. The ministerial is coming up really soon, less than a month. It will be held in May in Tokyo.

With that, I'll introduce our first speaker. She is going to be our moderator today. This is Embla Eir Oddsdóttir. She is the director of the Icelandic Arctic Cooperation Network and serves as a member of our ASM3 Science Advisory Board Member and is going to be giving us an overview of all of ASM3, and then she'll give the floor to our speakers. Please take it away, Embla.

2. Moderator, Embla Eir Oddsdóttir (Science Advisory Board, Iceland): Thank you Lindsay. Good morning, good afternoon or good evening. It's great to see you all and I'm happy to be included in this important webinar series. I also want to thank the organizers for their tireless work and congratulate them on making all the pieces fit together so nicely. My name is Embla Eir Oddsdóttir and I'm director of the Icelandic Arctic Cooperation Network and Co-chair of the ASM3 Science Advisory Board.

I will start by providing you with a brief glimpse and overview of what progress has been made since ASM2, as well as highlighting prominent themes and projects under the respond category. My presentation will be followed by presentations on a few selected projects. We have of course wish we could promote all projects equally, but unfortunately time does not allow for this. The project presentations will be followed by a Q&A session at the end and we encourage you to use the Q&A function on Zoom. We will try to get to as many of them as possible. So, let me start by sharing with you a few general findings concerning the response theme. Importantly, the number of social science projects has increased compared to previous processes of the ASM. This is a positive development, however, while these interdisciplinary approaches appear more frequent, social sciences still seem somewhat an add on. Indigenous knowledge was an important part of a quarter of all projects submitted, 27%. 14% were considered community driven. While there appeared to be more efforts to include local or Indigenous communities or perspectives, inclusion in assessment and definition of Arctic research priorities is rare. Engagement should be there at the early stages. Participatory process is and co-production of knowledge needs to be normalized. Out of 429 projects submitted, eight were submitted by Indigenous organizations, four by the Inuit Circumpolar Council, and four by the Saami Council, both of which are Arctic Council permanent participants. Consideration of gender and diversity in leadership, often participation in project development and implementation has improved, but only marginally.

In terms of environmental change, generally there's an improvement when it comes to consideration of impacts on communities, including Indigenous communities and improvement in attempting to include Indigenous peoples perspectives and knowledge. However, as I said before, meaningful, an early inclusion is still considerably lacking. Projects of note in this category include the Arctic challenge for sustainability to human security, energy and food in the Arctic under climate change, which seeks to assess the impacts of global warming on the Arctic and understand consequent social impacts. Also, the Arctic Challenge for sustainability to Arctic coastal change and its impacts on society, which investigates the influence of natural environmental changes on society, represented by natural hazards and impacts on traditional activity. This project is highly interdisciplinary, including social sciences, humanities, and engineering. Another project worth mentioning is that is the CAFF project: 'Resilience and Management of Arctic Wetlands', that seeks to enhance engagement in relation to the roles and functions of Arctic wetlands as a resource to support sustainable development and resilience in Arctic biodiversity ecosystem services and the livelihood of Indigenous and local peoples. It includes a broad range of experts, both Indigenous and scientific, as well as being gender conscious. It actively tries to incorporate Indigenous peoples knowledge by providing research, training and participation of Indigenous peoples youth.

Generally, there appears to be greater understanding of the need for ethical guidelines for research conducted in the Arctic, with particular attention to Arctic communities and Indigenous peoples. A couple of projects of note in this category are ethical guidelines for conducting multidisciplinary Arctic research. This project is led by the University of the Arctic and seeks to compile ethical guidelines and share best practices for the use of transdisciplinary and multidisciplinary research. This is a collaborative effort of the members of EU Arctic including Indigenous organizations. The principles for the conduct of research in the Arctic is concerned with language that describes partnerships and collaborations with Indigenous scholars. Community based participatory research and observations and contributions of Indigenous knowledge in the core production and dissemination of knowledge. Now may indeed be an opportunity to bring together initiatives and bodies,

including Indigenous peoples, organizations, to jointly develop, develop ethical research guidelines and codes of conduct.

There's more attention given to issues of health in the region, largely spearheaded by Arctic Council working groups, such as a sustainable development working group. Importantly, these include attention to the wellbeing of youth and mental health as well as to impact of contaminants. Highlighted projects include the assessment of impacts of COVID-19 in the Arctic, which seeks to identify an action project to better understand the impact on Arctic communities and support resilience during and after the pandemic. Also, the Arctic Community Resilience to Boreal Environmental Change (ACRoBEAR) seeks to predict and understand health risks from wildfire, air pollution and natural focal disease at high latitudes under rapid Arctic climate change and resilience and adaptability of communities across the regions to the to these risks. Of note also is one hearted, one health: the human animal environmental health nexus which is developing a collaborative network of Arctic stakeholders via knowledge sharing table top exercises and collaborated in investigations of one health phenomena such as disease outbreaks and natural disasters.

There's also increasing attention to issues of food security and in pursuing innovative the avenues for food production. The project for Phytotron Aeroponic plant growing technologies for developing the agro-industrial complex in the polar region is one such projects. But also, of note are the Arctic Foods Innovation cluster and the Alaskan Inuit Food Security Conceptual Framework on how to assess the Arctic from an Inuit perspective.

Some attention is paid to social and environmental impacts of industrial development, including a number of projects led by Russia. Examples of projects in this category are: Global Drivers, Local Conditions with a focus on creating and the adaptation tools to increase the resilience of Arctic cities in an era of global change. Also, de-icing of Arctic coasts, which is to determine different de-icing scenarios to allow early warning or social ecological breakpoints and regime shifts and provide scientific and social assigns advice for sustainable ecosystem based management of coastal regions in the High Arctic. Of note also is Active Coast Bioremediation focusing on supporting environmental, economic and social impacts of mining activity. And there's quite a few projects looking at monitoring and forecasting sea ice dynamics in the Arctic, and there may be some opportunities for synergies in that in that respect.

The Arctic and sub Arctic engineering design tool are updating existing and outdated engineering guidance for Arctic and sub Arctic infrastructure, filling gaps that are currently not supported by other engineering guidance documents. The Arctic Environmental and engineering data and design Support System represents core information needs that guide infrastructure design specifications at high latitudes. Where rapid environmental changes and the widespread presence of permafrost seasonal snow cover and floating ice represent significant challenges for engineering design. ARCTIC-CHI is to quantify the impact of Arctic hydrological cycle onto environment and resource availability, looking at the atmospheric water cycle, land surface processes permafrost stability, societal impact and future model modelling. Of note also is Nunataryuk, which focuses on the impacts of falling coastal and sub safe permafrost on the global climate and on the development of targeted and co-designed adaptation and mitigation strategies for the Arctic coastal population. A couple of projects are looking at risks such as in terms of sustainable Arctic sea routes and adaptation to emerging climate change related hazards.

Some projects are exploring various dimensions of social economic challenges. Global Drivers, Local Consequences focuses on sustainable solution-oriented responses for the reconciliation of competing livelihoods and land use modes in Arctic hubs. The project Just North towards just ethical and sustainable Arctic economies, environments and societies, seeks to create understanding on the potential for economic development in the North that is both sustainable and just by investigating how to reduce inequalities between Arctic stakeholders. Gender equality in the Arctic, Phase III is an Icelandic Arctic Council chairmanship project that views equality as a fundamental component of addressing social economic challenges, sustainable

development, adaptive capacity and resilience in the Arctic. This project has a forthcoming report which includes themes such as law and governance, gender and environment, migration and mobility, security, indigeneity, gender, violence and reconciliation, and empowerment and faith control. TriArc, or the Arctic governance triangle looks at government, Indigenous peoples and industry in change, examines how large development projects like mining, production of electric power and agriculture challenged traditional resource use and management.

In summary, some progress has been made in terms of inclusive practices, interdisciplinary, consideration of impact on social, economic and social ecological system interaction, and well-being of Arctic residents, including that of Indigenous communities. However, there is considerable room for further improvement. During the ASM3 process, the team has extended the reach considerably by widely encouraging project submissions and engaging with stakeholder communities in a very open fashion. It is important that these efforts continue into the future as likely there are still projects out there that are not yet reflected through the ASM3 process. Some highlighted signs, directions or needs identified under the response team are: more attention needs to be paid to multidisciplinary, holistic, natural and social science research and monitoring, including multivariable risk assessments of precious and impact on system interactions and resilience. And there is indeed a surprising lack of risk and risk assessment projects. One would have thought this to be an important factor in response adaptation and medication. There's also a surprisingly low number of projects engaging with issues of international law and governance. As an instrumental component in sustainable development in the region, greater understanding is required. There is a need to encourage submission of innovation and engineering-based projects as these can be important factors in solution oriented approaches to both adaptation and response. Response will likely become an increasingly important activity, but only 16% of all projects submitted this time were categorized in the response category. This may suggest that we need to encourage further project work, focusing on responding to climate change and impacts. I will leave it at that for now and I'm happy to move on to presentations of a few highlighted projects. We have a great panel of speakers with us here today, the first of which is David Gustafsson. David is, with the Swedish Meteorological Hydrological Institute and he will tell us about the project hydrology, permafrost and resilience in the eastern Russian Arctic and Sub Arctic. David, are you around somewhere?

3. Speakers:

David Gustafsson (HYPE-ERAS): Thank you Amber and good afternoon. HYPE-ERAS is a project with nine partners from Sweden, Russia and Japan, which is funded through the Belmont Forum Collaborative Research Action Resilience in the Rapid, Changing Arctic that started in 2020.

The Arctic is indeed the changing due to global warming, and it strongly impacts the society is living there and our focus is on the changes and impacts related to hydrology and permafrost in the Arctic and subarctic regions in eastern Russia. HYPE-ERAS works to increase resilience by understanding the relationship between environmental changes and societal challenges in the Republic of Sakha, Yakutia, using two different paths, one is to discover new knowledge about environmental changes and impacts on economy, agriculture, traditional lifestyles and cultural landscapes. And the other one is to develop better tools for forecasting of floods and river ice conditions. We investigate this using a transdisciplinary approach to merge natural and social scientists with the local stakeholder knowledge is on the following topics: water in the life of river coastal communities in Yakutia, changes in river flow and flood hazard, sources of the increasing River flow where the water come from, roads on thinner ice (ice roads are very important here), changes in the permafrost landscape, which impacts on agriculture (and other infrastructure) and also hydrological modelling and forecasting.

We are now one year into the project and so far we have found that the local community perception of climate change impacts is very valuable for us, to guide us what to look for in our hydrological data. As an example: the impacts of river ice freeze up and break up timing. This is something we expected to hear about. But we were also told about, for instance droughts and shallow rivers, which was not expected when we started the project, and these are examples which will drive the further analysis of our hydrological observations and modelling. So

far, a trend analysis on the River stream flow observations show us that the increasing flows are more common in the [...] bush, which have stream flows all the year round, where a smaller river which freeze up to the bottom, a more stable. This takes us to the source distribution of the river flow to understand where from where does this increasing river water come from. Here we use modelling and isotope analysis approaches, and the current results indicates that increasing rainfall and permafrost thawing in southern and upstream parts of the Lena River basin may be one of the main sources for this increasing flow.

Finally, we are integrating all this knowledge from societal, natural and from their local communities, and developing hydrological model forecasting systems to provide forecasts of water level and river ice conditions for the stakeholders in Yakutia. The HYPE-ERAS project started in 2020 and will continue until the 2023. Thank you so much.

Embla Eir Oddsdóttir: Thank you David for keeping great time. It was a very informative presentation in the short time that you have. It's very interesting to hear how you've approached these linkages between ecological and social systems and how you are incorporating local knowledge. Up next to take the floor is Steve Arnold. He's with the University of Leeds in the United Kingdom. And Steve is going to tell us about Arctic community resilience to boreal environmental changes, assessing risks from fire and disease. Steve, you have the floor.

Steve Arnold (ACRoBEAR): Thank you Embla. Yeah and thanks very much for the opportunity to present. I'm going to be talking about the ACRoBEAR project, which is a large international consortium, also funded under the Belmont Forum and it is encompassing researchers from 7 nations and 10 different research organizations.

ACRoBEAR is being motivated by really large-scale changes in the high latitude terrestrial environment and a particular aspect that we're interested in with ACRoBEAR is shifting fire regime at high latitudes. So many of you will know that there have been large increases in high latitude fires, especially in the last two summers. On the left you can see changes overtime in CO₂ emissions from fires within the Arctic Circle. Vegetation fires in the Arctic Circle, and then on the right, you can also see a plot which shows daily retrievals of fire, ratio of power also within the Arctic Circle and you can see that if you plot the years 2020 and 2019, there are large increases in fire over this time period.

Still, ACRoBEAR was really concerned with looking at some climate change health pathways at high latitudes that are essentially mediated by fire occurrence. What we're interested in doing is trying to better understand the process, by driving these changes in fires, but more so than ACRoBEAR we're very interested in interactions between this changing fire regime and society. In parallel with that, we also have work packages where we're looking at changes in disease, and the reason is because many of the aspects of climate change that are leading to changes in fires, there also leading to changes in the prevalence of some tick borne disease is not particularly things like changes in moisture and changes in humidity changes in temperature. There's also some interesting links, potentially between changes in fire regime and the habitat that is viable for ticks. Within ACRoBEAR, what we're really interested in is trying to look at the vulnerability and adaptability of different populations of high latitudes to how these risks are changing.

The overall aim is to better predict and understand these health risks under rapid climate change and really understand the resilience and adaptability of communities across the region to these risks and try and look at which aspects of different communities enhance these resilience or better at mitigating these risks, and we're going to do this by looking at a really large, scale, integrative, multidisciplinary product that looks with things like satellite observations, modelling, but also bringing in health data and local knowledge. Really trying to better understand some of these interactions.

We're going to focus on three regions: we are focusing on Jämtland, in northern Sweden and also the Yakutia region, which we just heard about in Russia, and also the Fairbanks region, Alaska.

What we want to do is really try to understand how perceptions of these risks vary between these different communities. How vulnerability varies between these communities and maybe look also at some of the kind of prevention and preparedness plans that are already in place in these communities to mitigate some of these risks. We also want to learn about which data are most useful for local decision makers and local communities, so we can do our kind of physical science and understand more about what's driving these changes and what these potential risks are. But what we really want to do is understand what information is useful to communities. And to do this we have a community stakeholder forum at the centre of our project where we're engaging in kind of two way dialogue with local communities and local agencies to try and understand how they perceive these risks and also try to understand what they're doing to try and mitigate some of these risks. Some of this had to happen online because of COVID-19, but we now have really good discussions going in Fairbanks. We've undertaken quite a lot of work already in Fairbanks, and now we're going to be rolling out parallel discussions in Yakutia and also in northern Sweden.

So really what we found so far is that these risks are perceived across the communities are in Fairbanks, specifically, this risk is perceived as a real risk, but it has a really complex interaction with a lot of other factors going on in the community, and these are wrapped up in the local economy when it comes to tourism, they wrapped up in concerns about other health impacts and how those other health impacts might interplay with risks from fires and other diseases. I'm not going to go into the detail of what we've been doing so far, but we're hoping to submit publication soon, looking at the initial community analysis that we've done in the Fairbanks region.

This is just a kind of cartoon to show you the complexity of the project, so we're going all the way from a kind of physical science looking at models, fire forecasting, look at future scenarios, but then really feeling that through to creating outputs which we hope we're going to be very useful for local communities and decision makers. We hope by the end of this project we have a much better understanding of what, firstly what these risks are to help from fires and natural focal, diseased. But they're also more importantly, probably what the community perceptions are of these risks and how we can help the local communities to mitigate some of these risks and adapt to the changing situation.

Embla Eir Oddsdóttir: Thank you Steve for providing information about this important project. It seems to be responding to an increasingly pressing phenomenon in the Arctic, and indeed in other regions. So, thank you. Our third speaker is Abigail York, who is with Arizona State University in the United States. Abigail will present the project ARC-NAV: robust communities navigating adaptation to variability joint research project. Abigail, the floor is yours.

Abigail York (ARC-NAV): Thank you for this opportunity to discuss our projects. Our work is funded by the National Science Foundation. My name is Abigail York. I'm an associate professor at Arizona State University and I want to acknowledge that ASU is located on the ancestral territories of the Akimel O'odham (Pima) and Pee Posh (Maricopa) Indian communities. My work is an environmental governance and I lead this collaborative project.

The focus of our project is on Beringia, a region of the Arctic encompassing US and Russian territory that is expected to experience some of the highest variability in sea ice conditions in the coming century. We could produce knowledge with local and Indigenous communities and scientists and collaborate across disciplinary and national boundaries. We document diverse narratives and critical policy challenges around bio, geophysical, livelihood, and economic changes. Sea-ice modelling with satellite data is highlighting hotspots of sea ice variability and provides a starting point for discussions of change. A multi agent model will link these analyses to explore adaptation, resilience and robustness.

Our transdisciplinary project was motivated by a comment at the Alaska Eskimo Whaling Commission meeting in January 2019 from a new pack leader who said: "I am tired of explaining our perspectives to people in Washington when they describe our home. I don't recognize it. They don't hear us. It's like they're speaking another language." Communities are concerned about changing sea ice conditions for subsistence hunting and impacts of changing shipping traffic on the environment, economies and security, among other issues. Yet their voices are not being heard. Their misunderstandings of priorities and poor communication and collaboration across levels of governance, such as between communities, regional urban centres, sub national, national governing bodies and super national nongovernmental organizations and international for a community space constraints that limit their ability to adapt political, economic, environmental, but failure to acknowledge both contemporary and historic adaptation in the face of change is incredibly frustrating for many of our Indigenous collaborators, who argue that a defining characteristic of the Arctic and its people has been variability and adaptability.

The foundation of our work is coproduction. We acknowledge self-determination of each community and partner through establishing a memorandum of understanding that articulate issues with data sovereignty and recognize and compensate our partners for their time and knowledge. Partners and communities help us to set the research agenda coproduce models and work with us to create useful scientific products focused on adaptation. Our community collaborators and regional partners include the Alaskan Eskimo Whaling Commission, the Inuit Circumpolar Council, Kamchatka Association of Indigenous Peoples and focal communities, and Russia [...]. We have Russian scientific partners at the Kamchatka Institute of Geography. And we have scientists at Arizona State University, including [...]. Degas will be moving to the University of Victoria in Canada in the fall. At the University of Alaska Fairbanks, Annie Mahoney at Columbia University, Bob Newton and Bruno Tremblay, whose primary appointment is at McGill University. One of the data products that our team has been working on with Community input is the sea ice tracking utility. By translating knowledge into practical and actionable information for adaptive management, decision makers can identify vulnerabilities and improve coastal management strategies. Consider trajectories of oil and other pollutants. Inform industrial and commercial investments. Allow users to run trajectory's through forward looking simulations to understand potential future changes. Our sea-ice modelling work is complemented with field work with community members who helped us to identify socially relevant ice conditions. For example, whilst freeze [...] which increase hazards for communities.

Emerging heterogeneity within communities must be recognized despite documented persistence of mixed economies in the Arctic, varying levels of engagement with subsistence and overlapping governance entities with different priorities and capacities. We have limited understanding of heterogeneous community perspectives and effective adaptive strategies. To summarize our team, including scientists, local regional and Indigenous partners seeks to contribute to the development of better, better design and more flexible governance and infrastructure to adapt to a changing Arctic. Thank you.

Embla Eir Oddsdóttir: Thank you Abigail for sharing with us this issue of disconnect between local communities and decision-making centres continues to play for both rural and local communities a role, so thank you for bringing that up. Our next presenter is Selma Ford. Selma is with the Inuit Circumpolar Council and will tell us about local to global. Selma, are you ready?

Selma Ford (Local 2 Global, ICC): Yes, I am. Good day everybody! Thank you to the organizers for the opportunity to talk about the local to global projects. I bring regrets from the ICC Canada present, Monica Eil-Kanayuk, who is not able to be here today. The Local to Global Project is the latest mental wellness disorder prevention project that ICC is leading under the Arctic Council's Sustainable Development Working Group. The project is really about building international connections to better support the ongoing suicide prevention and

mental wellbeing work already happening in communities across the Arctic. It's about connecting local community work to international work and vice versa, bringing international work to local communities.

This photo was taken during the last session of the Virtual Knowledge Exchange, which I will talk more about shortly. There are three pillars to the Local to Global Project. Pillar one and three are being coordinated by Doctor Allison Crawford at the Center for Addictions and Mental Health in Canada. The first goal of pillar one is to establish a virtual Arctic youth network and mental wellbeing. Planning for this is underway and expected to launch later this month. The network will be a community of engagement for youth around topics related to mental wellbeing and suicide prevention. The digital storytelling workshops which will be undertaken by the Youth Network, will come later in the year. Pillar three will be an international forum to bring together researchers, policy makers, youth and other stakeholders to share knowledge related to adverse and protected childhood experiences and their links with suicide prevention. The aim is to host this in May 2021. ICC and the Saami Council took the lead on coordinating pillar to the Virtual Knowledge Exchange, which will be the focus of this presentation. I would like to point out that the virtual knowledge exchange sessions were an interim activity until such time that is safe to travel, and it's possible to hold in person study tours.

Now to focus on the virtual knowledge exchange sessions. Through five sessions, each lasting 3 hours, the knowledge exchange really built on the good work already happening in communities and sharing these with each other. Goals of the knowledge exchange sessions include creating a space for frontline workers, can expand their skills by trading knowledge with peers, advancing the use of Indigenous knowledge and practices, and Arctic mental health, strengthening international cooperation to address suicide in Arctic regions and fostering relationships between frontline workers so they can continue to reach out to one another, share ideas and exchange resources even after the Knowledge Exchange had ended. We are very honoured that all six permanent participant organizations over the Arctic Council were represented at these sessions.

We asked participants to mark on this map where they were from. You can see a large part of the circumpolar Arctic was represented, and despite the vast area covered here, we were able to really build a sense of community and inclusivity within the cohort. Graphic recordings were done during each knowledge exchange session. These graphic recordings captured the conversation and is a great representation of the conversations had here. You see the graphic recording from the first session in the bottom left corner you will see that the group established agreements on how to work together. During the session, they talked about the process for the engagements as well as learning objectives, but the first thing that happened during this session was a lighting by Meeka Kakudluk. Other topics include how to work, how to talk about suicide safely seasonality of suicide indigenizing mental health care, new pack values and parenting.

This infographic is from session four. We focused on a parenting program from Alaska that has been developed for over 30 years and it really highlights traditional Inuit values. We also talked about cultural interviews with clients to ensure appropriate clinical diagnosis and client services within the Sami in Norway and identified practices that mobilize broad communities to take action to reduce suicide. We also considered approaches to Indigenizing mental health.

This is a quote from one of the participants. I won't read it out loud. I'll let you read that. So, the feedback we received through evaluation forms indicate that the virtual knowledge exchange was a great success, and more events like these are needed. The average rating of all five sessions was 4.8 out of five, so that was really great. 100% of the participants would recommend these types of events for their colleagues and they all said that they would use what they learned in our sessions in their work. They were also really grateful to have the resources from the sessions available to them to adapt and use for their communities. They were also really appreciative of the opportunity to connect with others working in the front lines in the Arctic on suicide prevention and mental well being as there are oftentimes a sense of isolation. So, in closing, it was pretty clear

that opportunities like these are much needed for those on the front lines on this fight against the epidemic of suicide in the Arctic communities. Thank you.

Embla Eir Oddsdóttir: Thank you so much for sharing us with this very important project and for continuing to address issues that are so critical for resilience and wellbeing of our communities. Our final speaker today is Jennifer Spence. Jennifer is the Executive Secretary of the Arctic Council Sustainable Development Working Group. And Jennifer will tell us about a project looking at impacts of COVID-19 in Arctic communities. Jennifer, are you, are you ready?

Jennifer Spence (SDWG): I'm here, thanks very much Embla. So, I just want to start by saying that obviously this was rather spontaneous. There wasn't a planned initiative, so we had our work plan well established when the pandemic hit a little over a year ago, and so we very much can say that this is a clear effort to respond to an emerging issue. I think what we also know very clearly is that this is a global pandemic, but we sort of responded with the recognition that the globe has not been affected equally. I think there's many indications of that now globally, and so we very much have a sense that there's a local experience to the pandemic, and we really need to keep that in mind. What I want to cover key points. One is how we went about the work, what generally the work was, and then perhaps most importantly given that the pandemic continues in the impacts of the pandemic, continue what next?

Just to cover the process first, it's important to recognize again that this wasn't a planned event, but we very much had strong support and leadership from Icelandic chairmanship of the Arctic Council to recognize that this was an area that the Arctic Council needed to play a leadership role. We had that leadership function. But what when we then turned our mind to was how best to connect with experts and knowledge holders throughout the Arctic. Recognizing that this is where the expertise existed to really frame and understand what issues we should be exploring. And so, this is where we really demonstrate that the Sustainable Development Working Group has two expert groups, one focused on human health and one focused on social, ecological, economic and cultural issues. It was through the networks of these experts and knowledge holders that we really reached out to a broad community quite quickly to try to both engage them in a discussion, but also to sort of inform the scope of the work that we were trying to do. When we sort of had this conversation in the early stages, trying to frame that it became very clear that we needed to take a very broad look at what this was, so that meant that we need to not just look at the impacts of the virus, but the actions taken to respond to the virus. So beyond human health impacts, we needed to look at the social, economic and cultural impacts of COVID-19 and the initial work that was done was really done very quickly at the very beginning. So, it was done over a period of five weeks with over 50 experts and knowledge holders from across the Arctic representing all the regions of the Arctic, trying to come together to draw information. We were able to deliver an initial report or a briefing document to senior Arctic officials in June, at their June meeting. This document, just to share it, give you a sense of some of the core themes that can't come out of that document. We had it, but the document was broken into two sections, so the first section focused on the public health actions and activities and the second section focused more on the implications of the pandemic and the public health responses to the pandemic. Looking at across those two sections, there were some clear messages to share with the senior Arctic officials that there were along the lines of the importance of enhancing international collaboration, recognizing that with a major sort of shock like this that there would be people mobilizing and that there was a real value added to working together on these issues. We also emphasized in the report that the people of the Arctic needed to lead the efforts to respond. That this, we know this, is an issue that comes up and again and again, but when you're dealing with a major event like a pandemic, it is critical that we look to two Arctic communities to really be the drivers of the response. It won't be surprising to people who are focused on the Arctic that another core theme was that the pandemic exacerbated fragile and absent key infrastructure that is not something we necessarily have to deal with in other contexts, and that the Arctic is unique in that it has unique health and social needs. You really have to factor those into the both the health impacts, but also the potential impacts of the response. And finally, and probably most interesting to this group

is the importance of data consistency and information sharing and coordinated research. So those are the sort of core themes that we came out of it with.

In terms of what next: we recognize that this we need to look at this in in sort of a short and long term that this these impacts and the implications are going to be next over an extended period of time. And so Arctic Council working groups, including the Sustainable Development Working Group, are now beginning to think about how best to integrate issues related to COVID-19 into its existing work and also where appropriate looking at new projects and in the year at SDWG, in particular, we're currently examining the development of our project specifically on health outcomes and potentially a COVID-19 assessment report that we try to bring together and synthesize the core themes of research that's currently taking place in this area that everyone could potentially take advantage of and could inform policy. Thank you very much.

Embla Eir Oddsdóttir: Thank you Jennifer for providing information about the COVID-19 project, the engagement process, and the wide collaborative efforts. I'm pleased to hear that work continues as impacts of the pandemic continue to unfold. We now have a little bit of time for questions and answers. I would like to ask the panellists to please turn on their cameras.

Lindsay Arthur: Sorry Embla, we're just going to have Lisa give the closing remarks and then we'll go into the Q&A.

Embla Eir Oddsdóttir: OK, I'm sorry. Lisa. Where are you?

4. Closing Remarks, Liza Mack (Science Advisory Board, AIA): Hi here I am. Good to see you, thank you. [...] Good morning everybody. My name is Lisa Mack, I am the executive Director for Aleut International Association. I would first like to thank the organizers and thank Embla for inviting me to be here today, but also to thank the fellow panellists here, I think that the short presentations that we've been able to listen to this morning certainly paint a great picture of the importance of research taking place in the Arctic.

I'm here today to talk about some of the recommended actions that's coming out of ASM3. So, as we've heard, and we recognize that changes in the Arctic are being felt throughout all sectors of our communities, we see that in the infrastructure and the lack thereof that has been exasperated by the COVID-19 pandemic. We also see that in health concerns and wellbeing, especially with the changes, the things that we've just listened to now changes in topography of the changes in river systems and in higher latitudes as far as fire and how that affects people's health. And we also see this in researching communication, especially when we're talking about Indigenous collaborators and adaptability to research. We've seen with COVID-19 that we most definitely impacted the research community, and that we're still feeling the effects of this pandemic, and that we're still there still is a need for science, and especially the science holistically and incorporating the knowledge of our experts, especially our Indigenous knowledge holders. I think that Jennifer Spence stated it very well, as far as people that are leading the effort to respond to some of these challenges.

When we look at the recommended actions, there are several different topics and I'll just go through them very briefly. Looking at observing and long-term projects, like to see an increase in equity and self-determination and research with contributions to community driven efforts that are both co-design and co-managed by community members. I think that one thing to remember in one thing to take away is that ensuring that as researchers and scholars that aren't participating in an extractive industry as are making research in extractive industry where we're just taking all of the information and we're leaving with it and we're not actually bringing that back to communities and that kind of speaks to also a way that we're looking at data and how that data is housed and who has access to that data, but also looking at how we are making sure that we are reducing the duplication of any research efforts and standardizing the international data. And then after this data, is there really ensuring that there is an ethical use of that data? And especially in regard to Indigenous knowledge and

research that is about different vulnerable populations. The third topic is research planning, and really the paradigm shift that we would like to see is normalizing this community input and making sure that there is research driven risk assessments and looking at things such as the impacts of melting glaciers on Arctic communities and also looking at Arctic social systems. Again, it can't be stated enough that you know with the pandemic and the different things that we've experienced over the past years, that understanding how these social systems work. And how people are responding to this is very important.

As we are, as I mentioned, just kind of with the research that's being taken or research that's being done, just making sure that within this there are exchanges of this information and that there's this proper translation and there's proper access to the information and so that people at the local other local communities, Indigenous communities are able to access the information. I guess this goes into the 5th topic as far as Indigenous capacity enhancing the dialogue - just looking at how things are culturally appropriate and ensuring that we are that we are looking at how things are being presented and making sure that sending a culturally appropriate way. Then one of the ways that this is that we're hoping that this happens, is by utilizing a lot of the organizations and things that we already have. A couple to state are IASC, also promotion of IASSA, UArctic, APECS, just to name a few, but these are some of the mechanisms that we can use to encourage good research and also to keep developing all the good work that's been being done. Moving forward, we'd just like to see that the working groups possibly, all of representatives who are involved in the Arctic Science ministerial, be available to start a working group and an Arctic science Ministerial working Group and then also make sure that we are accessing the reports that are already out there. Some of those include the Sami Arctic Strategy 2019 and also the National Inuit Strategy on research. This is just a brief overview of some of the recommended actions and what will be presented. Thank you for that. Thank you for the time to be here.

5: Q&A

Embla Eir Oddsdóttir: Thank you Liza. Well, this has been a fairly snappy session, so we don't have much time for questions. We do have a few minutes; however, I would like to encourage the audience to post whatever questions they may have into the questions and answers now. In the meantime, I have a question. For those of you engaged in interdisciplinary projects that include the natural and social sciences in addition to perhaps stakeholder and or community engagement, I'm wondering, could you share with us a little bit of the main challenges you have found involved in these efforts? And any one of you can chime in, I think.

Abigail York: I think that the biggest issues are establishing common language and building trust, particularly in the co-production. But you know, we've found in various efforts, including the one I presented that building on existing relationships and just taking the time to build those out in both the multi-disciplinary and coproduction aspects is really important, but basically I would just say it takes time to establish the trust in the language.

Embla Eir Oddsdóttir: Excellent, thank you, Abigail. Anyone else that would like to contribute here? Jennifer, I'm going to call you out if you don't volunteer.

Jennifer Spence: I struggled because it's a no brainer to me that this is a critical piece of what we do. And so, it to me it speaks to moving in the right direction to make the time. And I agree it definitely takes time. But the right answers come from holistic approaches that are driven by the people that have the knowledge and who are affected by the research. You know who benefit and are affected by the research they should be leading the research, and I don't know how we ended up doing it the other way, I guess is the problem. I know we did and we do and we need to fight against those and shift the culture, but to me it's a culture shift in the way we do research - in the way we do these things.

Embla Eir Oddsdóttir: Excellent, thank you. We do in fact have a question from the audience and it's a question about COVID-19 process is. Usually a lot of the stakeholder interactions are conducted face to face in person.

Now that isn't possible. Are there any new different preferred methods for interaction that are emerging? This is a question from Lorna Little.

Steve Arnold: I was in the middle of typing a response, but now I won't bother. Yeah, so for our project that's been a big issue because the project was really centred around this community stakeholder engagement. So, the idea was to have that right up front at the start and then build the rest of the project around some of the priorities that came from those discussions. But obviously, our project started amid the COVID-19 situation, so we really have to work to develop alternative methods to do that engagement. We've been working with social science colleagues from the US or Bob Authoring and colleagues from George Washington University, and he's really developed these nice online ways of interacting with local community groups. We've engaged, kind of self-organized community groups in Fairbanks so far, and really undertaken some online discussion using zoom with those groups. We have been able to more or less follow the methodology in terms of the discussion that we would like to have done in person. Of course, there are limitations or things to be aware of. For example, you know the people who are going to make the effort to do that might be different from the people who would be happy to talk to you in person if you just happen to meet them, for example. So, we are aware that the people were talking to probably already have a level of engagement with the issues. The other thing we found is that as we want to kind of explore more off grid communities if you like. So, either Indigenous communities or people who are not linked to the infrastructure within towns and cities then that is an issue that becomes more much more difficult. Our ability to engage with people who are leading more traditional lifestyles, for example, is much more challenging, so we've had to kind of put on ice, if you pardon the pun, some of that activity. But I think we've been pleasantly surprised how much we've managed to get out of the online engagement. I think we were not expecting that to go as well as it has gone, so that's one positive, I think.

Embla Eir Oddsdóttir: OK, thank you, Steve. I think Lisa you wanted to maybe chime in a little bit here.

Lisa Mack: Sure, I would. Just like to say that I think one of the things that has come out of this pandemic and also with this research topic is really just getting back to the basics. It's actually making that personal connection. Making that phone call. I think that we have that we're in this kind of a flux as far as people being accessible at all times, and I think that it's proving to be its own kind of fatigue as far as research and accessibility to people's time and there and when they are available, and so I think that something that is also coming up as preferred is really just respecting people's time and also just making that human connection where you are even just calling them on the phone. The tried and true methods of communication. Because along with these other things, I think that it's also, you know, highlighted the infrastructure deficits that we have in the North and remote communities as far as not having broadband access not having, not being able to connect to some of these different platforms. I was talking about this yesterday as far as even just being out in the Aleutians where you can't get on zoom and stuff when everybody was kind of just starting all these virtual spaces - I was out there for three months and when I came back to Anchorage where I did do have the broadband access it was kind of like culture shock as far as being able to even just see people like: 'oh, here you guys are, haven't seen you in a while'. And now as we kind of transition into more face to face actual in person meetings, it's kind of also that like 'oh there, you guys are' so I think it's just like the transition back to actual in person face to face things is also a little bit people a little bit apprehensive of that so just putting that out there. But thank you guys. I really have to go so I appreciate you guys' time.

Embla Eir Oddsdóttir: Thank you, Lisa. I have a sneaky suspicion that Lindsey's face has appeared on the screen because we're going over time so I'm going to end up here. But there is a question that was posed, but I just want to put it out there, Lindsey, if that's OK? Yeah, of course. So, I'm not asking anyone to answer the question but just leaving it with you. Building relationships takes time, and it's important when working with Indigenous communities. How can a researcher with a 3-year funded project start to make those meaningful

connections when time is so limited? Now I think I'm just going to leave that with you. Thank you, all speakers, for presenting on the project and thank you to the audience, Lindsay. I think you're going to wrap up.

Lindsay Arthur: Yes indeed. Thank you, especially to our Science Advisory Board members.

Embla Eir Oddsdóttir for helping guide this discussion and to all of our speakers for volunteering their time today to share their really important work with all of us. So, we thank all of you. This was the last webinar in terms of our theme-based webinars for the ASM3. Next up is the actual ministerial. That's quite exciting and we have one more webinar in this series planned for June 9th. You can register for it now on the ASM3 website and this is going to be kind of a wrap up and review of the actual ministerial. Again, we've so enjoyed having this series be a free and open public platform for anyone interested in the Arctic Science ministerial to really engage in the science of this ministerial meeting and so. We hope we see you all in June. We think all of our speakers today and especially to the European Polar Board for being collaborators with us in this webinar series. So, thank you all and have a wonderful evening afternoon morning. Thank you. Thank you bye. Thank you bye.