

EQUITY AND RISK ASSESSMENT WORKING GROUP OVERVIEW, AGENDA, MEMBERS

MEMBERS

If you are a member of the working group, please add your contact details here: [+ Equity and Risk Working Group Members](#)

MEETING STRUCTURE

Meetings will generally start off with 1-2 15-20 minute presentations followed by a guided discussion. Meetings will start at 9am US Eastern Time and will last 1.5 hours.

Meetings will be held on Zoom:

- <https://umich.zoom.us/j/93925871132?pwd=TmNqVG0rZGFVZXNlWXlkdmNcEkwdz09>
- Passcode: equityRisk

DRAFT GUIDANCE NOTE OUTLINE:

<https://docs.google.com/document/d/161pWDVc7Ola8p56qA3CWbXZIL4YaRlvqThq7S8R7u1Q/edit?usp=sharing>

WORKING GROUP OVERVIEW

Meeting number/date	Theme	Format	Lead speakers/presenters	Recording / Slides
1 – 11/16	Introduction: considering equity in risk assessment	Presentation + guided discussion	• Sabine Loos (confirmed) • Robert Soden (confirmed) • Rashmin Gunasekera (confirmed)	Recording: https://youtu.be/D6b1bpB50jo Slides: • Intro Slides
2 – 11/30	Methods: Disaggregation of exposure, phys. vulnerability, impacts	Presentation + guided discussion	• Dennis Wagenaar (confirmed) • Disaster Risk Analytics GFDRR, Tony Pomonis (confirmed)	Recording: https://youtu.be/FYQZTj8CLYU Slides: • GFDRR Slides

3 – 12/14	Methods: Social Vulnerability and alternative metrics (population displacement)	Presentation + guided discussion	• Max Anderson Loake (confirmed) • Karen Barns (confirmed)	Recording: https://youtu.be/AdtXS-ppMBA Slides:
4 – 01/11	Methods: Social Vulnerability and alternative metrics (well-being losses)	Presentation + guided discussion	• Jocelyn West (confirmed) • Stephane Hallegate (confirmed)	Recording: https://youtu.be/lBzrCCkcljo Slides: • Jocelyn West Slides
5 – 01/25	Methods, Operations, Data: Connecting methods to considerations when using these methods for planning	Guided dialogue	• Kanako Iuchi (confirmed) • Sabine Loos (confirmed)	Recording: https://youtu.be/GeN7SsjTIJo Slides: • Kanakano Iuchi's slides • Activity slides
6 – 02/08	Data needs: Disaggregated impact data and other data needs	Presentation + guided discussion	• Arjola Limani (confirmed) • Rashmin Gunasekera (confirmed) • Jasper Verschuur (confirmed)	Recording: https://youtu.be/VVKbpDCHWuM Slides • Jasper Verschuren slides • Arjola Limani's slides
7 – 02/22	Operationalizing equity and risk assessment: World Bank DRM operations Review guidance note outline	Presentation + guided discussion	• Amparo Samper Hiraldo (confirmed) • Sabine (confirmed)	Recording: • https://youtu.be/3XfSf2yqJ64 Slides: • Amparo Samper

				Hiraldo's slides
8 – 03/07	Operationalizing equity and risk assessment: Decision-making across the DRM cycle <i>Revisit guidance note outline part 2</i>	Presentation + guided discussion	Marc van den Homberg (confirmed)	Recording: https://youtu.be/1mKjlnGcS-I Slides: Marc van den Homberg's slides
9 – 03/21	Other types of equity: history of risk assessments and data justice <i>Assign roles for writing draft</i>	Presentation + guided discussion	Shreyasha Paudel (confirmed)	Recording: https://youtu.be/ACRkNHxDNj0 Slides: Shreyasha Paudel's slides
10 – 04/18	Closing: guidance note and moving forward	Guided discussion + Working session	- Sabine Loos - Robert Soden - Other co-authors	Recording: https://youtu.be/dVNqjezl1DA Updated Guidance Note guidance note outline Slides:  10 - Guid...

DETAILED MEETING AGENDAS

1. [11/16/23] Introduction: considering equity in risk assessment

a. Agenda

- i. Introductions
- ii. Presentation from organizers
- iii. Facilitated discussion/feedback

b. Themes & Motivating Questions

- i. Intros
- ii. Setting agenda + scope
- iii. What is social equity and environmental/disaster justice?
- iv. What is disaster risk assessment?
- v. Why is it important to consider equity in risk assessment?

c. Speakers

- i. Introduction to the working group – Sabine Loos, Robert Soden, Rashmin Gunasekera

d. Readings

Recommended

- Douglass, M., & Miller, M. A. (2018). *Disaster justice in Asia's urbanising anthropocene*. 1(3), 271–287. <https://doi.org/10.1177/2514848618797333>
- Soden, R., Lallemand, D., Kalirai, M., Liu, C., Wagenaar, D., & Jit, S. (2023). The importance of accounting for equity in disaster risk models. *Communications Earth & Environment*, 4(1), Article 1. <https://doi.org/10.1038/s43247-023-01039-2>

Optional

- Howell, J., & Elliott, J. R. (2019). Damages done: The longitudinal impacts of natural hazards on wealth inequality in the united states. *Social Problems*, 66(3), 448–467. <https://doi.org/10.1093/socpro/spy016>

2. [11/30/23] Methods/data: Disaggregation of exposure, phys. vulnerability, impacts

a. Agenda

- i. Sabine – Brief Intro/Admin (5 min)
- ii. Presentations from speakers (30 - 40 min)
- iii. Facilitated discussion (45 min)

b. Themes & Motivating Questions

- i. What are we disaggregating risk by?
- ii. What would the use cases be when implementing this method?
- iii. How does disaggregation of risk support distributive justice? Other types of justice?

c. Speakers

- i. Dennis Wagenaar – disaggregation of exposure
- ii. Tony Pomonis – disaggregation of physical vulnerability

d. Readings

Recommended

- Soden, R., Lallemand, D., Kalirai, M., Liu, C., Wagenaar, D., & Jit, S. (2023). The importance of accounting for equity in disaster risk models. *Communications Earth & Environment*, 4(1), Article 1. <https://doi.org/10.1038/s43247-023-01039-2>

- Saint Lucia [Residential Exposure Model Incorporating Households' Socio-economic Status](#) and [Country Risk Profile](#)
- Jafino, B. A., Kwakkel, J. H., & Taebi, B. (2021). Enabling assessment of distributive justice through models for climate change planning: A review of recent advances and a research agenda. *WIREs Climate Change*, 12(4), e721. <https://doi.org/10.1002/wcc.721>

Optional

- Rubinyi, S., Verschuur, J., Goldblatt, R., Gussenbauer, J., Kowarik, A., Mannix, J., Bottoms, B., & Hall, J. (2022). High-resolution synthetic population mapping for quantifying disparities in disaster impacts: An application in the Bangladesh Coastal Zone. *Frontiers in Environmental Science*, 10. <https://www.frontiersin.org/articles/10.3389/fenvs.2022.1033579>

3. [12/14/23] Methods/data: Social Vulnerability/Risk and alternative metrics (population displacement)

a. Agenda

- i. Presentations
- ii. Discussion

b. Themes & Motivating Questions

- i. How is social vulnerability combined with a risk model?
- ii. How can population displacement be modeled?
- iii. Does including these metrics support distributive justice? Other types of justice?
- iv. What are the use cases of these approaches?

c. Speakers

- i. Karen Barns – Practitioner's perspective on modeling risk and social vulnerability
- ii. Max Anderson Loake – Modeling displacement

d. Readings

Recommended

- Predicting Human Displacement Post Disaster: <https://www.stats.ox.ac.uk/research-story/predicting-human-displacement-post-disaster>
- Paul, N., Galasso, C., & Baker, J. (2024). Household Displacement and Return in Disasters: A Review. *Natural Hazards Review*, 25(1), 03123006. <https://doi.org/10.1061/NHREFO.NHENG-1930>

Optional

- Kam, P. M., Aznar-Siguan, G., Schewe, J., Milano, L., Ginnetti, J., Willner, S., McCaughey, J. W., & Bresch, D. N. (2021). Global warming and population change both heighten future risk of human displacement due to river floods. *Environmental Research Letters*, 16(4), 044026. <https://doi.org/10.1088/1748-9326/abd26c>

4. [01/11/24] Methods/data: Social Vulnerability/Risk and alternative metrics (well-being losses)

a. Agenda

- i. Presentations
- ii. Discussion

b. Themes & Motivating Questions

- i. How can these methods be used in practice?
- ii. Does a social vulnerability index or modeling well-being losses support distributive justice? Other types of justice?
- iii. What are the benefits of these approaches compared to previous approaches we have seen?
- iv. What are the practicalities of implementing these methods? What data is necessary?

c. Speakers

- i. Jocelyn West
- ii. Stephane Hallegatte

d. Readings

Recommended

- Walsh, B., & Hallegatte, S. (2020). Measuring Natural Risks in the Philippines: Socioeconomic Resilience and Wellbeing Losses. *Economics of Disasters and Climate Change*, 4(2), 249–293. <https://doi.org/10.1007/s41885-019-00047-x>
- West, J. (2023). Social vulnerability and population loss in Puerto Rico after Hurricane Maria. *Population and Environment*, 45(2), 8. <https://doi.org/10.1007/s11111-023-00418-3>
- Rufat, S., Tate, E., Emrich, C. T., & Antolini, F. (2019). How valid are social vulnerability models? *Annals of the American Association of Geographers*, 109(4), 1131–1153. <https://doi.org/10.1080/24694452.2018.1535887>

Optional

- Kind, J., Botzen, W. W., & Aerts, J. C. (2020). Social vulnerability in cost-benefit analysis for flood risk management. *Environment and Development Economics*, 25(2), 115–134. <https://www.cambridge.org/core/services/aop-cambridge-core/content/view/0F039808DF4EF50E4A64163A51C5C986/S1355770X19000275a.pdf/social-vulnerability-in-cost-benefit-analysis-for-flood-risk-management.pdf>

5. [01/25/24] Methods, Operations, Data: Connecting methods to considerations when using these methods for planning

a. Agenda

- i. Short presentation by Kanako Iuchi
- ii. Breakout activity
- iii. Guided dialogue

b. Themes & Motivating Questions

- i. What important considerations are there when using these methods for risk reduction decisions?
- ii. How do the introduced methods compare to one another in different uses and contexts?

c. Readings

Iuchi, K., Takagi, H., Jibiki, Y., Kondo, T., Kusunoki, A., Hanifa, N. R., Pelupessy, D., Gayathri, R. T., & Olshansky, R. (2023). Questioning the hazard map-based rebuilding process: Learning from the 2018 Sulawesi earthquake in Indonesia.

Coastal Engineering Journal, 65(1), 126–148.

<https://doi.org/10.1080/21664250.2023.2165430>

No readings, but you can prepare by reviewing the following overview, feel free to suggest changes:

https://docs.google.com/document/d/1TssLcYsMwUEw4_ENEgM6_w9xzBKz_AE_xsrQiWTJyXWs/edit?usp=sharing

6. [02/08/24] Data needs: Disaggregated impact data and other data needs

a. Agenda

- i. Presentations
- ii. Discussion

b. Themes & Motivating Questions

- i. Is it possible to develop methods with the current state of disaster, exposure, and vulnerability data?
- ii. How would we collect necessary data after future disasters?

c. Possible Speakers

- i. Rashmin Gunasekera
- ii. Arjola Limani
- iii. Jasper Verschuur

d. Readings

Recommended

- Rubinyi, S., Verschuur, J., Goldblatt, R., Gussenbauer, J., Kowarik, A., Mannix, J., Bottoms, B., & Hall, J. (2022). High-resolution synthetic population mapping for quantifying disparities in disaster impacts: An application in the Bangladesh Coastal Zone. *Frontiers in Environmental Science*, 10. <https://www.frontiersin.org/articles/10.3389/fenvs.2022.1033579>
- Verschuur, J., Becher, O., Schwantje, T., van Ledden, M., Kazi, S., & Urrutia, I. (2023). Welfare and Climate Risks in Coastal Bangladesh: The Impacts of Climatic Extremes on Multidimensional Poverty and the Wider Benefits of Climate Adaptation. <https://doi.org/10.1596/1813-9450-10373>
- Brown, S., Budimir, M., Upadhyay Crawford, S., Younh, H., Spalton, A., & Eklund, M. (2019). *Gender and age inequality of disaster risk*. <https://www.unwomen.org/en/digital-library/publications/2021/11/research-paper-gender-and-age-inequality-of-disaster-risk>
- Erman, A., De Vries Robbe, S. A., Thies, S. F., Kabir, K., & Maruo, M. (2021). *Gender Dimensions of Disaster Risk and Resilience: Existing Evidence*. <http://hdl.handle.net/10986/35202>

Optional

- Building the most comprehensive data bank on disasters — what we've learnt so far: <https://ifrcgoproject.medium.com/building-the-most-comprehensive-data-bank-on-disasters-what-weve-learnt-so-far-38c786fa596>
- Jeggle, T., & Boggero, M. (2018). *Post-Disaster Needs Assessment: Lessons from a Decade of Experience*. World Bank. <https://doi.org/10.1596/30945>

- McBride, S. K., Smith, H., Morgoch, M., Sumy, D., Jenkins, M., Peek, L., Bostrom, A., Baldwin, D., Reddy, E., Groot, R. de, Becker, J., Johnston, D., & Wood, M. (2022). Evidence-based guidelines for protective actions and earthquake early warning systems. *Geophysics*.
<https://doi.org/10.1190/geo2021-0222.1>

7. [02/22/24] Operationalizing equity and risk assessment: World Bank DRM operations

a. Agenda

- i. Presentation
- ii. Discussion
- iii. Review guidance note [outline](#)
- iv. Open sharing of resources, discussion

b. Themes & Motivating Questions

- i. How can these methods be operationalized in practice?
- ii. For what purposes would they be used for World Bank DRM operations before a disaster?

c. Speakers

- i. Amparo Samper Hiraldo – WB

d. Readings

Recommended

- i. <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/847151467202306122/atlas-marginalized-rural-areas-and-local-human-development-in-romania>

8. [03/07/24] Operationalizing equity and risk assessment: Decision-making across the DRM cycle

a. Agenda

- i. Presentation
- ii. Discussion
- iii. Revisit guidance note [outline](#) – scoping and reformulation of approaches based on discussion (include all phases of the DRM cycle?)

b. Themes & Motivating Questions

- i. How can these methods be operationalized in other stages of the DRM cycle?
- ii. What are other considerations when using data-driven methods for decision-making?

c. Speakers

- i. Marc van den Homberg (510, an Initiative of the Netherlands Red Cross)

d. Readings

Recommended

- van den Homberg, M., & Trogrlić, R. Š. (2023). Towards a socially just flood risk management in developing countries: Lessons from serving the last mile in Malawi. In *Handbook of Flood Risk Management in Developing Countries* (1st ed., p. 25). Routledge. <https://doi.org/10.1201/9781003160823-27>
- Savelberg, L., Casali, Y., van den Homberg, M., Zatarain Salazar, J., & Comes, T. (2023). *Methods Matter: Social Vulnerability Assessment Changes Drastically for Hierarchical and Inductive Approaches - a Case Study from Burkina Faso* (SSRN Scholarly Paper 4575377). <https://doi.org/10.2139/ssrn.4575377>

Example guidance notes:

- [Machine Learning for Disaster Risk Management](#)
- [OpenDRI Responsible Artificial Intelligence for Disaster Risk Management](#)
- [Design for Impact: Integrating Open Data and Risk Communication for Decision-Making](#)

9. [03/21/24] **Other types of equity:** history of risk assessments and data justice

a. **Agenda**

- i. Presentation
- ii. Discussion
- iii. Review tasks for guidance note:  EQRisk-TechnicalGuidance-Outline

b. **Themes & Motivating Questions**

- i. Are there other aspects of data politics and justice that we have not considered for risk assessment?
- ii. What are the limits of using risk assessment methods in practice?

c. **Speakers**

- i. Shreyasha Paudel

d. **Readings**

Recommended

- Paudel, S., Loos, S., & Soden, R. (2023, June 14). Towards the Development of an Anti-Colonial Critique of Climate and Disaster Risk Models. *Ninth Workshop on Computing within Limits 2023*. LIMITS. <https://limits.pubpub.org/pub/cgxo9mrd>
- Leslie, D., Katell, M., Aitken, M., Singh, J., Briggs, M., Powell, R., Rincón, C., Chengeta, T., Birhane, A. and Perini, A. 2022. Advancing data justice research and practice: an integrated literature review. arXiv preprint arXiv:2204.03090. (2022). <https://arxiv.org/abs/2204.03090>

Optional

- Asian Disaster Preparedness Center. (2022). *Integrating rights and equality in disaster risk reduction and climate resilience*. <https://www.preventionweb.net/publication/integrating-rights-and-equality-disaster-risk-reduction-and-climate-resilience>
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10. (optional)[04/18/24] **Closing: Review guidance note**

a. **Agenda**

- i. Review UPDATED [guidance note outline](#) and writing plan
- ii. Talk through our next steps and the future of the working group

b. **Themes & Motivating Questions**

- i. How do we make progress towards our recommendations and outcomes of this first part of the working group going forward?

c. **Speakers**

- i. Sabine Loos
- ii. Robert Soden

d. **Pre-work**

- i. Reflect on where you would like to see this working group go, who else should be involved, and concrete next steps we should take to answer the motivating question above.