



UNIVERSITY  
OF HULL

ENERGY AND  
ENVIRONMENT INSTITUTE



# **“I’ll be dead by the time it happens” Children's Perceptions of Climate Change in the Mekong Delta, Vietnam**



Florence Halstead

Energy and Environment Institute, University of Hull, England  
F.E.Halstead.hull.ac.uk T:@Halstead\_F

Dan Parsons (D.Parsons@hull.ac.uk), Lisa Jones (L.M.Jones@hull.ac.uk) and Chris  
Hackney (Christopher.Hackney@newcastle.ac.uk)

# STUDY SITE - THE MEKONG DELTA



Figure 1: Map of Vietnam taken from Google Maps (2019)

- Where the Mekong and Bassac River break into 9 smaller rivers (the 9 Dragons) and empty into the South China Sea
- 0.8m elevation against sea level
- Highly engineered and intricate network of rivers, canals, dams and dykes
- Tropical Monsoonal climate, with the dry season typically running from December to April and the rainy season lasting from May to November (Balica, Dinh, Popescu, Vo, & Pham, 2014; Minderhoud et al., 2019).

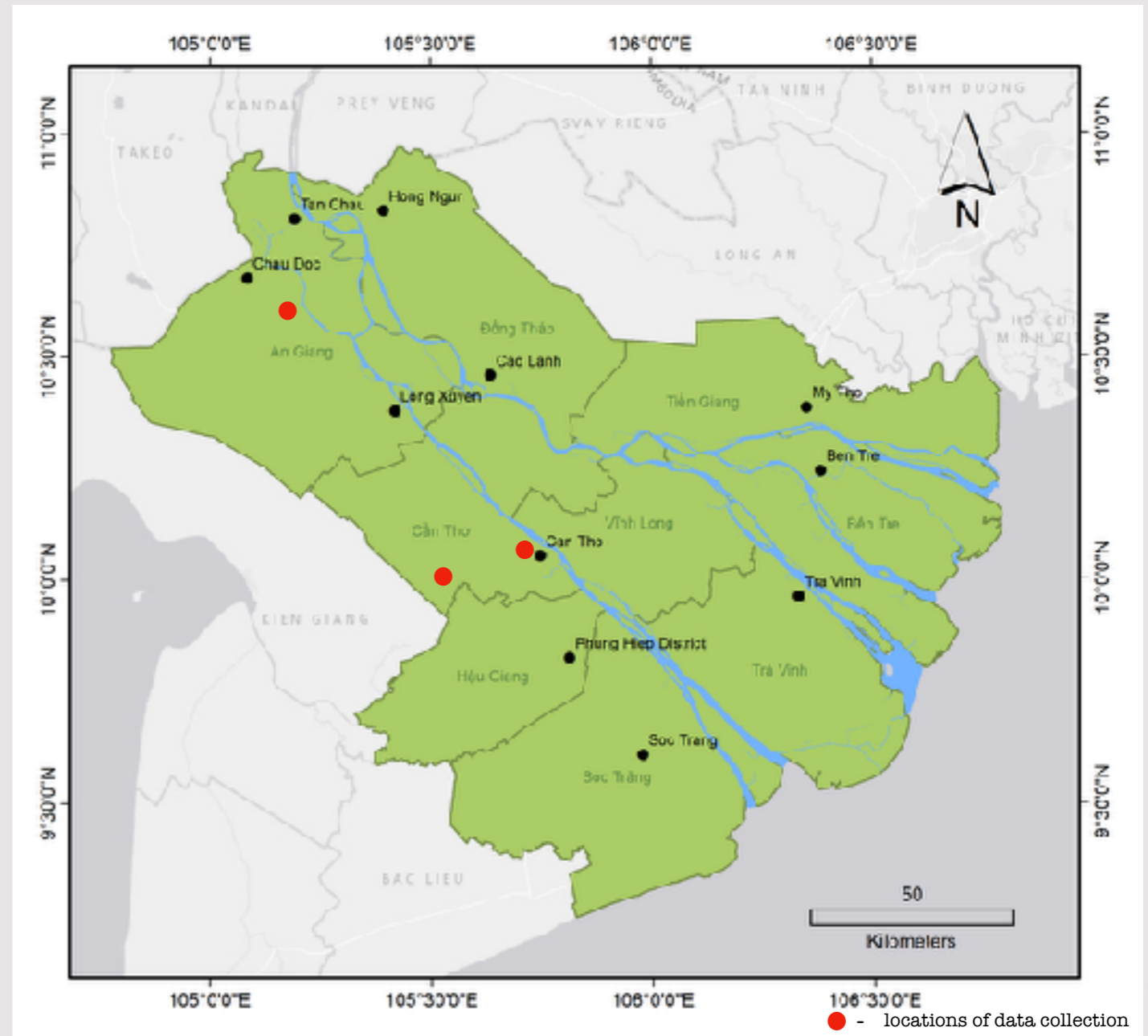


Figure 2: Map of the Mekong Delta Courtesy of Vasilopoulos (2019)

## STUDY SITE - THE MEKONG DELTA CONTINUED ...

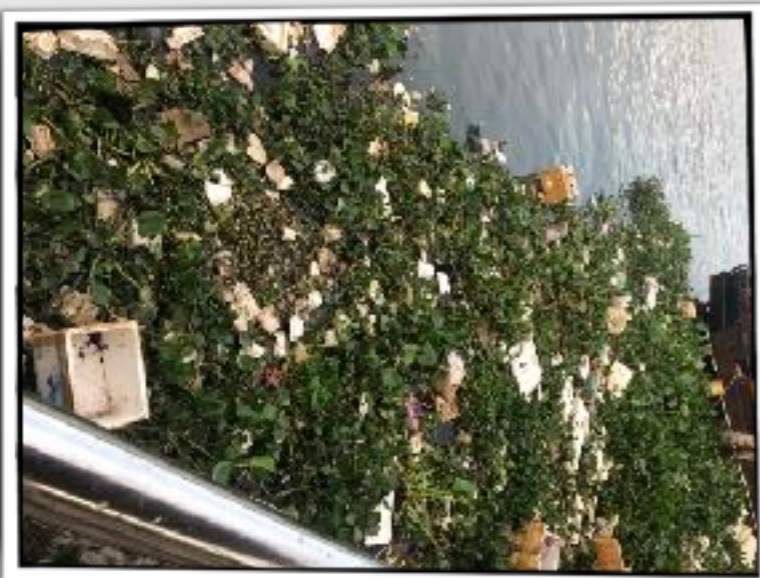
- Approx 18 million people live in the Mekong Delta
- Approx 50% of Vietnams rice comes from the Mekong Delta
- For many years, locals have used the floods to their advantage
- Canals, Dykes and pumping systems manage rice field water levels

(General Statistics Office of Vietnam, 2018; Ehlert, 2012)





However, **climate change**, sand mining, rapid urbanisation, dams upstream, groundwater extraction and overall land degradation are both threatening and challenging these long adapted practices ... (Ehlert, 2012; Hackney et al., 2020; Minderhoud et al., 2019)



- Sea Level Rise and an increase in hydrological Extremes (flooding and drought) present the biggest Climate Change associated risks to the area
- Weather patterns are becoming less predictable
- Salt water intrusion already causing problems
- The delta is sinking

# WHY TALK TO CHILDREN?



All children have a right to their voices heard and taken account of

Children are one of the most vulnerable groups of people to the effects of climate change, both now and in the future (UNICEF, 2015)

Malnutrition

Loss of home - migration

Water and air borne diseases

Physically smaller - extremes hit them harder than adults

Psychological effects



Children's Rights - UNCRC Article 12, (1989)



Children as Vulnerable

**VS**

Children as Social Actors



Resilience

The majority of studies currently look at adult perceptions of climate change and flood risk perception, and most of these are in the West

# SUSTAINABLE DEVELOPMENT GOALS



United Nations, 2015-2030

# RESEARCH QUESTIONS

- What are children's perceptions of climate change and flooding in the Mekong Delta?
- What are the major contributors to forming those perceptions?
- How do these influence children's perceptions?



# METHODOLOGY

This study comes from the perspective that knowledge is **socially constructed**, as well as spatially and temporally situated (Bryman, 2016; Horton and Kraftl, 2013)

Qualitative VS Quantitative

I wanted to uncover the multiple realities that exist within a small subset of children. This, for me, was more important than generalisable data

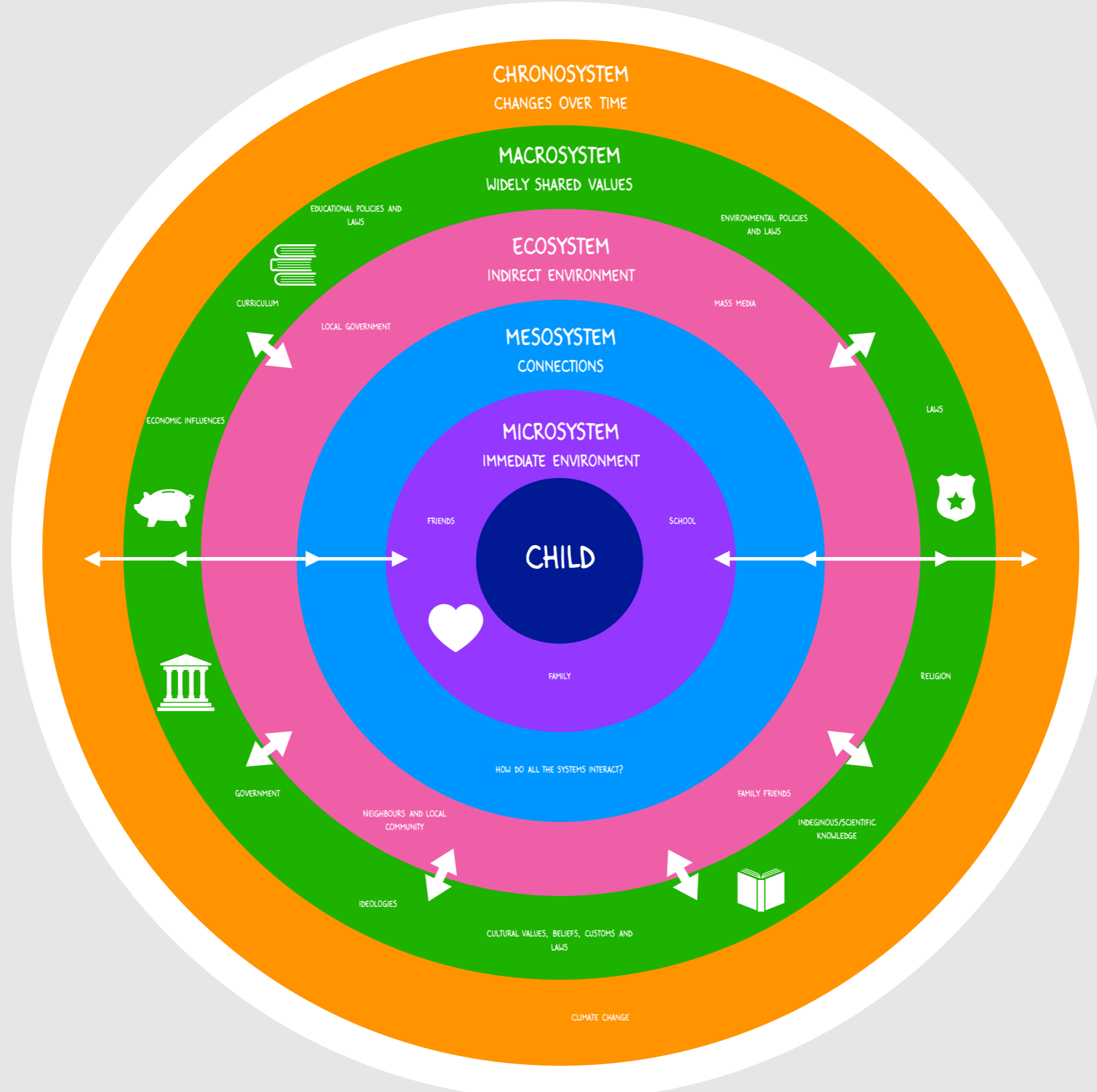
To truly understand the lives of the children I worked with, my methods of data collection had to mirror this

The findings from this study are not representative for a wider population. I want to celebrate the uniqueness and individuality of responses (though, themes within the data do occur!)

Originally I wanted a child-led, participatory approach to my research... but this wasn't possible.

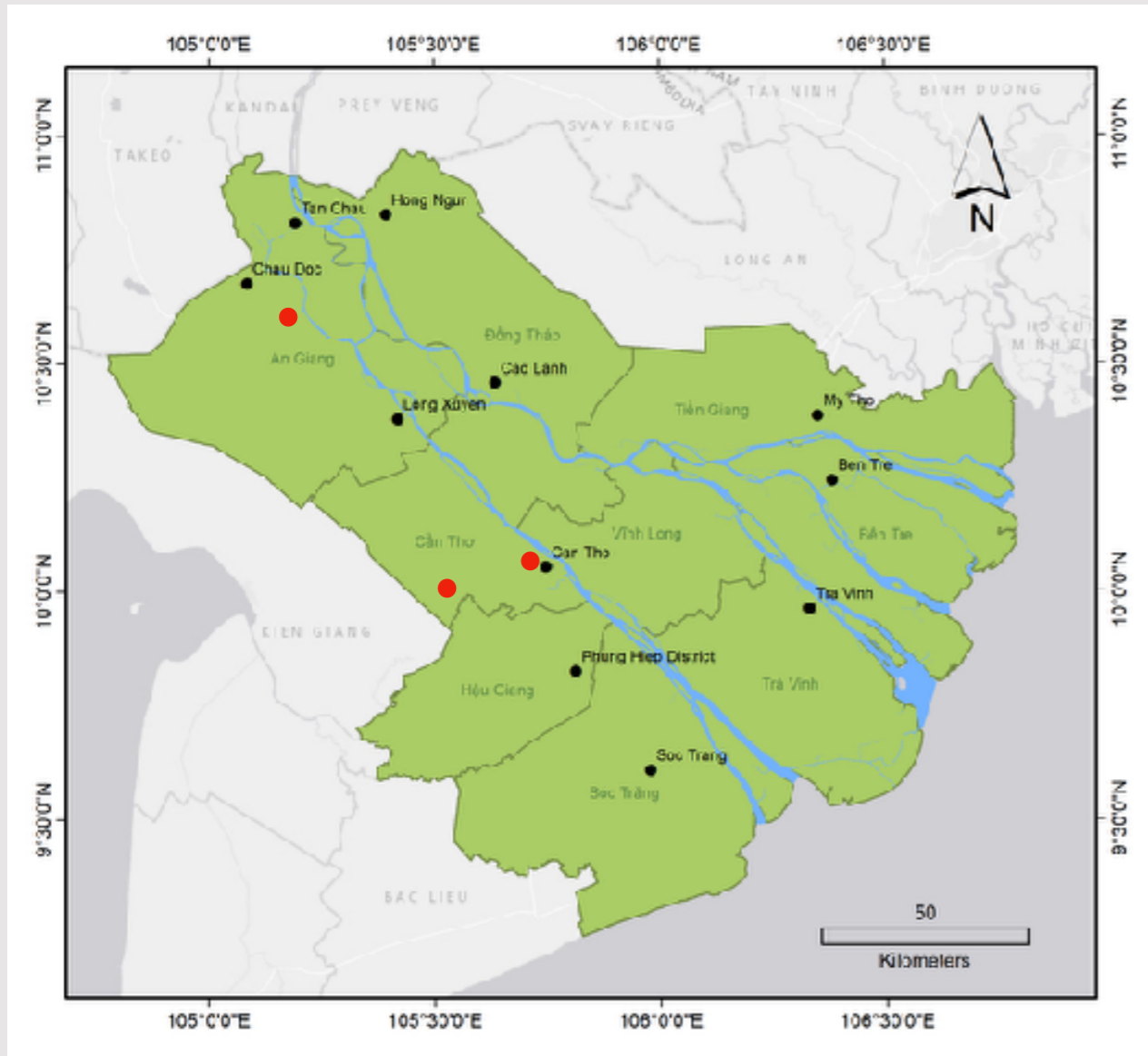


# BRONFENBRENNER'S ECOLOGICAL SYSTEMS THEORY (1979)



By underpinning my research with this theory, I was consciously able to take account of the both the direct and indirect influencing factors that existed within the children's environments

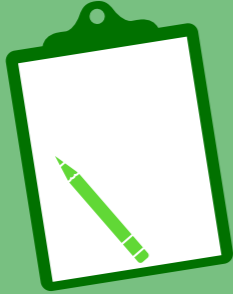
# SAMPLE



- 10 children aged 9-11 in urban school (7 girls and 3 boys)
- 10 children aged 9-11 in rural school (6 girls and 4 boys)
- 6 parents/family members
- 2 teachers (1 urban/1 rural)
- 2 headteachers (1 urban/1 rural)
- Department of Education and Training for Can Tho
- 4 locals in rural community
- 2 locals in urban community

# METHODS

POLICY AND CURRICULUM ANALYSIS



INTERVIEWS WITH LOCAL GOVERNMENT



PARENT DISCUSSIONS



ETHNOGRAPHIC DISCUSSIONS



TEACHER INTERVIEWS



WORKSHOPS



ARTS-BASED METHODS



SPIDER DIAGRAMS



DRAWING

PHOTOGRAPHY



# FINDINGS - THE VOICE OF THE CHILD

"I heard that the icebergs are melting On Tv, but I can't remember much ... [climate change] won't effect my life at all"

"My house has never been flooded before. I think there is no need to prepare [for a flood] because my place has never been flooded"

"The text book isn't about Can Tho"

"I think I heard about climate change once, but I can't remember"

"My teacher said the Mekong Delta is going to be flooded in the future [but I don't worry because] **I'll be dead by the time it happens**"

# FINDINGS - THE VOICE OF THE ~~CHILD~~ ADULT

"Things will only get better for Can Tho." (Mother of workshop participant and cafe owner)

"I do see and hear in the media about our problem [of climate change] nowadays, but we cannot do anything about these problems ... we will just follow our governments instruction. If they say you need to move house, you just move your house. Thats it." (Mother of workshop participant)

"As far as I can see, no one is going to do anything. Like in our city we have flooded for many years and still they [local and national government] haven't changed anything." (Uncle to workshop participant)

"I don't think there will be anything to worry about in terms of a flood in the future"  
(Rural school Principal)

# FINDINGS - CURRICULUM AND POLICY

Environmental Protection Curriculum

Focus on connecting children to nature, suitable to age and stage of development

Add-on knowledge in an over-loaded curriculum (Nguyen, 2019)

Designed to integrate environmental protection teaching into other subject teaching

Law on Environmental Protection No 55.2014.QH13

Focus on global issues - not local

Makes direct reference to education and schoolings need to convey environmental content

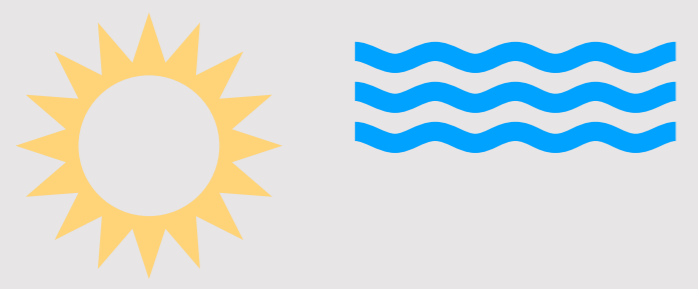
DOE Training for Teachers to integrate Environmental curriculum into primary school teaching

Focus around pollution

“Children can help protect the environment by: collecting garbage and putting it in the right place, planting trees, cleaning the environment around them etc”

(Still under analysis - there is, as always, much more to do!)

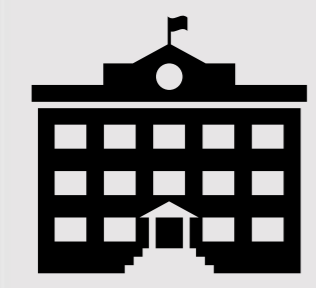
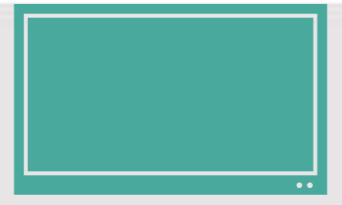
Lived Experiences



Influencers



Media



Formal Education



Family



# MY ANALYSIS

VARIED LEVELS OF KNOWLEDGE

OVERALL, RISK PERCEPTION FOR THE FUTURE IS LOW

WHERE PEOPLE ARE AWARE OF FUTURE RISK, AGENCY IS LOW

DISCONNECT BETWEEN REALITY AND PERCEPTION

MAJOR CONTRIBUTORS OF CHILDREN'S PERCEPTIONS INCLUDE: CHILDREN'S LIVED EXPERIENCES, MEDIA, FAMILY AND FORMAL EDUCATION

PARENTS AND TEACHERS (KEY CONTRIBUTORS TO CHILDREN'S PERCEPTIONS) ARE OFTEN NOT AWARE OF THE LOCAL RISKS AND, WHERE THEY ARE, DO NOT ENGAGE IN CONVERSATIONS WITH THEIR CHILDREN ABOUT THEM. THIS HAS MAJOR IMPLICATIONS FOR CHILDREN'S PERCEPTIONS

TEACHING IS NOT CONTEXTUALISED TO LOCAL ISSUES AND IS INSTEAD TAUGHT AN ABSTRACT AND DISTANT ISSUE. THIS MAY IMPACT CHILDREN'S PERCEPTIONS.



# IMPLICATIONS AND CONCLUSION

IN THE MEKONG DELTA, CLIMATE CHANGE AND ENVIRONMENTAL EDUCATION NEEDS TO BE LOCALISED, SO THAT CHILDREN ARE AWARE OF, AND THEREFORE MORE LIKELY TO BE PREPARED FOR, THE IMPACTS THAT CLIMATE CHANGE AND FLOODING WILL HAVE IN THEIR LOCAL AREA. IT NEEDS TO BE REPOSITIONED SO IT IS NOT SEEN AS A FAR AND DISTANT ISSUE

THOUGH FORMAL EDUCATION IS AN ATTRACTIVE FORMAT TO INFLUENCE CHILDREN PERCEPTIONS AND CREATE ENVIRONMENTALLY AWARE CITIZENS WITH APPROPRIATE RISK PERCEPTIONS FOR THEIR LOCAL AREA, THIS NEEDS TO BE DONE SO WHILST TAKING ACCOUNT OF OTHER INFLUENCING FACTORS; PARTICULARLY FAMILY, MEDIA AND CHILDREN'S OWN LIVED EXPERIENCES. ANY TARGETED INTERVENTIONS SHOULD EXPLORE USING ALL THESE PLATFORMS TOGETHER TO CONVEY THEIR MESSAGES.

THE VIETNAMESE NATIONAL CURRICULUM IS CURRENTLY BEING UPDATED, WITH THE NEW VERSION DUE FOR RELEASE IN THE NEW ACADEMIC YEAR 2020/21. IT IS HOPED THAT THIS WILL ALLOW FOR MORE LOCALISATION IN TEACHING ENVIRONMENTAL ISSUES INCLUDING CLIMATE CHANGE AND FLOODING, HOWEVER IF THIS IS THE CASE, TEACHERS WILL ALSO NEED TO BE UPSKILLED IN TEACHING SUCH SUBJECTS, AS AT PRESENT, TEACHERS LACK THE NEEDED UNDERSTANDING THEMSELVES.



UNIVERSITY  
OF HULL

ENERGY AND  
ENVIRONMENT INSTITUTE

# Thank you

**(All permissions were sought for the use of the photos within this presentation)**



Florence Halstead

Energy and Environment Institute, University of Hull, England  
F.E.Halstead.hull.ac.uk T:@Halstead\_F

Dan Parsons (D.Parsons@hull.ac.uk), Lisa Jones (L.M.Jones@hull.ac.uk) and Chris Hackney (Christopher.Hackney@newcastle.ac.uk)

# REFERENCES

- Balica, S., Dinh, Q., Popescu, I., Vo, T. Q. & Pham, D. Q. (2014) Flood impact in the Mekong Delta, Vietnam. *Journal of Maps*, 10 (2), 257-268.
- Bronfenbrenner, U. (1979) *Ecology of human development: Experiments by nature and design*. Cambridge, Massachusetts: Harvard University Press.
- Bryman, A. (2016) *Social research methods*, Fifth edition. Oxford: Oxford University Press.
- Ehlert, J. (2012) *Beautiful floods : Environmental knowledge and agrarian change in the Mekong Delta, Vietnam*. Zurich: Lit Verl.
- General Statistics office of Vietnam (2018) *Population and employment*. Available online: [https://www.gso.gov.vn/default\\_en.aspx?tabid=774](https://www.gso.gov.vn/default_en.aspx?tabid=774) [Accessed 4th October 2019].
- Hackney, C. R., Darby, S. E., Parsons, D. R., Leyland, J., Best, J. L., Aalto, R., Nicholas, A. P. & Houseago, R. C. (2020) River bank instability from unsustainable sand mining in the lower mekong river. *Nature Sustainability*.
- Horton, J. & Kraftl, P. (2014) *Cultural geographies*, 1. ed. edition. London: Routledge.
- Minderhoud, P. S. J., Coumou, L., Erkens, G., Middelkoop, H. & Stouthamer, E. (2019) Mekong delta much lower than previously assumed in sea-level rise impact assessments, *Nature Communications*, 10 (1), 3847-13.
- Minderhoud, P. S. J., Erkens, G., Pham, V. H., Bui, V. T., Erban, L., Kooi, H. & Stouthamer, E. (2017) Impacts of 25 years of groundwater extraction on subsidence in the Mekong Delta, Vietnam. *Environmental Research Letters : ERL [Web Site]*, 12 (6), 064006.
- Nguyen, T. P. (2019) Searching for education for sustainable development in Vietnam. *Environmental Education Research*, 25 (7), 991-1003.
- UNICEF (2015) *Unless we act now: The impact of climate change on children*. New York, UNICEF.
- United Nations (2015) *The 2030 agenda for sustainable development: Transforming our world*. New York: United Nations.
- United Nations (1989) *The united nations convention on the rights of the child*. New York, United Nations.