

Institute for Sustainable Futures

University of Technology Sydney

# Investigating changes related to gender equality in water, sanitation and hygiene: Transformative approaches and opportunities

by Jess MacArthur

Thesis submitted in fulfilment of the requirements for the degree of

Doctor of Philosophy

under the supervision of Professor Juliet Willetts and Dr Naomi Carrard

December 2022

# Certification of original authorship

I, Jessica (Jess) MacArthur declare that this thesis, is submitted in fulfilment of the requirements for the award of Doctor of Philosophy through the Institute for Sustainable Futures at the University of Technology Sydney.

This thesis is wholly my own work unless otherwise referenced or acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

This document has not been submitted for qualifications at any other academic institution.

This research was supported by the Australian Government's Water for Women Fund under Grant WRA-034. This research is supported by the Australian Government Research Training Program.

#### Signature:

Production Note:

Signature removed prior to publication.

Date:

13 December 2022

## Acknowledgements

I would like to take this opportunity to thank the colleagues, collaborators, friends and family who have made this doctorate possible. The last three and a half years have been full of unexpected challenges and joys, and I am deeply thankful for the communities who have grown alongside me through this journey.

Firstly, I am indebted to my incredible supervisors who believed that I could make something out of the confusion at the advent of COVID and inspired me to keep going. I look forward to continuing to learn from you both.

Thank you to Juliet Willetts for your gracious encouragement, steady guidance, your true empathy, and for helping to reign in my wild ideas. Thank you for stretching me and inspiring me to think more deeply and explore more broadly. I am forever thankful for the chance to grow under your mentorship. I can't eat daal anymore without a chuckle.

Thank you to Naomi Carrard, for your compassionate support throughout this journey. For the early morning chats and patient wordsmithing. What an amazing opportunity to adventure alongside you as we worked on our doctorates together. I am forever grateful for the rich and thoughtful contributions you have given to this work.

I owe a great deal of thanks to the research collaborators at iDE in Cambodia. Tyler Kozole for the wonderful WhatsApp calls and brainstorming sessions. Veasna Toeur for your detailed and heartfelt feedback. Vandy Moung for agreeing to my crazy idea to try personas in a whole new way. Samrach Koh for helping me facilitate photovoice remotely. And Rana Abdel Sattar for jumping into this project midway through and helping me create sense from all our insights.

My warmest thanks to the research collaborators in iDE Global: Chris Nicoletti, Jenn Roglà and Lauren Riley – for stretching my thinking and helping me to examine my assumptions.

My heartfelt thanks go to the research assistants through First Class Solutions in Cambodia: Sreymom Chea, Panha York, and Winton Kay.

This research would never have been possible without the wonderful research participants from the photovoice and micronarrative activities. Thank you so much for trusting me with your stories and your photographs. Your stories have taught me much, helped me to question my assumptions, and encouraged me to think about change in entirely new ways.

Many thanks to my colleagues and friends at the Institute for Sustainable Futures for walking alongside me in this journey. A great thanks to Diana Gonzalez Botero, Avni Kumar, Simone Soeters, and Caitlin Leahy for being an unfailing source of reassurance and advice. And my collaborators in helping me untangle gender-transformative change: Federico Davila, Melita Grant, Tamara Megaw, and Keren Winterford. My sincere thanks to Chris Riedy, my responsible academic officer, for his continued encouragement and support.

A big thanks to my doctoral colleagues. Firstly, to Simon Ross for helping me to refine and rerefine my ideas over many calls. And to the other members of my GAS groups for their advice and optimism: Fiona Lord, Karina Kallio, Tani Khara, Deepu Krishnan, Jason Graham-Nye, Louise Boronyak, Donna Lopata, Zaheer Allam, Deyvid Barreto Rosa and Nina Frankowski.

A special thanks to Kathleen Austin-Gifford for her wonderful copyediting.

I would also like to thank my two stage examiners, Jaynie Vonk and Kathleen O'Reilly, who provided invaluable feedback on the direction of this inquiry.

My gratitude also to the Australian Government's Water for Women Fund, who provided the resources to conduct this inquiry. Thanks to Jose Mott and Stuart Raetz for your leadership and guidance on behalf of GHD.

A special thanks to Agatha Christie and Jane Austen for providing me with breaks and amusement and for fostering in me a new appreciation for mysteries and satire.

A great thanks to my friends around the world who have provided me a listening ear throughout this journey: Erin Hunter, Mandy Porter, Siân Platt, Anna Näf, Stephanie Doan, May Yang and Catherine Crawley. I would also like to thank my new friends here in Winterthur at Hecht, the Stadtkirche and the Kantoriei Choir, for providing me respite on the difficult days.

A very deep thanks goes out to my wonderful family in Canada and Switzerland. I owe a great debt to my parents, Jack and Wendy, who first inspired in me a love of learning and took me in during the pandemic. Thank you, Mom, for proofreading my endless papers. To Tim, Katie and Adi – for being the source of much joy during this journey. To Susanne, Jürg, Markus and Mirja, for welcoming me with open arms to Switzerland.

Lastly, I wish to thank my wonderful husband Philipp, my copilot, for inspiring me to start this doctorate. I am eternally grateful for your patience, support and reassurance. We've lived in seven different places since I started this adventure, and what an adventure it has been. Thank you for being my steady source of support, encouragement, and laughter.

## Format of thesis

This thesis has been prepared as a compilation of seven academic manuscripts and one visual report woven together through narrative and visuals to explore methodological approaches to assessing gender equality. I provide a visual overview of the thesis structure on the following page.

The thesis is structured into eight chapters which broadly align with the phases of a collaborative action research process focused on transforming qualitative assessment practices in development programs. The inquiry has sought to understand how assessment approaches can be used to explore and foster gender-transformations in the water, sanitation and hygiene (WASH) sector. In particular, I have selected the creative approach of visual storytelling as a form of qualitative assessment which holds resonance in investigations of gender-transformative change.

Each of the outputs (seven manuscripts and one visual report) is introduced within the narrative and then included in full within the body of the thesis. As the outputs were prepared over a 3-year period, my own language and understanding evolved in the drafting and synthesis of the insights. Hence, there are times where I use different phrasing to represent similar ideas. The inquiry's results chapters (Chapters 3, 5 and 6) include syntheses which draw out insights from the chapter's outputs.

Each chapter is introduced by a visual reflection from my personal experiences. This process of visual sensemaking reinforced the creative lens through which I have conducted this inquiry. I also use visuals throughout the thesis not as redundancies to the text, but to develop my own analytical insights.

The thesis is written in Australian English; however, it should be noted that I have followed the relevant protocols for each journal in the preparation of the manuscripts; which has led to several articles in British English and several in American English.

Additionally, to simplify the referencing, the references at the end of the thesis are those included in the main body of the thesis, and not in each of the separate outputs, which include their own reference lists. Figure numbers, table numbers, footnotes and endnotes have adopted the same approach.

### **Chapter 1**

Introduction and aims of the inquiry

### Chapter 2

Collaborative action research approach

### **Chapter 3**

Understanding gendertransformative change in international development and WASH program assessments



Designing gendertransformative assessments

### **Chapter 5**

Exploring gendertransformative change through assessments



### **Chapter 6**

Fostering gendertransformative change through assessments





VIII

### **Chapter 7**

Layers of gendertransformations through the inquiry

### **Chapter 8**

Contributions and conclusions

A summary overview of this thesis in eight chapters and eight outputs.

# Relevant publications and outputs

### Journal articles

This thesis includes seven manuscripts prepared for publication in academic journals.<sup>1</sup> Five manuscripts have been published and two are under review. Notably, the papers have been published in journals from the relevant fields of study including international development, evaluation and WASH.

- Paper I (published) MacArthur, J., Carrard, N., & Willetts, J. (2021). Exploring gendered change: Concepts and trends in gender equality assessments. *Third World Quarterly*, 42(9), 2189–2208. https://doi.org/10.1080/01436597.2021.1911636
- Paper II (published) MacArthur, J., Carrard, N., & Willetts, J. (2020). WASH and gender: A critical review of the literature and implications for gender-transformative WASH research.
   Journal of Water, Sanitation and Hygiene for Development, 10(4), 818–827.

   https://doi.org/10.2166/washdev.2020.232
- Paper III (published) MacArthur, J., Carrard, N., Davila, F., Grant, M., Megaw, T., Willetts, J., & Winterford, K. (2022). Gender-transformative approaches in international development:
   A brief history and five uniting principles. Women's Studies International Forum, 95(2022), 102635.
- Paper IV (published) MacArthur, J., Carrard, N., Toeur, V., Kozole, T., & Willetts, J. (2022). Eliciting stories of gender-transformative change: Investigating the effectiveness of question prompt formulations in qualitative gender assessments. *Evaluation*. 28(3), 308–329. <a href="https://doi.org/10.1177/13563890221105537">https://doi.org/10.1177/13563890221105537</a>
- Paper V (submitted for publication to Evaluation and Program Planning) MacArthur, J.,
   Moung V., Carrard, N., & Willetts, J. (2021). Using personas for program evaluation and planning: Insights from a gender-focused evaluation in Cambodia. [Manuscript submitted for publication]

<sup>&</sup>lt;sup>1</sup> Note that output VII is introduced on the next page. For clarity, I label the outputs in order from I to VIII, but use the terms 'Paper' and 'Report' to describe the output type.

- Paper VI (published) MacArthur, J., Abdel Sattar, R., Carrard, N., Kozole, T., Nicoletti, C., Riley, L., Roglà, J., Toeur, V., & Willetts, J. (2022). Six principles to strengthen qualitative assessments in development interventions. *Development in Practice*. <a href="https://doi.org/10.1080/09614524.2022.2065245">https://doi.org/10.1080/09614524.2022.2065245</a>
- Paper VIII (published) MacArthur, J., Koh, S., Carrard, N., & Willetts, J. (2022). Fostering
  the transformative potential of participatory photography: Insights from water and sanitation
  assessments. *PLOS Water*. 1(8), e0000036. https://doi.org/10.1371/journal.pwat.0000036

### Visual reports

To reinforce the value of visual forms of communication in the analysis of complex forms of data, the final output is included as a visual report and included as a novel sub-chapter.

Report VII (published through ISF) - MacArthur, J., Carrard, N., & Willetts, J. (2021).
 Effectiveness and inclusivity of audio data collection: Insights from a Cambodia-based assessment. Visual Report. Institute for Sustainable Futures, University of Technology Sydney. <a href="http://hdl.handle.net/10453/159031">http://hdl.handle.net/10453/159031</a>

### Supplementary visual reports

As a methodological doctorate, the results of the pilot assessments in Cambodia using photovoice and micronarratives in collaboration with iDE are not included as findings in this thesis. However, they are included as supplementary materials for reference and clarity.

- SM.1 (published through ISF) MacArthur, J., & Moung, V. (2021). Exploring gender transformations for staff members of iDE Cambodia's SMSU3 WASH Program. Visual Persona Report. Institute for Sustainable Futures, University of Technology Sydney. http://hdl.handle.net/10453/151932
- SM.2 (published through ISF) MacArthur, J., & Koh, S. (2021). Exploring gendered experiences within iDE Cambodia's SMSU3 WASH Program: Photo-stories. Institute for Sustainable Futures, University of Technology Sydney. <a href="http://hdl.handle.net/10453/159765">http://hdl.handle.net/10453/159765</a>

### Additional journal articles

The material presented in this thesis has also been strengthened and influenced by my parallel work on the development of a quantitative measure to investigate gender equality in WASH programs – the WASH-GEM. The quantitative measure development was a co-component in the same research grant as this doctoral work. Two papers have been published of this work thus far and one further manuscript is under development.

- Carrard, N., MacArthur, J., Leahy, C., Soeters, S., & Willetts, J. (2022). The water, sanitation and hygiene gender equality measure (WASH-GEM): Conceptual foundations and domains of change. Women's Studies International Forum, 91(2022), 102563. <a href="https://doi.org/10.1016/j.wsif.2022.102563">https://doi.org/10.1016/j.wsif.2022.102563</a>
- Gonzalez, D., Abdel Sattar, R., Budhathoki, R., Carrard, N., Chase, R. P., Crawford, J., Halcrow, G., Kozole, T., MacArthur, J., Nicoletti, C., Toeur, V., Basnet, M. P., Chhetri, A., Gurung, H., Yadav, A., Vourchnea, P., & Willetts, J. (2022). A partnership approach to the design and use of a quantitative measure: Co-producing and piloting the WASH gender equality measure in Cambodia and Nepal. *Development Studies Research*, 9(1), 142–158. <a href="https://doi.org/10.1080/21665095.2022.2073248">https://doi.org/10.1080/21665095.2022.2073248</a>
- MacArthur, J., Chase, R.P., Gonzalez, D., Kozole, T., Nicoletti, C., Toeur, V., Willetts, J., & the SNV Beyond the Finish Line Team. (2022). Investigating impacts of gender-transformative interventions in water, sanitation, and hygiene: The water, sanitation, and hygiene gender equality measure (WASH-GEM). [Unpublished manuscript].

Lastly, emerging from this inquiry will be one final paper to clarify a definition of gender-transformative WASH published in partnership with the Water for Women Fund in the upcoming special issue of *Frontiers in Water* focused on gender and social inclusion in WASH. I was asked to contribute this paper which will draw from the literature reviews presented in this thesis as well as empirical examples of gender-transformative WASH from the Water for Women Fund. A portion of this draft manuscript is included in supplementary materials (SM.6)

(submitted for publication to *Frontiers in Water*) MacArthur, J., Carrard, N., Mott, J., Raetz,
 S., Siscawati, M., & Willetts, J. (2022). A spectrum of gender equality approaches in WASH:
 Towards gender-transformative practice. [Manuscript submitted for publication]

### Resources developed for practitioners

As action research, this doctoral project has also focused on strengthening the practices of the international development community and in particular the WASH sector in the exploration of gender equality outcomes. As such, I have published five methods for practitioners in a web portal focused on qualitative practices (the <u>qualKit</u>) and also funded by the same overarching grant as this inquiry.

- Photovoice. Included in the qualKit as an assessment approach, I provide step by step
  instructions for practitioners implementing a photovoice activity within a WASH program.
  The webpage includes video and PowerPoint orientation materials, sample consent forms,
  a sample participant information sheet, and a competition certificate.
  - https://waterforwomen.uts.edu.au/qualkit/approaches/photovoice
- 2. Micronarratives. Also included as an assessment approach in the qualKit, I provide detailed instructions on how to use micronarratives to explore gender equality and social inclusion outcomes in WASH programming. The webpage includes a sample micronarrative generation worksheet and participant information sheet.
  - https://waterforwomen.uts.edu.au/qualkit/approaches/micronarratives
- 3. Personas. Described in the qualKit as a data analysis technique, I have created a simple strategy to support practitioners in applying personas for different forms of quantitative and qualitative data. The website includes a PowerPoint persona template and detailed instructions on how to use R Studio to conduct structural topic modelling with textual data.
  - https://waterforwomen.uts.edu.au/qualkit/tools/personas
- 4. Audio Surveys. Supporting information on the use of audio surveys has been included in the qualKit as a technique for data collection/generation. The website includes a link to the visual report on the effectiveness and inclusivity of audio surveys (Report VII) and a set of recommended software tools.
  - https://waterforwomen.uts.edu.au/qualkit/tools/audio-surveys
- 5. VOICE Coding. Unpacking significance. Described in the qualKit as a technique for enriching responses through user interpretation, I have included a blogpost co-written with Tamara Megaw describing and justifying the technique. The blogpost also includes a printable handout with suggested questions and applications and is included in supplementary materials (SM.5).
  - <a href="https://waterforwomen.uts.edu.au/qualkit/tools/significance">https://waterforwomen.uts.edu.au/qualkit/tools/significance</a>

# Declaration of coauthorship

### Paper I

MacArthur, J., Carrard, N., & Willetts, J. (2021). Exploring gendered change: Concepts and trends in gender equality assessments. *Third World Quarterly*, *42*(9), 2189–2208. https://doi.org/10.1080/01436597.2021.1911636

Co-author	Nature of contribution	Extent of contribution (%)	Signature and Date
Jess MacArthur	<ul> <li>Led all aspects including conceptualisation, research, writing and revisions.</li> <li>Defined research questions, approach and methodology.</li> <li>Undertook systematic review and analysis.</li> <li>Identified implications and recommendations based on research findings.</li> </ul>	90%	Production Note: Signature removed prior to publication.  August 2, 2022
Naomi Carrard	<ul> <li>Provided feedback and input during supervision meetings and critical review of drafts.</li> <li>General editing of the paper.</li> </ul>	5%	Production Note: Signature removed prior to publication. August 2, 2022
Juliet Willetts	<ul> <li>Provided feedback and input during supervision meetings and critical review of drafts.</li> <li>General editing of the paper.</li> </ul>	5%	Production Note: Signature removed prior to publication. August 2, 2022

### Paper II

MacArthur, J., Carrard, N., & Willetts, J. (2020). WASH and Gender: A critical review of the literature and implications for gender-transformative WASH research. *Journal of Water, Sanitation and Hygiene for Development*, *10*(4), 818–827.

https://doi.org/10.2166/washdev.2020.232

Co-author	Nature of contribution	Extent of contribution (%)	Signature and Date
Jess MacArthur	<ul> <li>Led all aspects including conceptualisation, research, writing and revisions.</li> <li>Defined research questions, approach and methodology.</li> <li>Undertook systematic review and analysis.</li> <li>Identified implications and recommendations based on research findings.</li> </ul>	90%	Production Note: Signature removed prior to publication. August 2, 2022
Naomi Carrard	<ul> <li>Provided feedback and input during supervision meetings and critical review of drafts.</li> <li>General editing of the paper.</li> </ul>	5%	Production Note: Signature removed prior to publication. August 2, 2022
Juliet Willetts	<ul> <li>Provided feedback and input during supervision meetings and critical review of drafts.</li> <li>General editing of the paper.</li> </ul>	5%	Production Note: Signature removed prior to publication.  August 2, 2022

### Paper III

MacArthur, J., Carrard, N., Davila, F., Grant, M., Megaw, T., Willetts, J., & Winterford, K. (2022). Gender-transformative approaches in international development: A brief history and five uniting principles. *Women's Studies International Forum*, 95(2022), 102635.

Authors listed in alphabetical order apart from first author.

Co-author	Nature of contribution	Extent of contribution (%)	Signature and Date
Jess MacArthur	<ul> <li>Led all aspects including conceptualisation, research, writing and revisions.</li> </ul>	53%	Production Note: Signature removed prior to publication. August 2, 2022
	Conducted systematic review of gender transformative literature.		
	<ul> <li>Drafted insights and led monthly discussion and analysis groups.</li> </ul>		
Naomi Carrard	Provided feedback and input during supervision meetings and critical review of drafts.	8%	Production Note: Signature removed prior to publication. August 2, 2022
	Actively participated in monthly discussion groups.		
	<ul> <li>Provided strategic and writing input on the methodology. General editing of the paper.</li> </ul>		
Federico Davila	Actively participated in monthly discussion groups.	5%	Production Note: Signature removed prior to publication.
	Provided strategic and writing input on socio- technical transformations	i.	August 8, 2022
	General editing of the paper.		
Melita Grant	Drafted the gender- transformative framework	6%	Production Note: Signature removed prior to publication.
	<ul> <li>Actively participated in monthly discussion groups.</li> </ul>		August 2, 2022

	<ul> <li>Provided strategic and writing input on practical applications.</li> <li>General editing of the paper.</li> </ul>		
Tamara Megaw	<ul> <li>Co-conducted the review of 20192022Q1 literature.</li> <li>Actively participated in monthly discussion groups.</li> <li>Provided strategic and writing input with a lens on intersectionality, decolonising research and countering a binary definition of gender.</li> <li>General editing of the</li> </ul>	15%	Production Note: Signature removed prior to publication.  August 2, 2022
Juliet Willetts	<ul> <li>Provided feedback and input during supervision meetings and critical review of drafts.</li> <li>Provided strategic and writing input on the five principles and applications.</li> <li>General editing of the paper.</li> </ul>	8%	Production Note: Signature removed prior to publication.  August 2, 2022
Keren Winterford	<ul> <li>Actively participated in monthly discussion groups.</li> <li>Provided strategic and writing input on practical applications.</li> <li>General editing of the paper.</li> </ul>	5%	Production Note: Signature removed prior to publication.  August 2, 2022

### Paper IV

MacArthur, J., Carrard, N., Toeur, V., Kozole, T. & Willetts, J. (2022). Eliciting stories of gender-transformative change: Investigating the effectiveness of question prompt formulations in qualitative gender assessments. *Evaluation*. 28(3) 308–329.

https://doi.org/10.1177/13563890221105537.

Co-author	Nature of contribution	Extent of contribution (%)	Signature and Date
Jess MacArthur	<ul> <li>Led all aspects including conceptualisation, research, writing and revisions.</li> <li>Conducted semantic and</li> <li>systematic literature reviews.</li> <li>Conducted analysis of prompt effectiveness.</li> <li>Drafted insights and led monthly discussion and analysis groups.</li> </ul>	80%	Production Note: Signature removed prior to publication. August 2, 2022
Veasna Touer	<ul> <li>Participated in the codesign of question prompts.</li> <li>Provided strategic and pragmatic review of the prompts for the Cambodian context.</li> </ul>	5%	Production Note: Signature removed prior to publication.  August 2, 2022
Tyler Kozole	<ul> <li>Participated in the codesign of question prompts.</li> <li>Provided strategic and pragmatic review of the prompts for the Cambodian context.</li> </ul>	5%	Production Note: Signature removed prior to publication.  August 3, 2022
Naomi Carrard	<ul> <li>Participated in the codesign of question prompts.</li> <li>Provided feedback and input during supervision meetings and critical review of drafts.</li> <li>General editing of the paper.</li> </ul>	5%	Production Note: Signature removed prior to publication.  August 2, 2022

Juliet Willetts	Participated in the co- design of question prompts.	5%	Production Note: Signature removed prior to publication.
	<ul> <li>Provided feedback and input during supervision meetings and critical review of drafts.</li> </ul>		August 2, 2022
	General editing of the paper.		

### Paper V

MacArthur, J., Moung V., Carrard, N., & Willetts, J. (2021). Using personas for program evaluation and planning: Insights from a gender-focused evaluation in Cambodia. [Manuscript submitted for publication]

Co-author	Nature of contribution	Extent of contribution (%)	Signature and Date
Jess MacArthur	<ul> <li>Led all aspects including conceptualisation, research, writing and revisions.</li> <li>Defined research questions, approach and methodology.</li> <li>Conducted review and synthesis of personafocused literature.</li> <li>Collaboratively developed personas from micronarrative data.</li> <li>Identified implications and recommendations based on research findings.</li> </ul>	80%	Production Note: Signature removed prior to publication. August 2, 2022
Vandy Moung	<ul> <li>Actively participated in the analysis of micronarratives.</li> <li>Collaboratively developed themes through qualitative thematic analysis.</li> <li>Supported the design of</li> </ul>	10%	Production Note: Signature removed prior to publication.  August 2, 2022
	Supported the design of personas.		

Naomi Carrard	<ul> <li>Critically reviewed thematic analysis codebook.</li> <li>Provided feedback and input during supervision meetings and critical review of drafts.</li> <li>General editing of the</li> </ul>	5%	Production Note: Signature removed prior to publication. August 2, 2022
Juliet Willetts	<ul> <li>Provided feedback and input during supervision meetings and critical review of drafts.</li> <li>General editing of the paper.</li> </ul>	5%	Production Note: Signature removed prior to publication.  August 2, 2022

### Paper VI

MacArthur, J., Abdel Sattar, R., Carrard, N., Kozole, T., Nicoletti, C., Riley, L., Roglà, J., Toeur, V. & Willetts, J. (2022). Six principles to strengthen qualitative assessments in development interventions. *Development in Practice*.

https://doi.org/10.1080/09614524.2022.2065245

Authors listed in alphabetical order apart from first author.

Co-author	Nature of contribution	Extent of contribution (%)	Signature and Date
Jess MacArthur	<ul> <li>Led all aspects including conceptualisation, research, writing and revisions.</li> <li>Conducted review of qualitative research principles.</li> <li>Led collaborative discussion and analysis workshops.</li> <li>Identified implications and recommendations based on research findings.</li> </ul>	60%	Production Note: Signature removed prior to publication. August 2, 2022
Rana Abdel Sattar	Actively participated in collaborative discussion groups.	5%	Production Note: Signature removed prior to publication. August 3, 2022

	General editing of the paper.		
Naomi Carrard	<ul> <li>Provided input into the identification and naming of principles.</li> <li>Provided feedback and input during supervision meetings and critical review of drafts.</li> <li>General editing of the paper.</li> </ul>	5%	Production Note: Signature removed prior to publication. August 2, 2022
Tyler Kozole	<ul> <li>Actively participated in collaborative discussion groups.</li> <li>General editing of the paper.</li> </ul>	5%	Production Note: Signature removed prior to publication.  August 3, 2022
Chris Nicoletti	<ul> <li>Actively participated in collaborative discussion groups.</li> <li>General editing of the paper.</li> </ul>	5%	Production Note: Signature removed prior to publication.  August 2, 2022
Lauren Riley	<ul> <li>Actively participated in collaborative discussion groups.</li> <li>General editing of the paper.</li> </ul>	5%	Production Note: Signature removed prior to publication.  August 2, 2022
Jennifer Roglà	<ul> <li>Actively participated in collaborative discussion groups.</li> <li>General editing of the paper.</li> </ul>	5%	Production Note: Signature removed prior to publication.  August 2, 2022
Veasna Toeur	<ul> <li>Actively participated in collaborative discussion groups.</li> <li>General editing of the paper.</li> </ul>	5%	Production Note: Signature removed prior to publication.  August 2, 2022
Juliet Willetts	<ul> <li>Provided input into the identification and naming of principles.</li> <li>Provided feedback and input during supervision meetings and critical review of drafts.</li> <li>General editing of the paper.</li> </ul>	5%	Production Note: Signature removed prior to publication.  August 2, 2022

### Visual Report VII

MacArthur, J., Carrard, N. & Willetts, J. (2021). *Effectiveness and inclusivity of audio data collection: Insights from a Cambodia-based assessment.* Visual Report. Institute for Sustainable Futures, University of Technology Sydney. http://hdl.handle.net/10453/159031

Co-author	Nature of contribution	Extent of contribution (%)	Signature and Date
Jess MacArthur	<ul> <li>Led all aspects including conceptualisation, research, writing and revisions.</li> <li>Defined research questions, approach and methodology.</li> <li>Conducted mixed-methods analysis of reflection data and meta-data.</li> <li>Identified implications and recommendations based on research findings.</li> </ul>	90%	Production Note: Signature removed prior to publication. August 2, 2022
Naomi Carrard	<ul> <li>Provided feedback and input during supervision meetings and critical review of drafts.</li> <li>General editing of the visual report.</li> </ul>	5%	Production Note: Signature removed prior to publication. August 2, 2022
Juliet Willetts	<ul> <li>Provided feedback and input during supervision meetings and critical review of drafts.</li> <li>General editing of the visual report.</li> </ul>	5%	Production Note: Signature removed prior to publication. August 2, 2022

### Paper VIII

MacArthur, J., Koh, S., Carrard, N., & Willetts, J. (2022). Fostering the transformative potential of participatory photography: Insights from water and sanitation assessments. *PLOS Water*. 1(8), e0000036 <a href="https://doi.org/10.1371/journal.pwat.0000036">https://doi.org/10.1371/journal.pwat.0000036</a>

Co-author	Nature of contribution	Extent of contribution (%)	Signature and Date
Jess MacArthur	<ul> <li>Led all aspects including conceptualisation, research, writing and revisions.</li> <li>Defined research questions, approach, and methodology.</li> <li>Undertook curation of the photo-stories.</li> <li>Identified implications and recommendations based on research findings.</li> </ul>	85%	Production Note: Signature removed prior to publication. August 2, 2022
Samrach Koh	<ul> <li>Facilitated the research process in Cambodia including the workshops and photographer support.</li> <li>Coordinated all photo-story generation and follow-up.</li> </ul>	5%	Production Note: Signature removed prior to publication.  August 3, 2022
Naomi Carrard	<ul> <li>Provided feedback and input during supervision meetings and critical review of drafts.</li> <li>General editing of the paper.</li> </ul>	5%	Production Note: Signature removed prior to publication. August 2, 2022
Juliet Willetts	<ul> <li>Provided feedback and input during supervision meetings and critical review of drafts.</li> <li>General editing of the paper.</li> </ul>	5%	Production Note: Signature removed prior to publication.  August 2, 2022

# **Table of contents**

Certific	ation of original authorship	II
Acknov	vledgements	iii
Format	of thesis	v
Releva	nt publications and outputs	vii
Journ	nal articles	vii
Visua	al reports	viii
Supp	lementary visual reports	viii
Addit	ional journal articles	ix
Reso	ources developed for practitioners	x
Declara	ition of co-authorship	xi
Table o	f contents	xxi
List of	figures	xxiv
List of tablesList of acronyms		xxv
		xxvi
Abstrac	ot	xxvii
Chapte	r 1	
Introdu	ction and aims of the inquiry	1
1.1	Overview	3
1.2	Inquiry context and modality	3
1.3	Interconnected fields of study and their theoretical foundations	5
1.4	Research questions	14
1.5	Research overview	16
Chapte	r 2	
Collabo	orative action research approach	18
2.1	Overview	20
2.2	Four research foundations	20
2.3	Collaborative action research to shape assessment practices	24
2.4	Positionality: Identity, experiences and beliefs	29
2.5	Ethical considerations	31
2.6	COVID-19 considerations	32
27	Summary	32

### Chapter 3

	anding gender-transformative change in international development and WASF า assessments	
3.1	Overview	35
3.2	Paper I – Exploring gendered change: Concepts and trends in gender equality assessments	36
3.3	Paper II – WASH and Gender: A critical review of the literature and implications for gender-transformative WASH research	
3.4	Paper III – Gender-transformative approaches in international development: A brid history and five uniting principles	
3.5	Synthesis: To what extent does existing scholarship align with a gender-transformative approach?	39
3.6	Limitations of the review phase	43
3.7	Summary	43
Chapter		
	ng gender-transformative assessment approaches for the SMSU3 midline on	44
4.1	Overview	
4.2	Pilot setting: A midline evaluation of a gender mainstreaming approach in the WA sector	SH
4.3	Pilot program: Sanitation Marketing Scale-Up Program 3 (SMSU3) in Cambodia	48
4.4	Pilot context: Gender equality, WASH, and mobile technology in Cambodia	51
4.5	Selecting approaches to pilot: Narrowing in on visual storytelling	54
4.6	The transformative value of visual storytelling	55
4.7	Micronarratives	59
4.8	Photovoice	69
4.9	Emergent questions and connections to the subsequent research phases	76
4.10	Summary	79
Chapter	5	
Explorin	ng gender-transformative change through assessments	80
5.1	Overview	82
5.2	Paper IV – Eliciting stories of gender-transformative change: Investigating the effectiveness of question prompt formulations in qualitative gender assessmen	
5.3	Paper V – Using personas for program evaluation and planning: Insights from a gender-focused evaluation in Cambodia	
5.4	Synthesis: Two design considerations for the meaningful exploration of change	85
5.5	Limitations	86
5.6	Summary	87

### **Chapter 6**

Fostering	gender-transformative change through assessments	88
6.1	Overview	90
6.2	Paper VI – Six principles to strengthen qualitative assessments in development interventions	91
6.3	Report VII – Effectiveness and inclusivity of audio data collection: Insights from a Cambodia-based assessment	
6.4	Paper VIII – Fostering the transformative potential of participatory photography: Insights and opportunities from water and sanitation assessments	93
6.5	Synthesis: Four emerging tenets of (gender)-transformative assessment practice	94
6.6	Limitations	98
6.7	Summary	99
Chapter 7		
Layers of	gender-transformations through the inquiry	
7.1	Overview	102
7.2	Sectoral transformations	102
7.3	Programmatic transformations	104
7.4	Transformations for research participants	105
7.5	Transformations for research collaborators	106
7.6	Personal transformations	107
7.7	Summary	108
Chapter 8		
Contribut	ions and conclusions	
8.1	Overview	
8.2	Scholarly outputs	111
8.3	Strengthening transformative research and evaluation practice	111
8.4	Contributions to gender-transformative assessments	112
8.5	Contributions to literature review methodologies	114
8.6	Conceptual contributions	115
8.7	Future research: Recommendations for future methological scholarship and practice	115
8.8	Concluding remarks	116
Reference	9S	118
Suppleme	entary materials	129
SM 1 M	licronarrative report	129
SM 2 P	hotovoice report	129
SM 3 S	ample micronarrative submission form	129
SM 4 S	ample photovoice submission form	129
SM 5 B	logpost – VOICE-SR Framework	129
SM 6 W	orking definition of gender-transformative WASH	129

# List of figures

Figure 1. This inquiry's fields of study	5
Figure 2. Three operational paradigms of gender equality in international development	7
Figure 3. Four typical assessment modalities	9
Figure 4. A gender-transformative approach as participatory, feminist and transformative	10
Figure 5. A spectrum of gender engagement in development	12
Figure 6. The meta (outer) and pilot (inner) layers of this action research project	14
Figure 7. How the meta-research question was investigated	15
Figure 8. Flow of the thesis around the meta-overarching research question	17
Figure 9. The four theoretical foundations which framed this doctoral inquiry	20
Figure 10. A spectrum of engagement in participatory research and evaluation approaches.	22
Figure 11. Multiple layers of practice targeted by the collaborative action research approach	ı. 25
Figure 12. Dual layers of the collaborative action research process	26
Figure 13. The inner layer of the action research cycle representing the pilot assessment	47
Figure 14. Map of the six Cambodian provinces of the SMSU3 project	48
Figure 15. A simplified schematic of SMSU3 project staff and stakeholders	49
Figure 16. SMSU3's gender mainstreaming theory of change	50
Figure 17. Improvements in sanitation and drinking water in Cambodia 2000–2020	53
Figure 18. A visual storytelling formula	56
Figure 19. Design and implementation of the micronarrative approach within SMSU3	64
Figure 20. Orientation with micronarrative participants	66
Figure 21. Examples of the Khmer orientation presentation	66
Figure 22. Screenshot example from the verb-based micronarrative generation	67
Figure 23. Visual layout of the personas from the SMSU3 program	68
Figure 24. Design and implementation of the photovoice approach within SMSU3	71
Figure 25. Examples of the slideshow presentation used for participant orientation	73
Figure 26. Selected images of the photovoice orientation workshop	73
Figure 27. Illustrative photo submission template	74
Figure 28. Four emerging tenets of gender-transformative assessments	94
Figure 29. Layers of transformed practice	102

## **List of tables**

Table 1. Definitions of the five modes of gender engagement in development practice	13
Table 2. Summary of the sub-research questions	16
Table 3. Five layers of action research objectives as strengthened practice	25
Table 4. Key research activities in the meta layer of the action research process	27
Table 5. Description of the four phases of the pilot research	47
Table 6. Summary of micronarrative batches as rapid pilot and pilot	61
Table 7. Techniques embedded into micronarrative approach	61
Table 8. Techniques embedded into photovoice approach	70

# List of acronyms

ACFID Australian Council for International Development

**CEADW** Convention on the Elimination of All forms of Discrimination Against Women

**FFP** Food for Peace

GAD Gender and Development

GESI Gender equality and social inclusion

HREC Human Research Ethics Committee

**iDE** International Development Enterprises

IGWG International Gender Working Group

**ISF** Institute for Sustainable Development

JMP Joint Monitoring Program of the WHO and UNICEF

MDGs Millennium Development Goals

MSC Most Significant Change

qualKit Online toolkit to support explorations of GESI outcomes in WASH programs

**RDI** Research for Development Impact

SDGs Sustainable Development Goals

SMSU3 Sanitation Marketing Scale-Up Program 3

**UNICEF** United Nations Children's Fund

**USAID** United States Agency for International Development

UTS University of Technology Sydney

WAD Women and Development

WASH Water, sanitation and hygiene

**WASH-GEM** Water, sanitation and hygiene – gender equality measure

WHO World Health Organization

WID Women in Development

## **Abstract**

The (re-)emergence of a gender-transformative model of development has challenged the narrow women's empowerment paradigm to engage in a more nuanced conversation in development research and practice. Gender-transformative programs aim to transform gender dynamics and structures within and through development interventions. In parallel, the evaluation field has been considering opportunities to apply gender-transformative approaches to assessments.

Hence, there is both opportunity and imperative to investigate how assessments can meaningfully explore and foster gender-transformative change in the development sector. This inquiry focused on a particular subsector of development – water, sanitation, and hygiene (WASH), which is in the early stages of engagement with gender-transformative approaches.

This methodological inquiry adopted a collaborative action research approach and partnered with a sanitation program in Cambodia to investigate opportunities for innovative and qualitative forms of gender-transformative assessments. Through a compilation of eight studies, the inquiry reviewed, designed, piloted and evaluated practitioner-focused gender-transformative assessment approaches. The inquiry focused on the creative use of two visual storytelling assessment practices: micronarratives and photovoice.

Firstly, the inquiry critically reviewed relevant literature from international development and the WASH sector, to investigate methodological and conceptual alignment with a gender-transformative approach. Second, the inquiry clarified the extent to which assessments can be designed to meaningful explore gender-transformative forms of social change. Lastly, the inquiry considered how assessments can foster gender-transformative change by strengthening their transformative potential.

Together the eight studies clarify definitions of a gender-transformative approach in the WASH sector and provide insights on how to strengthen the transformative potential of assessments. The studies indicate that design considerations such as respondent-led interpretation and centring embodiment, can help programs to meaningfully explore gendered change. The studies suggest that gender-transformative potential in an assessment approach requires: (1) assessment quality, in terms of overall assessment rigour; (2) efficacy to ensure elicitation of gender-related insights; (3) inclusivity throughout all stages of the assessment process; (4) reflexivity to be cognisant of power dynamics and structures; and lastly, (5) a purposefully transformative objective in pursuit of gender-transformative change.

Throughout the thesis, I argue for the purposeful integration of investigation and intervention, in an expanded definition of the transformative paradigm of research and evaluation. I suggest that gender-related assessments provide a distinct opportunity to raise critical reflection and catalyse critical action amongst both participants and evaluators. Adopting the methodological advancements and insights generated through this thesis, the WASH sector has potential to better explore and support gender-transformative change.



Visual abstract. This inquiry emphasises the value of creative forms of communication in bridging the academic–practitioner divide. Used in my own sensemaking, this visual abstract highlights the methodological focus of the inquiry and the use of creative and visual forms of communication to support inclusive processes of data generation, interpretation, synthesis and utilisation.