

Impact of Climate Change Crisis and Environmental Actions:

Mental Models of Children and Young People in Lebanon,
Syria, Jordan, Iraq and occupied Palestinian territories

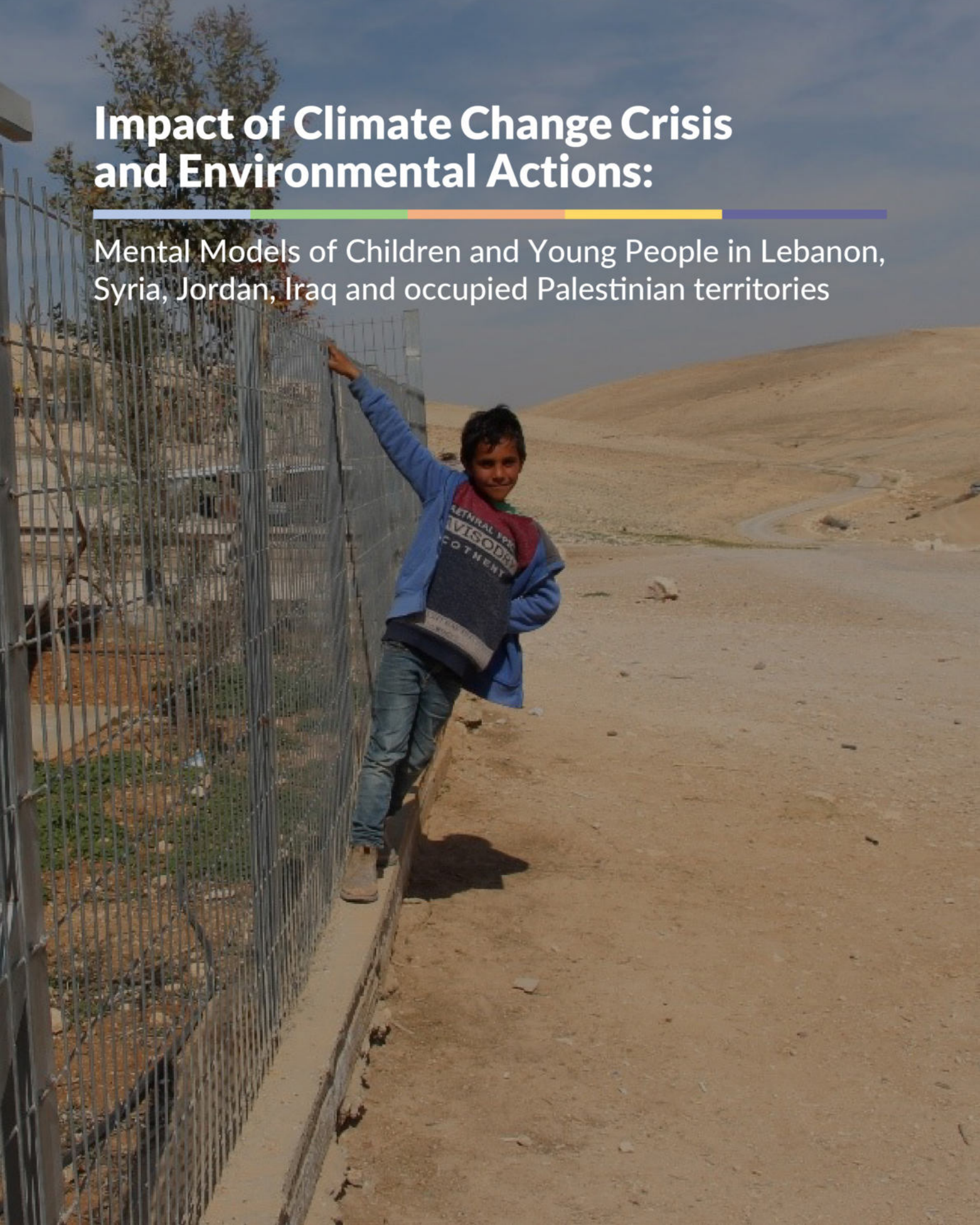


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I. Executive summary

In the context of climate change, the Middle East holds significant importance due to its vulnerability to climate impacts, geopolitical implications in global energy markets, potential to influence global climate patterns, and cultural and historical significance.

Children and young people in the Middle East occupy a unique position within the narrative of climate action. Understanding their perspectives on climate change is crucial because it offers insights into their forthcoming encounters with its effects, fostering early awareness and involvement. This understanding of mental mapping can then inform the development of targeted policies and interventions, empowering children and young people to actively contribute to climate action and ultimately enhancing long-term sustainability and resilience efforts.

The study aims to explore the cognitive frameworks of children and young people in the Middle East, aiming to unravel the intricate mental models they formulate concerning climate change impacts. Mental models constructed based on experiences, education, and exposure to information, are influenced by their beliefs and assumptions, encompassing worries about environmental degradation, extreme weather events, and resource scarcity. Social factors such as family dynamics, community values, and cultural contexts significantly shape these models, resulting in distinct perspectives among children from different contexts and diverse socio-economic backgrounds. Their viewpoints, shaped by the region's distinctive challenges and opportunities, not only mirror their evolving comprehension of environmental issues but also harbour the potential to mould the path of collective response to climate change within this geographic context.

The study marks the first time Mental Models are used to explore climate change impacts and perceptions of children and young people in crises. The study findings provide valuable insights into the attitudes and concerns of children and young people regarding climate change. While young people are primarily concerned with broader social issues including employment, agriculture, community well-being, protection, safety, and mental health,

children focus more on basic needs such as education, food security, and sanitation.

This nuanced understanding allows for tailored interventions that consider the specific concerns of each age group, emphasizing the importance of addressing age group and regional differences in mental dimensions associated with climate change.

- People, with the latter demonstrating a broader range of concerns influenced by heightened awareness of climate change, primarily shaped by their social backgrounds.
- Common perspectives among individuals from similar social contexts rely on past experiences and observations to shape attitudes and perceptions.
- Children's primary concerns are closely tied to the unique contexts of each country:
 - o Education-related issues are prevalent in regions with prolonged conflicts and poverty.
 - o Food security concerns are prominent in areas with recent civil unrest.
- These findings underscore the complexity of mental processes related to climate change and highlight children's resilience in the face of ongoing wars and civil unrest.
- The study reveals the intricate interplay between perceptions and actions, showing how respondents' mental models influence attitudes, decision-making, and contributions to addressing environmental challenges.
- A direct link is observed between children's perceptions and subsequent behavioural outcomes across all studied areas, with those perceiving climate change as a direct threat more likely to engage in sustainability behaviours such as environmental conservation.

Understanding the interconnectedness between mental models and subsequent behavioural outcomes is crucial for designing effective educational interventions, complementary programs, and policies that empower children and young people to contribute meaningfully to addressing climate change.

This exploration recognizes the critical role of mental models in shaping behaviours, attitudes, and decision-making processes concerning climate change in the Middle East, aiming to formulate strategies resonant with distinctive experiences and outlooks. By comprehensively understanding these mental models, we pave the way for informed approaches that empower these future leaders to contribute meaningfully to climate change discourse and action within their communities.

To effectively address these concerns and tailor interventions appropriately, the following key policy and programmatic recommendations are proposed:

Policy Recommendations

1. Inclusion in Decision-Making:

Governments should include children and youth in decision-making processes at both community and national levels regarding environmental policies linked to climate change to ensure their perspectives and needs are adequately addressed

2. Regulation and Policy Updates:

Develop and update existing regulations, policies, and laws to prevent and respond to climate-induced protection, health, mental health, and education risks affecting children, particularly girls and children with disabilities.

3. Enhanced Participation:

Strengthen participation in policy-making by providing opportunities for meaningful engagement between government agencies, NGOs, communities, and youth-led initiatives through youth councils and advisory committees. Improved Regulatory

4. Improved Regulatory Frameworks:

Encourage governments to standardize policies and implement robust monitoring and evaluation mechanisms to ensure consistency and effectiveness in addressing climate change impacts on children and youth.

5. Donor and Development Support:

Donors and development agencies should support governments in improving regulatory frameworks and provide necessary resources for effective policy implementation and assessment.

Programmatic Recommendations

1. Community-Centered Approaches:

Implement community-based programs tailored to the specific needs of children and young people, integrating climate education, youth leadership, mental health support, and resilience-building activities.

2. Mental Health Services:

Provide access to mental health services and psychosocial support, including counselling and peer support groups, to help children and youth cope with climate-related stress and trauma, while also addressing protection issues and GBV-associated risks.

3. Public Health Initiatives:

Address climate-related health risks through public health initiatives that promote hygiene practices, access to clean water, sanitation facilities, and healthcare services during climate-related disasters.

4. Sustainable Livelihoods:

Support sustainable livelihood options, vocational training, and income-generating opportunities for young people to build resilience to climate-related economic shocks.

5. Financial Resilience:

Provide financial literacy training and access to micro-finance services to help young people build financial resilience and adapt to climate-related economic challenges.

6. Social Cohesion:

Strengthen social cohesion through participatory approaches, inclusive community spaces, and intergenerational dialogue to foster collaboration and mutual support.

7. Environmental Conservation:

Promote environmental conservation and sustainable natural resource management practices, engaging children and youth in ecological restoration projects and conservation initiatives.

8. Climate-Resilient Education:

Incorporate climate resilience education into school curricula and create safe, sustainable spaces for recreation, early warning systems, and practical interventions to mitigate the impacts of climate change on children and young people.

This study provides valuable insights into the cognitive and emotional processes of children and young people facing climate stress, emphasizing the role of emotional aspects within mental models in motivating engagement with climate change issues. Therefore, these findings have significant implications for policy and decision-makers, stressing the importance of considering emotional aspects in shaping effective strategies and interventions to address climate-related challenges.

- Across countries, variations in concerns are evident, with agricultural worries more pronounced among young people in Lebanon compared to other nations.
- Syria exhibits greater concerns regarding displacement caused by extreme weather events.
- Notable disparities exist between children and young

II. Introduction

Climate change has surfaced as a devastating phenomenon, wreaking havoc on a worldwide scale. The Middle East stands out as one of the most vulnerable regions to the impacts of climate change, primarily due to a convergence of environmental, geographical, and socio-economic factors.

Characterized by arid and semi-arid climates, the region is already one of the most water-stressed areas globally, and climate change is set to make this situation even more dire. Reduced rainfall and increased evaporation rates are shrinking water resources, affecting both the quantity and quality of available water. This water stress has far-reaching consequences for agriculture, food security, and public health (World Bank, 2022; UNDP, 2020).

Rising sea levels threaten densely populated coastal areas, putting infrastructure and communities at risk. Agriculture, a cornerstone of the Middle East's economy, is grappling with the devastating impacts of climate change. Rising temperatures are causing shifts in growing seasons, reducing crop yields, and making it increasingly challenging to cultivate traditional crops. Prolonged droughts, desertification, and salinization of arable land are rendering substantial agricultural areas unproductive. The



Children celebrating World Environment Day at Jordan's Azraq Refugee Camp – photo by Joanna Zreineh, World Vision Syria Response

already vulnerable agricultural sector is further weakened, resulting in food insecurity, loss of livelihoods, and rural-to-urban migration (World Bank, 2022; IPCC, 2021; CBD, 2020; FAO, 2019).

The region already faces high levels of food insecurity, and the added pressure from climate change exacerbates the problem. Disruptions in food production, distribution, and access caused by extreme weather events and environmental degradation have severe implications for the well-being of the population. Vulnerable groups, such as children, women, and the elderly, are disproportionately affected by these disruptions, facing higher risks of malnutrition and hunger (CBD, 2020).

Public health in the Middle East is increasingly vulnerable to the impacts of climate change especially the viability and existence of the ecological systems for its human settlements (El-Zein, et al., 2014). Rising temperatures create favourable conditions for the spread of diseases carried by vectors such as mosquitoes.

Extreme heat events pose a direct threat to public health, particularly affecting vulnerable populations who may lack access to air conditioning and suffer from heat-related illnesses (UNDP, 2020).

The urban populations of the Middle East are not immune to the effects of climate change. The region's cities are experiencing rising temperatures, increased heatwaves, and air pollution, contributing to a decrease in the overall quality of life. Vulnerable groups in urban settings, including children and the elderly, often face heightened risks due to their exposure to extreme heat and air pollution. Health care systems in cities are also strained by the increasing number of climate-related health problems (World Health Organization, 2020; World Bank, 2014).

Climate-induced displacement is a growing concern in the Middle East (Femia & Werrell, 2017; Wodon et al., 2014; ESCWA, 2024). As environmental conditions deteriorate and access to basic resources becomes increasingly challenging, people are forced to leave their homes in search of more hospitable areas.

This internal displacement adds to the complexity of urbanization, overburdens already strained infrastructure, and increases the vulnerability of the displaced populations.

In the context of conflicts that already afflict the Middle East, climate change serves as a threat multiplier. Climate-induced resource scarcity, food insecurity, and displacement can escalate tensions, contributing to social unrest and conflict. The overlap of climate-induced challenges with political and social instability exacerbates the plight of children and young people, making access to education, safety, and well-being increasingly elusive (World Bank, 2022; IPCC, 2021; CBD, 2020). This vulnerability underscores the urgent need for comprehensive climate adaptation and mitigation strategies to safeguard the well being and sustainability of the region (UNESCWA, 2020; FAO, 2019).

Children and vulnerable communities in the Middle East are at increased risk due to the effects of climate change. Their vulnerability arises from physiological susceptibility to climate-related health risks, limited access to healthcare, and dependency on adults for protection. Additional factors such as displacement, food and water insecurity, disrupted education, and exposure to environmental hazards increase their vulnerability, especially among marginalized communities that are prevalent in the region. Climate change amplifies existing challenges, adding complexity to the lives of children and young people (World Bank, 2022). Therefore, the Middle East faces an intricate web of challenges for children and young people. Addressing these challenges requires a multifaceted approach that encompasses climate adaptation, disaster risk reduction, conflict resolution, and inclusive policies that prioritize the well-being of the region's most vulnerable populations (IPCC, 2021; CBD, 2020).

Understanding children's mental models about climate change is crucial for fostering

environmental awareness, inspiring change, and ensuring a sustainable future. Mental models are cognitive frameworks that shape how individuals perceive and interact with the world. They influence children's attitudes, emotions, and behaviours toward climate change. A child's mental model can range from awareness and comprehension to a simplistic understanding, affecting their motivation to engage with environmental issues. These mental models not only shape individual actions but also influence social interactions and community awareness. Effective environmental education can instill positive and action-oriented mental models, encouraging pro-environmental behaviours and advocacy. Children with robust mental models can become influential advocates within their families and communities, driving societal transformation toward sustainability. Thus, nurturing informed and action-oriented mental models in children is essential for developing future leaders and innovators who will address climate change on a global scale (Dooley et al., 2019; Gopnik et al., 2017).

These mental models shape their communication and storytelling abilities, enabling them to effectively convey the importance of environmental stewardship. Formed during childhood, these mental models can persist into adulthood, laying the foundation for a lifelong commitment to environmental sustainability. By instilling a strong foundation of environmental awareness and responsibility in children, we nurture a generation equipped to drive policy changes, technological advancements, and a cultural shift toward a more sustainable future. Understanding and fostering these mental models is crucial for addressing climate change, as they influence how children perceive, process, and engage with this complex issue.

Programs and policies should leverage the power of mental models to build interventions that address the specific concerns and experiences of children and youth. By doing so, future mental models will reveal empowered children and youth, confident in tackling the problems they face and less stressed about current and future opportunities. Such programs can significantly reduce and mitigate risks to health, mental health, protection, and education for the most vulnerable, especially internally displaced persons and people on the move, while enhancing overall climate action.

Mental Model Development

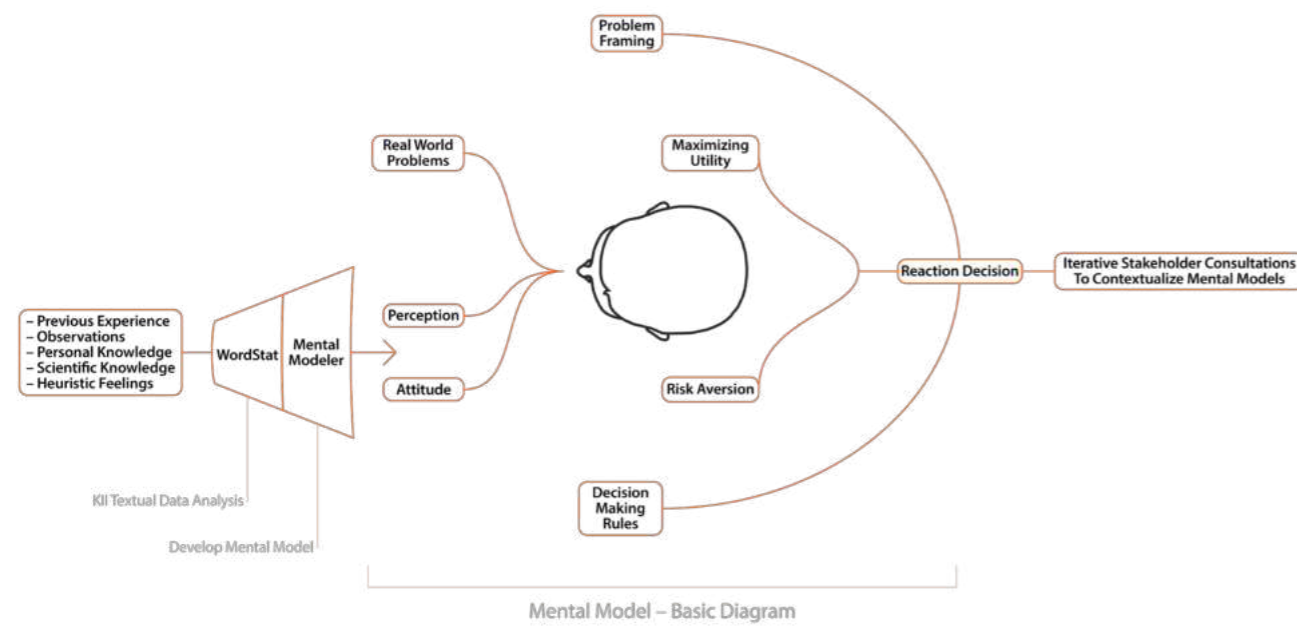


Figure 1. Mental Model Architecture

Nurturing informed, action-oriented, and sustainable mental models in children is not only an investment in their well-being but also a commitment to the betterment of our shared planet.

This study marks the first time Mental Models are used to explore climate change impacts and perceptions of children and young people in crises. It aims to explore the mental models of children and young people in the Middle East regarding the impact of climate change.

The diagram above (Figure 1) illustrates a decision-making process influenced by various input factors, which are initially received and categorized into sub-categories. These factors are processed within a mental model represented by a human head, where cognitive functions interpret the input. The brain then analyses the information based on different criteria, resulting in potential outcomes that inform a final reaction or decision, highlighting the impact of internal processes on decision-making.

By analysing open-ended interviews, the research seeks to understand how vulnerable youth groups in the most climate stressed areas of the region perceive climate change hazards and adaptation strategies. The study focuses on generating multiple mental models to reveal the thought processes and perspectives of the interviewees. The expected outcomes will enhance our understanding of how children and

young people in the Middle East comprehend and respond to climate change, influencing their emotions and future behaviours.

This qualitative research is particularly crucial given the region's unique environmental challenges, such as water scarcity and extreme heat, amplified by climate change. Understanding these mental models will inform educational and awareness initiatives, tailoring them to communicate the urgency of climate action effectively. Ultimately, the research aims to shape educational initiatives, programs, advocacy initiatives, and policies that consider the younger generation's perspectives, ensuring their voices are heard and their concerns addressed in the fight against climate change.

III. Methodology

Data collection combines quantitative and qualitative techniques to thoroughly examine the effects of climate change stress on children and young people. Quantitative data provided an overview of trends and patterns, while qualitative data offered in-depth insights into individual experiences and perceptions. A purposive sampling strategy was employed, targeting communities highly exposed to climate change. This deliberate selection ensured that the participants were directly affected by environmental challenges, allowing the study to capture relevant and contextualized data.

Key Informant Interviews

(Children and Young People)

Timeline of data collection: May - June 2023.

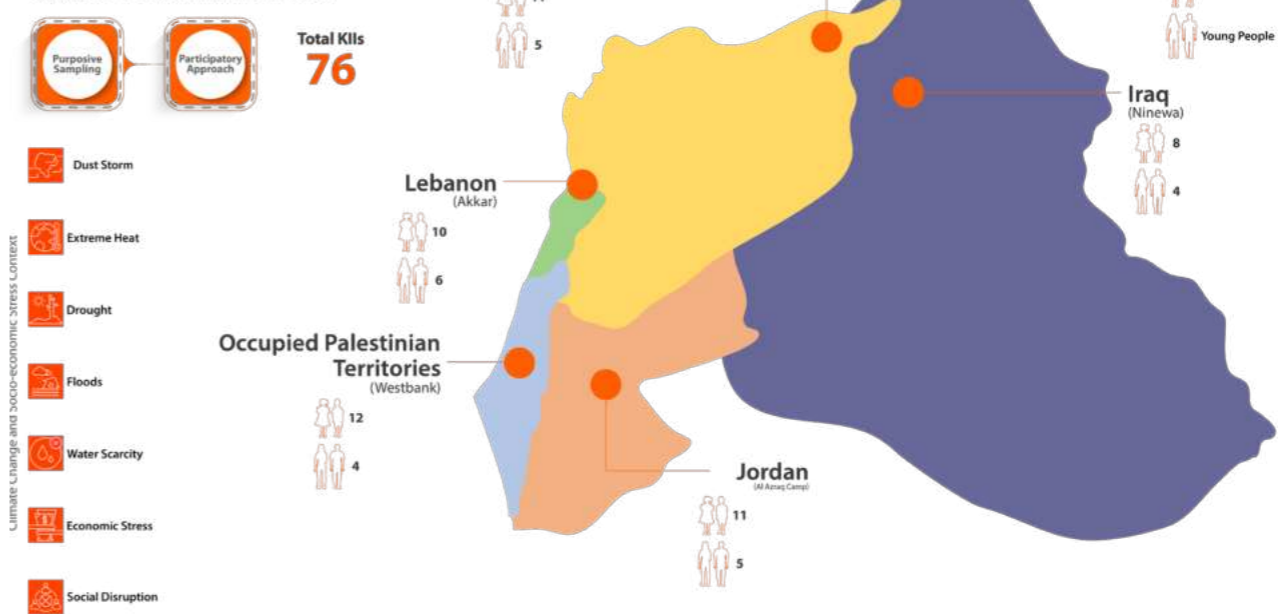


Figure 2. Key Informant Interviews

The focus on these communities aimed to provide firsthand accounts of the impact of climate change on the daily lives of children and young people. Data was collected in May - June 2023 through both face-to-face and phone interviews, prioritizing participant comfort and flexibility. This approach accommodated varied circumstances and geographical locations, maintaining ethical standards while ensuring comprehensive data collection.

A participatory technique was used, incorporating vignettes and short stories to actively engage participants. These fictional yet realistic scenarios stimulated discussions and reflections on climate change-related issues, helping participants express their thoughts and personal narratives.

The collected data from interviews revealed intricate mental models of how children and young people experience and perceive the impacts

Research Methodology

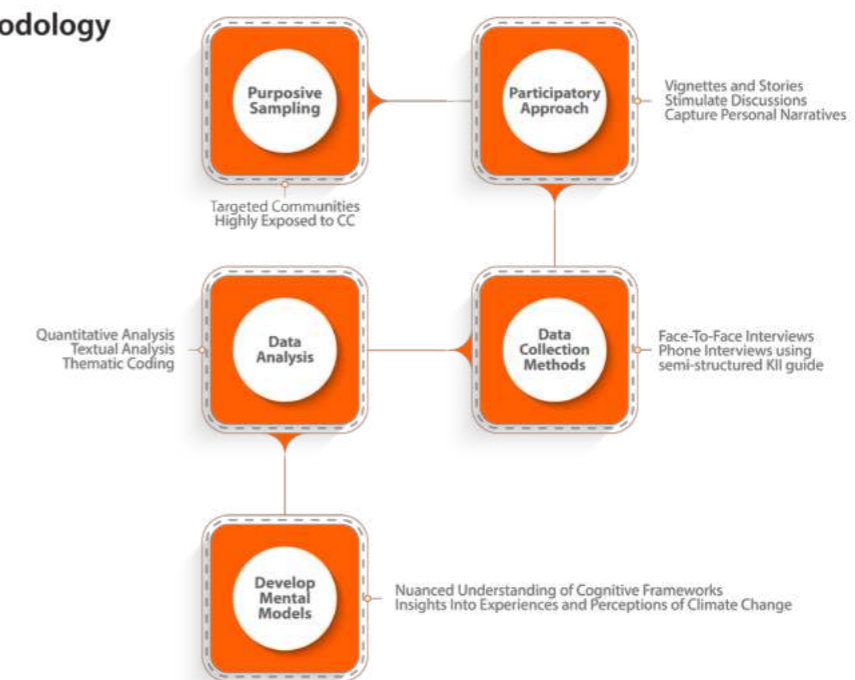


Figure 3. Research Methodology

of climate change. Mental models for children (aged 8-17) and young people (aged 18-24) were developed, providing a nuanced understanding of their cognitive frameworks and how they navigate environmental challenges. This deeper understanding offers valuable perspectives for future research and interventions.

Constructing mental models involves understanding and representing the cognitive structures individuals use to comprehend and navigate a specific domain. This study utilized specialized software tools like WordStat and Mental Modeler to analyse textual data and extract underlying thought patterns. WordStat is a versatile tool for text analysis, offering features like text preprocessing, word frequency analysis, text classification, content analysis, sentiment analysis, and data visualization. It helps identify nuanced themes and concepts within the textual data, providing a quantitative foundation for further qualitative exploration.

Mental Modeler facilitates the graphical representation of cognitive structures, making complex models accessible and interpretable. It employs Fuzzy-logic Cognitive Mapping (FCM) to define essential components and relationships within a system, allowing for “what if” scenario analysis. This iterative modelling process enables stakeholders to refine their mental models continuously.

The research methodology begins with collecting relevant textual data, which is then analysed using WordStat to identify key themes and concepts (Figure 3). These insights serve as the foundation for constructing visual mental models in Mental Modeler. This software creates graphical representations, such as concept maps, illustrating the relationships among different elements in the mental models. The iterative process ensures that the final models accurately reflect the cognitive structures present in the data, enhancing the understanding of the studied domain (Provalis Research, 2021; Gray, 2014).

This study is applied on five sites of the MENA region (Figure 2). Lebanon, Syria, Jordan, Iraq, and the occupied Palestinian territories are facing significant challenges due to climate change, affecting their landscapes, agriculture, and water resources.

In Lebanon’s Akkar region, erratic weather

patterns and prolonged droughts have disrupted traditional farming, leading to food insecurity and water scarcity, impacting particularly children and young people.

Syria experiences extreme weather, water shortages, and agricultural disruptions, severely affecting children and families, especially people with disabilities.

Jordan’s Al-Azraq Refugee Camp, home to many Syrian refugees, struggles with intensified water scarcity and food insecurity due to rising temperatures and erratic weather.

In Iraq’s Ninewa region, changing weather patterns and upstream dam projects have reduced water availability, threatening agriculture and public health.

The West Bank faces fluctuating rainfall, water management issues, and socio-economic impacts on agriculture and daily life.

Demographically, these regions show diversity in age, gender, and socio-economic characteristics, with significant refugee and displaced populations, high educational enrolment rates, and varying family situations. These insights highlight the urgent need for coordinated efforts to address climate change and its multifaceted impacts on these vulnerable regions.



Credit: Shayan Nuradeen\ World Vision Iraq

IV. Key Findings

Key findings related to children’s and young people’s mental health and psychosocial well-being and the tangible repercussions of climate change stress in Middle Eastern countries highlight significant negative impacts.

Across the region, common observations reveal:

Access to Education:

- Common concerns include poor education quality, disrupted access, and limited opportunities.
- Climate-induced challenges such as displacement and economic hardship further disrupt children’s and young people’s education.
- Poverty and economic challenges are prevalent, including limited financial resources, income deprivation, and lack of economic opportunities.
- Disruptions to employment opportunities and occupational stress and hazards are significant issues.

Socio-Economic Challenges:

- Poverty and economic challenges are prevalent, including limited financial resources, income deprivation, and lack of economic opportunities.
- Disruptions to employment opportunities and occupational stress and hazards are significant issues.

Environmental Factors:

- Environmental concerns include air pollution, extreme heat, drought, and strain on water resources.



Climate change and overgrazing are already affecting the livelihoods of many families in the West Bank. Local communities are deprived of access to critical water sources while ongoing violence often results in the destruction of wells and solar panels. – by World Vision JWG

- Tangible repercussions include food security issues compromising crop quality and widespread concerns about water quality and access.

- Challenges faced include the need to buy private water, travel for water during extreme weather, and deal with environmental-related damages.

Mental Health and Psychosocial Support (MHPSS):

- Climate induced psychological distress including anxiety, sadness, and a sense of helplessness and limitation.
- Children and young people commonly experience fear, guilt, and worry about diseases, personal safety, and environmental damage.

Gendered Observations:

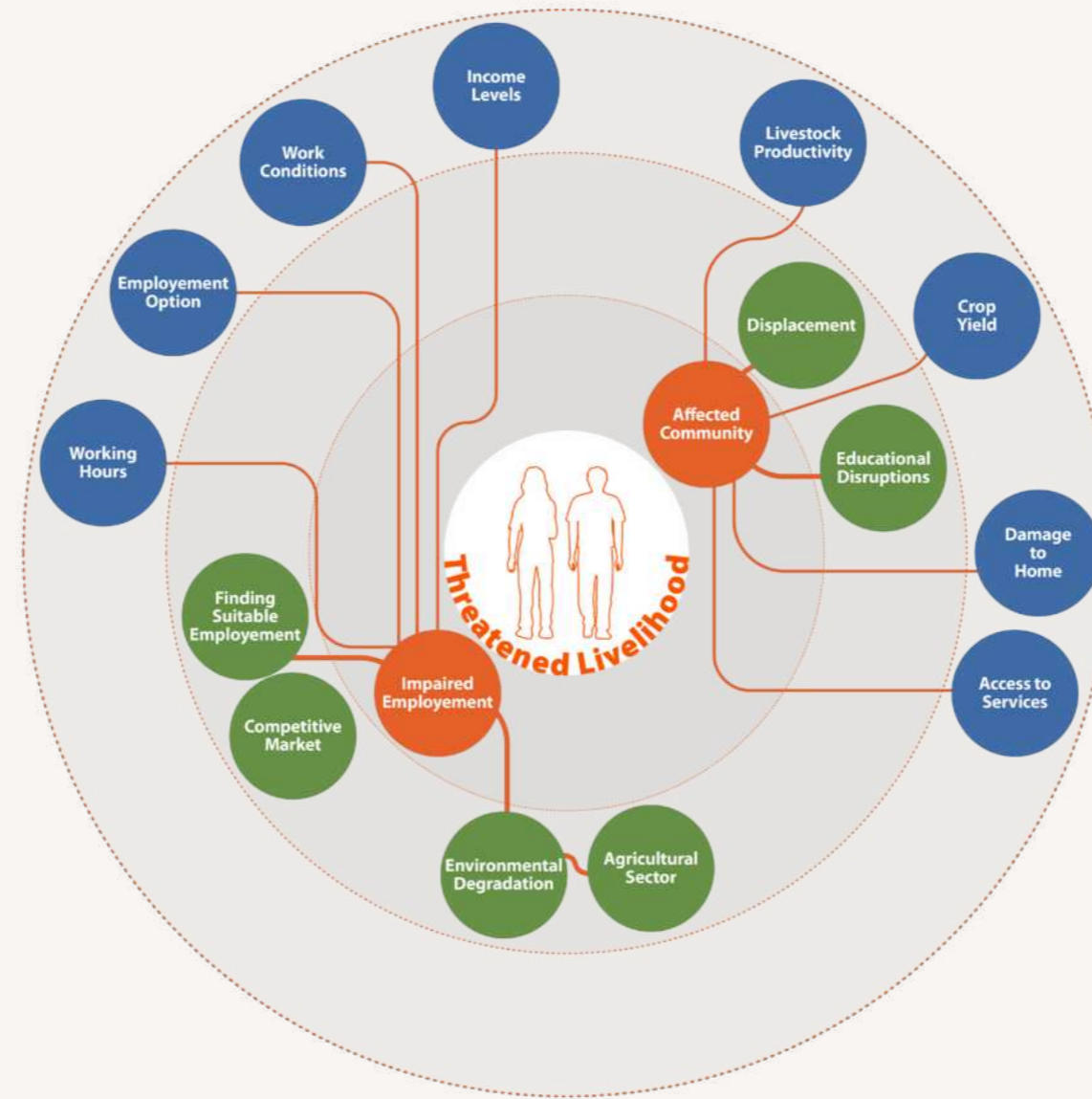
- Girls are disproportionately affected by climate- induced education disruption and early child marriage practices.
- Women and girls often experience physical and emotional/verbal abuse, particularly related to situations of water and food scarcity.
- Women face difficulties in employment, workplace access, and economic empowerment due to climate- related challenges compounding existing economic disparities.

Desire for Involvement and Contribution:

- There is a universal desire among young people across the region to be involved, to learn, and to contribute to addressing these challenges.

Ninewa, Iraq – Young People (18-24 years)

-  Drought
-  Floods
-  Water Scarcity
-  Economic Stress
-  Social Disruption



LEGEND

- Main Tangible Repercussion Themes
- Perception
- Perception/Observation /Previous Experience

Intensity of Experience

Low High

Program Response	
<ul style="list-style-type: none"> - Disaster Risk Reduction (DRR) - Community climate education awareness & empower positive collective action - Poverty reduction programming - Climate resilient primary services: water / education 	<ul style="list-style-type: none"> - Gender equality and social inclusion (GESI) - Child protection and social inclusion - Food Security and nutrition sensitive agriculture - Clean air zone programming - Climate Smart Agriculture (CSA)

Figure 4. Tangible Repercussions of Climate Change Mental Model of Young People (18-24 years old) in Ninewa, Iraq

Country	Community Vulnerability and Concerns	Children's Experience	Young People's Experience
Lebanon Akkar	<ul style="list-style-type: none"> • Direct experiences with climate change events emphasize the community's vulnerability. • Major concerns include health impacts, agriculture, water resources, infrastructure, and education, all affecting daily lives and well-being. • Decreased food security and diet diversity due to climate-related factors • Significant challenges with water supply, compromised water quality, and the need for alternative water sources. 	<ul style="list-style-type: none"> • Primary Concerns: Poverty, air pollution, and education. • Education Disruption: Equally affects boys and girls, with early marriage affecting girls more. • Gender-Based Violence (GBV): Physical and emotional/verbal abuse related to water and food scarcity, especially at water collection points. • Emotional States: Anxiety about diseases, sadness, disgust, powerlessness, frustration, worry, and uncertainty, particularly fearing natural disasters. • Tangible Repercussions: Food security effects, reduced employment opportunities, income, and hindered workplace access. 	<ul style="list-style-type: none"> • Primary Concerns: Lack of access to financial resources and economic deprivation. • Women's Financial Independence: Hindered by economic empowerment limitations, difficulty in education investment, business start-up, and high economic inequalities. • Emotional States: Sense of helplessness and recognizing limitations. • Tangible Repercussions: Reduced employment opportunities, income, and hindered workplace access due to climate-related challenges.
Syria Northeast Syria	<ul style="list-style-type: none"> • High temperatures affect daily life, economic stability, and education. • Extreme weather events cause displacement, leading to emotional hardship and difficulties in securing basic necessities. • School attendance is disrupted, with economic constraints affecting girls' education and increasing health risks. • Worsening food insecurity with a decline in food availability, quality, and affordability. 	<ul style="list-style-type: none"> • Primary Concerns: Poverty, food security, climate-related diseases, and education. • Abuse and Violence: Significant physical and emotional/verbal abuse related to water and food scarcity, leading to family disputes and violence, disrupting social life and schooling. Early marriage disproportionately affects girls. • Emotional States: Fear of diseases and sadness. • Tangible Repercussions: Impacts on food security, damaged crops, consumption of unsafe foods, asthma related to dust storms, and challenges with water quality. 	<ul style="list-style-type: none"> • Primary Concerns: Forced displacement, food and water security, and climate-related diseases. • Economic Challenges: Women deprived of economic opportunities, income, and access to financial resources. • Emotional States: Increased stress and unfavourable work conditions. • Tangible Repercussions: Reduced employment opportunities, increased work hours, and challenges with occupational stress and hazards.
Jordan Azraq Camp	<ul style="list-style-type: none"> • Significant effects of climate change include loss of electricity and decreased crop yields. • Negative perceptions and mental health concerns are prevalent. • School absenteeism and impacts on food security and dietary patterns are common. • Water scarcity and concerns about environmental sanitation and healthcare services are pervasive. 	<ul style="list-style-type: none"> • Primary Concerns: Heat and drought, water resource strain, violence against people with disabilities, low academic performance, personal safety, and school non-attendance. • Abuse and Violence: Emotional/verbal and physical abuse, especially at water collection points, domestic violence, violence against disabled individuals, and early marriage affecting girls more than boys. • Emotional States: Anxiety and worry about water scarcity, diseases (including respiratory ailments), and increased instances of food poisoning. • Tangible Repercussions: Floods and droughts affecting school attendance and causing displacement, challenges with water quality necessitating the purchase of private water and travel for water during summer. 	<ul style="list-style-type: none"> • Primary Concerns: Potential damage to caravans and environmental-related damage among Syrian refugees, lack of access to financial resources and opportunities for women. • Emotional States: Guilt, anxiety, sadness, and fear. Inclusion is perceived to enhance interest and enable active contributions. • Tangible Repercussions: Reduced employment opportunities, increased work hours, unfavourable work conditions, and respiratory illnesses.
Iraq Ninewa	<ul style="list-style-type: none"> • Extreme weather events hinder education, impact food security, cause water scarcity, and affect environmental sanitation. • Challenges include reduced crop yields, water access issues, and environmental cleanliness. • Emotional responses to environmental challenges highlight the urgency of addressing climate change impacts. • Limited dietary diversity and disruptions to ecosystems and staple food reliance are common. 	<ul style="list-style-type: none"> • Primary Concerns: Poor education, poverty, and access to education. • Abuse and Violence: Emotional/verbal abuse is more prevalent than physical abuse at water collection points and related to water and food scarcity, slightly more affecting girls. Lack of protection and empowerment leads to school disruption and early marriage, particularly impacting girls, women, and minorities. • Emotional States: Anxiety, sadness, concern about poor education, feeling unsafe traveling to school, reduced concentration, and dealing with school closures. • Tangible Repercussions: Disruptions in education access, reduced employment opportunities, compromised crop quality, and respiratory illnesses. 	<ul style="list-style-type: none"> • Primary Concerns: Lack of access to financial opportunities and income. Perceived deprivation is tied to hindered economic opportunities, with climate change worsening existing gender inequalities. • Emotional States: Stress, solace in faith, and reliance on faith in a higher power for a positive outlook and effective action. • Tangible Repercussions: Disruptions in education, competitive labour market challenges, unfavourable working conditions, and perceptions of health risks.
occupied Palestinian territories West Bank	<ul style="list-style-type: none"> • Extreme weather significantly impacts education, food security, water accessibility, and environmental sanitation. • Challenges include disrupted school attendance, food insecurity, and health risks. • Emotional responses highlight the need for tailored interventions and policies. • Environmental sanitation and health concerns are magnified by climate change. 	<ul style="list-style-type: none"> • Primary Concerns: Access to education, clean water, and limited economic opportunities. • Abuse and Violence: Physical abuse at water collection points affects girls, and school disruption disproportionately affects boys. No reports of verbal/emotional abuse or early marriage. Violence leads to confined spaces for children, resource-based conflicts, and vulnerabilities for girls and minorities. • Health Issues: Sky-rocketing food prices due to crop damage and various health issues, including cardiovascular, respiratory, mental, and infectious illnesses. These are linked to reduced outdoor labour capacity and prolonged high temperatures. Inadequate infrastructure and displacement experiences exacerbate these challenges. • Emotional States: Anxiety, sadness, powerlessness, frustration, intense psychological burden, and a sense of imminent threat affecting aspirations. Negative contributions from technological advancements and wars. • Tangible Repercussions: Disruptions in education, reduced employment opportunities, contaminated water issues, and challenges with climate-induced migration. 	<ul style="list-style-type: none"> • Primary Concerns: Access to education, clean water, employment, and limited economic opportunities and income deprivation. Economic challenges related to climate change intersect with gender dynamics. • Emotional States: Sense of helplessness and recognizing limitations. • Tangible Repercussions: Disruptions in education, reduced employment opportunities, and challenges with climate-induced migration.

Table 1. Children's and Young People's Experiences and Concerns in Vulnerable Communities Across Lebanon, Syria, Jordan, Iraq and occupied Palestinian territories



Program Response

- | | |
|--|---|
| <ul style="list-style-type: none"> - Disaster Risk Reduction (DRR) - Community climate education awareness & empower positive collective action - Poverty reduction programming - Climate resilient primary services: water / education - Gender equality and social inclusion (GESI) | <ul style="list-style-type: none"> - Child protection and social inclusion - Food Security and nutrition sensitive agriculture - Improving public health capacity in climate related disease - Violence prevention programming - Climate Smart Agriculture (CSA) |
|--|---|

- Extreme Heat
- Drought
- Floods
- Water Scarcity
- Economic Stress
- Social Disruption

- LEGEND**
- Perception
 - Observation
 - Perception/Observation /Previous Experience

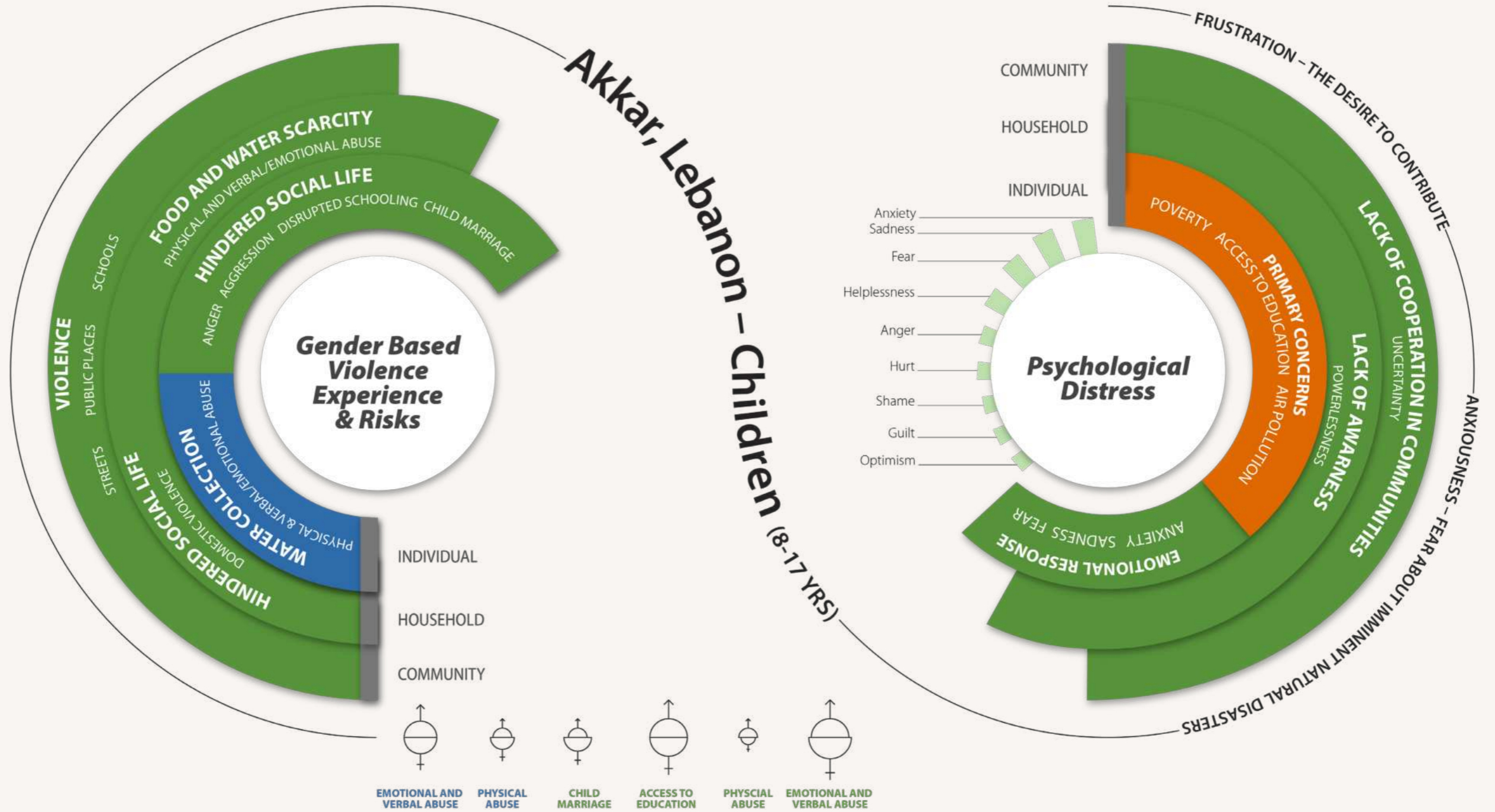


Figure 5. Mental Health and Psychosocial Wellbeing Repercussions of Climate Change Mental Model of Children (8-17 years old) in Akkar, Lebanon

V. Country Specific Insights from Mental Models of Children and Young People in the Middle East

Findings from Akkar, Lebanon: Financial Constraints Amplified by Climate Deterioration

In Lebanon, children primarily concern themselves with poverty, air pollution, and education. They perceive climate-induced education disruption as equally affecting boys and girls, with child marriage impacting girls more. Children experience GBV, including physical and emotional/verbal abuse related to water and food scarcity, especially at water collection points. They are particularly distressed by poor sanitation and express anxiety about diseases, sadness, and disgust, feelings of powerlessness and frustration, along with worry and uncertainty, and the fear of natural disasters.

Tangible repercussions include food insecurity effects, reduced employment opportunities, income, and hindered workplace access. Young people in Lebanon focus on the lack of access to financial resources and economic deprivation, with women's financial independence hindered by limitations on their economic empowerment, difficulty in education, investment and business start-up, and high economic inequalities. They respond emotionally with a sense of helplessness and recognize their limitations, facing tangible repercussions such as reduced employment opportunities, income, and hindered workplace access due to climate-related challenges.

Findings from Northeast Syria: Escalating Hardships from Forced Displacement and Food Insecurity

In Syria, primary concerns for children include poverty, food security, climate-related diseases, and education. They experience significant physical and emotional/verbal abuse related to water and food scarcity, leading to family disputes and violence that disrupt social life and schooling for both girls and boys, while child marriage disproportionately affects girls. Signs of emotional distress to poor sanitation include fear of diseases and sadness. Tangible repercussions involve impacts on food security, damaged crops, consumption of unsafe foods, asthma related to dust storms, and challenges with water quality. Young people in Syria face forced displacement, food and water security issues, and climate-related diseases, with women especially deprived of economic opportunities, earning income, and access to financial resources. Young Syrians experience increased mental health problems including stress and face tangible repercussions such as unfavourable work conditions including intensified occupational stress and hazards, reduced employment opportunities, and increased work hours.

Findings from Al-Azraq Camp, Jordan: Strain on Resources and Increased Vulnerabilities Amidst Heat and Drought

In Jordan, Syrian refugee children's primary concerns include heat and drought, strain on water resources, violence against people with disabilities, low academic performance, personal safety, and school absenteeism. They experience GBV more frequently in the form of emotional/verbal and physical abuse at water collection points than in situations related to water and food scarcity. In addition, they face domestic violence against people with disabilities, and child marriage, which disproportionately affects girls. Among Syrian refugee children in Jordan, primary concerns include potential damage to caravans and environmental-related damage. Psychological distress among Syrian refugee children in Jordan is heightened during the hot and dry summer months expressed by anxiety and worry about water scarcity and diseases, including respiratory ailments, and increased instances of food poisoning. Tangible repercussions include floods and droughts affecting school attendance and displacement, challenges with water quality, necessitating the purchase of private water and travel for water during the summer. Tangible repercussions among young Syrian refugees in Jordan include concerns about reduced employment, increased work hours, unfavourable work conditions, and respiratory illnesses. Young Syrian refugee women face difficulties in accessing financial resources and employment opportunities.

Despite experiencing guilt, anxiety, sadness, and fear due to climate change stress, they believe that greater inclusion will enhance their interest and enable them to actively contribute.

Findings from Ninewa, Iraq: Educational Disruptions and Economic Hardships in the Face of Climate Change

In Iraq, children's primary concerns are poor education, poverty, and access to education. They encounter GBV mainly through emotional/verbal abuse, rather[GK1] than physical abuse, particularly at water collection points and in situations related to water and food scarcity. Girls are slightly more affected by these abuses. Children lack protection and empowerment, leading to school disruption and child marriage, disproportionately affecting girls, women, and minorities. Iraq's children experience a range of psychological distress, including anxiety, sadness, and fear of traveling to school, often exacerbated by poor sanitation conditions. These challenges also contribute to concerns about the quality of education, reduced concentration, and disruptions caused by school closures. Tangible repercussions include disruptions in education, reduced employment opportunities, compromised crop quality, and respiratory illnesses. Young people in Iraq are primarily concerned with their lack of access to financial opportunities and income. They perceive their deprivation as linked to hindered economic opportunities and view climate change as an additional factor that exacerbates existing gender inequalities. They experience stress emotionally and rely on their faith in a higher power for a positive outlook and effective action.

Findings from the West Bank, occupied Palestinian territories: Education, Water Access, and Economic Challenges Amid Climate Change

In the West Bank, children are mainly concerned with access to education, clean water, and limited economic opportunities. They worry about potential GBV in the form of physical abuse at water collection points for girls, while boys are disproportionately affected by school disruption. There are no reports of verbal or emotional abuse or child marriage. Children perceive violence as leading to confined spaces for children, resource-based conflicts, and vulnerabilities for girls and minorities. They are concerned about the impact of climate change on their health. They have observed skyrocketing food prices due to crop damage. In addition, they experience various health issues, including cardiovascular, respiratory, and infectious diseases, as well as mental health problems. These issues are linked to reduced outdoor labour capacity and prolonged exposure to high temperatures during the sweltering summer heat.

Inadequate infrastructure and displacement experiences further exacerbate these challenges. Children in the West Bank carry an intense psychological burden including anxiety, sadness, feelings of powerlessness and frustration, and a sense of imminent threat affecting their aspirations. Additionally, technological advancements and wars negatively contribute to this burden. Tangible repercussions include disruptions in education, reduced employment opportunities, issues with contaminated water, and challenges with climate-induced migration.

Young people in the West Bank are primarily concerned with access to education, clean water, employment, and a perception of limited economic opportunities and income deprivation. They perceive economic challenges related to climate change and call for a deeper exploration of how these intersect with gender dynamics.

Overall, psychological distress such as anxiety, sadness, and fear are linked to tangible concerns about poor sanitation, food security, and water quality.

Environmental stressors like climate extremes and water scarcity contribute to mental health challenges like guilt, anxiety, and helplessness. Lack of economic opportunities and socio-economic stressors lead to mental health risks and concerns about livelihoods and well-being. These findings emphasize the urgent need for comprehensive strategies and tailored interventions to address the negative impacts of climate change on children and young people in the Middle East, considering their unique perspectives, vulnerabilities, and developmental stages.

VI. Pioneering Change: Youth Leadership in Climate Action Across the Middle East

Children and young people are emerging as vital agents of change in tackling environmental challenges such as climate change and pollution. Their active engagement in educational initiatives equips them with the necessary knowledge and skills to adopt sustainable practices.

By leading community-based projects, advocating for waste reduction and recycling, and utilizing technology to amplify their voices, they play a significant role in promoting resilience and sustainable behaviours. This involvement not only enhances their psychological well-being but also empowers them to influence environmental policies and practices, ultimately cultivating environmental consciousness within their communities.

Across Lebanon, Syria, Jordan, Iraq, and the occupied Palestinian territories, there is a notable trend of young people and children actively engaging in climate change mitigation efforts. In Lebanon, they are taking concrete actions like waste segregation and adopting solar energy, although limited knowledge and personal circumstances hinder further engagement. Similarly, in Syria, children express interest in environmental conservation but emphasize the need for adult intervention and guidance. Young people in Syria exhibit a diverse range of actions, from transitioning to renewable energy to engaging in afforestation initiatives. However, gender disparities in participation underline the necessity for inclusive education and empowerment initiatives.

In Jordan, children and young people are dedicated to safeguarding the environment through activities like tree planting and waste reduction, but some face challenges due to awareness gaps or limited resources. Gender inequality in participation is also noted, highlighting the need to challenge traditional gender norms for more equitable climate action. In Iraq, young people are committed to reducing fuel consumption and raising climate change awareness in their communities. Economic

constraints may pose barriers, but examples of youth-led initiatives like tree planting campaigns demonstrate their potential to drive positive change. In the West Bank, children exhibit varying levels of engagement in climate change mitigation, with structured environmental education initiatives considered crucial to enhancing awareness and empowering the younger generation. Efforts such as the UNRWA's Solid Waste Management Strategy involve children and young people in addressing waste disposal issues, emphasizing the importance of community involvement in environmental initiatives.

Overall, these insights underscore the importance of education, awareness, and inclusive participation across different demographics to effectively address climate change challenges and foster sustainable behaviour changes in the Middle East region.

Children and young people around the world are increasingly aware of the urgent need for action on climate change. Their attitudes towards government responses to this global crisis are varied, reflecting a mix of optimism, discontent, and a desire for meaningful change. Studies indicate that young people are dissatisfied with current government strategies, feeling that they are inadequate and fall short of addressing the magnitude of the issue. There is a sense of frustration among youth due to their perceived lack of representation and influence in shaping climate policies. Many are advocating for greater inclusion of their voices in decision-making processes to ensure that policies align with their perspectives and aspirations (Anderson & Smith, 2021; Smith, 2020).

Some Participants across Lebanon, Syria, Jordan (with a focus on Syrian refugee children and young people), Iraq, and the occupied Palestinian territories are actively engaged in addressing climate change challenges and the majority expect more involvement from their governments. In Lebanon, emphasis is placed on government-led awareness campaigns and clear regulations, while Syrian participants stress the need for robust infrastructure and international collaboration. Syrian refugee children and young people in Jordan call on the government to prioritize planting initiatives and improve living conditions. Iraq's youth highlight the importance of government-led education and sustainable practices, and young people in the

occupied Palestinian territories emphasize education, waste management, afforestation, and international support. These insights underscore a shared commitment and desire to contribute to education, awareness, infrastructure improvement, sustainable practices, and international cooperation in combating climate change across the region.

VII. Conclusion and Recommendations

The study's conclusions provide important new information about the attitudes and worries that young people and children have about the negative effects of stress related to climate change. Children are most concerned about education, food security, and cleanliness as a result of climate change stress, whereas young people are more concerned about employment, agriculture, and community well-being.

This comprehensive understanding highlights the need of taking into account both age and regional differences when addressing climate change stress, enabling more targeted interventions catered to the unique concerns of each age group and context.

Individuals from similar social contexts tend to share common perspectives, relying on past experiences and observations to shape attitudes and perceptions. The primary concerns of children are intricately linked to the unique contexts of each country, with education-related issues prevalent in areas with prolonged conflicts and poverty and food security concerns prevalent in areas with recent civil unrest. These findings underscore the complexity of mental processes related to climate change and highlight the resilience of children in the face of ongoing wars and civil unrest. The study also illuminates the complex interplay between perceptions and actions, demonstrating how respondents' mental models influence beliefs, attitudes, decision-making, and contributions to addressing environmental challenges. A direct link is revealed between children's perceptions and subsequent behavioural outcomes across all studied areas. Children perceiving climate change as a direct threat to their well-being are more likely to engage in sustainability behaviours, such as

environmental conservation. It is worthy to note that their perception of the threat does not have to be motivated solely by fear; it could encompass a range of emotions about their future well-being and the environment as depicted in the MHPWB mental models.

Mental models play a pivotal role in shaping decision-making processes regarding climate-related issues, as the severity of environmental problems influences daily routines, consumption patterns, and participation in community initiatives aimed at mitigating climate change impacts. Children and young people perceiving a direct connection between their actions and positive environmental outcomes are more likely to engage in behaviours contributing to sustainability. Understanding these motivations is essential for designing effective educational interventions and campaigns. The study deepens understanding of how perceptions are formed, illustrating the profound impact mental models have on children's actions. Recognizing this interconnectedness is crucial for designing targeted interventions and policies that foster environmental responsibility and empower children to meaningfully contribute to addressing climate change.

Addressing the impacts of climate change on children and young people requires a comprehensive approach that combines sound policies and practical interventions.

As climate change continues to pose threats to the well-being of younger generations, policymakers and practitioners must collaborate to implement effective strategies that safeguard the physical, mental, and social development of children and young people.



Dry lands are evident in Syria after many years of drought and temperature increases. – Photo by World Vision Syria Response partner, Action For Humanity

Policy Recommendations

To effectively address the impacts of climate change on children and young people, governments, humanitarian actors, development agencies and donors must prioritize the integration of climate change considerations into broader frameworks for child and youth welfare, for this reason:

- Governments should recognize the unique vulnerabilities of children and youth to climate change impacts and develop comprehensive strategies to protect their well-being (UNFCCC, 2023a; b). This can be done by including children and youth in decision-making processes at both community and national levels regarding environmental policies linked to climate change and climate action. By involving children and youth in these processes, governments can ensure that their voices are heard, their perspectives are considered, and their needs are adequately addressed in policy development and implementation.

- Furthermore, governments should develop and update already existing regulations, policies, decrees, and laws that prevent, promote and respond to the climate-induced protection, health, mental health, and education risks and threats affecting girls and boys and children with disabilities.

- Additionally, governments and humanitarian agencies working hand in hand on climate change must double their efforts to strengthen participation in policy-making processes by providing opportunities for meaningful engagement and collaboration between government agencies, non-governmental organizations, communities, and youth-led initiatives.

This can be achieved through the establishment of youth councils, advisory committees, and other mechanisms that facilitate dialogue and cooperation between policymakers and young people.

- Furthermore, governments should develop and update already existing regulations, policies, decrees, and laws that prevent, promote and respond to the climate-induced protection, health, mental health, and education risks and threats affecting girls and boys and children with disabilities.



A shepherd watches his sheep graze on increasingly arid land in the West Bank. – by World Vision JWG

- Lastly, it is essential for donors and development agencies to encourage governments to improve regulatory frameworks and standardize policies to ensure consistency and effectiveness in addressing climate change impacts on children and young people. This includes implementing robust monitoring and evaluation mechanisms to assess the impact of policies and initiatives on the well-being of children and youth and making necessary adjustments based on feedback and lessons learned (UNFCCC, 2023c).

Programmatic recommendations

Humanitarian and development agencies working on tackling the impact of climate change in the Middle East region must also prioritize the following programmatic recommendations, taking into consideration the lasting impact of climate change on children, young people and their communities:

1. Adopting a community-centered approaches to further resilience in the face of climate change:

- Community-based and community-led programs must be tailored to address the specific needs of children and young people facing the impacts of climate change. These programs should integrate climate education, promote youth leadership, foster collaboration among stakeholders, facilitate hands-on learning experiences, prioritize mental health and psychosocial support, ensure accessibility and inclusivity, and establish robust monitoring and evaluation mechanisms. By implementing these recommendations, community-based programs can effectively manage the impacts of climate change on children and young people, building resilience under seven proposed sections (i.e. mental health, health, livelihoods, social, financial, environment, education, disaster risk reduction) and empowering them to contribute to sustainable solutions.

2. Addressing the mental health impacts of climate change:

- Provide access to mental health services and psychosocial support for children and young people experiencing climate-related stress, anxiety, depression or distress.

- Offer integrated counselling, peer support groups, and resilience-building activities with climate education and awareness initiatives and programs to help youth cope with psychosocial and emotional challenges, develop healthy coping mechanisms, and become empowered agents of change.

- Incorporate mental health education and awareness-raising activities into community programs to reduce stigma and promote psychosocial well-being.

3. Strengthening public Health sectors to answer to climate-related health risks:

- Implement public health initiatives to address climate-related health risks, such as heatwaves, air pollution, and vector-borne diseases.

- Promote hygiene practices, access to clean water, and sanitation facilities to mitigate health impacts associated with climate change.

- Provide healthcare services and emergency response systems to address immediate health needs during climate-related disasters or emergencies.

4. Investing in sustainable Livelihood approaches to tackle the socio-economic impacts of climate change

- Support sustainable livelihood options for families, especially in sectors vulnerable to climate change, such as agriculture and fishing.

- Offer vocational training, job placement services, and income-generating opportunities for young people to diversify their livelihoods and build resilience to climate-related economic shocks.

- Promote sustainable agriculture practices, alternative livelihoods, and micro-enterprise development to enhance economic stability and food security in communities.

5. Enhancing Social Cohesion to appease communal tensions caused by climate deterioration

- Strengthen social cohesion and community resilience through participatory approaches that foster collaboration, mutual support, and collective action.

- Promote inclusive community spaces and cultural activities that celebrate diversity, promote social inclusion, and build solidarity among children and young people.

- Facilitate intergenerational dialogue and knowledge exchange to harness the wisdom of elders and empower youth to become agents of positive change in their communities.

6. Promoting Financial resilience in the face of climate change shocks

- Provide financial literacy training and access to micro-finance services to help young people build financial resilience and adapt to climate-related economic challenges.

- Support community savings and credit groups to pool resources, invest in climate-resilient enterprises, and buffer against financial shocks.

- Advocate for equitable access to financial resources and social protection mechanisms for vulnerable households, including cash transfers, insurance schemes, and safety nets.



Women preparing dough to be stored in the West Bank – by World Vision JWG

7. Advocating for Environmental conservation

– Promote environmental conservation and sustainable natural resource management practices that enhance ecosystem resilience and mitigate climate change impacts.

– Engage children and young people in environmental education, ecological restoration projects, and conservation initiatives to foster a sense of stewardship and connection to nature.

– Advocate for policies and regulations that prioritize environmental protection, climate adaptation, and the preservation of biodiversity at local, national, and global levels.

8. Investing in Climate-Resilient Education

– Support climate resilient modalities for education delivery

– Incorporate climate resilience education into school curricula, that reduce ecoanxiety while ensuring that children are equipped with the knowledge and skills to understand and adapt to a changing environment.

– Create safe and sustainable spaces for recreation and play, considering the potential risks posed by extreme weather events.

– Establish early warning systems specifically tailored to protect children and young people in the face of climate-related disasters, including evacuation plans, emergency shelters, and communication strategies.

– Develop evacuation plans, emergency shelters, and communication strategies that address the unique vulnerabilities of younger populations.



-7year- old Abed, picks vegetables with his father in Akkar – photo by World Vision Lebanon

– Engage and educate children with practical interventions on the ground to mitigate the impacts of climate change events on their environment.

– Support the development and delivery of educational programs, initiatives, or curricula focused on environmental sustainability, conservation, and green technologies.

9. Contributing to Disaster Risk Resilience, Early Warning Systems and Anticipatory Actions

– Contribute to the growth of protective programming such as DRR EWS and AA.
– Ensure children and youth actively contribute to resilience planning design and evaluation.

– Design age-appropriate early warning systems to disseminate early warning instructions.

– Integrate disaster education into schools and communities, including preparedness, response, and recovery measures, empowering them to take proactive actions and support others during disasters.

– Establish safe spaces with necessities and support for children during disasters.

By implementing these programmatic and sectoral recommendations, community-based programs can effectively manage the multifaceted impacts of climate change on children and young people, fostering resilience, promoting health and well-being, safeguarding livelihoods, strengthening social cohesion, empowering communities, preserving the environment, and ensuring access to quality education for future generations. Collaboration between governments, non- governmental organizations, educational institutions, and local communities is essential to create a holistic approach to managing the impacts of climate change on children and young people. By combining well-crafted policies with practical, community-based interventions, society can work towards building a resilient and sustainable future for the youngest members of our global community.

Policy recommendations at the country level focus on addressing specific features of each location to effectively manage the impacts of climate change on children and young people (Table 1).

Country	Policy and Practice Recommendations
Lebanon	1. Develop and implement comprehensive climate change education targeting school-aged children both within the formal curriculum and through extracurricular activities. These programs aim to elevate awareness about climate change among children and youth, fostering their agency as active participants in climate action and advocates for sustainable practices.
	2. Strengthen policies and practices aimed at mitigating the impacts of climate change on agriculture. This strategy safeguards livelihoods and food security securing the future of younger generations. For instance, promoting environmentally positive practices like poly cropping can play a pivotal role in achieving this objective.
	3. Implement psychosocial support (PSS) in conjunction with climate change initiatives to fill the gaps in PSS services. These integrated efforts aim to raise awareness about disaster risk reduction (DRR) and climate-related stresses, while also gathering exemplary models for future action.
	4. Develop sustainable infrastructure projects that prioritize climate resilience at the community and national levels. Integrate a social and behaviour change (SBC) component focused on raising awareness, thus ensuring the longevity and effectiveness of these initiatives.
Syria	1. Prioritize climate change adaptation in reconstruction efforts to enable conflict and climate change affected communities to secure a greener and more sustainable future for younger generations. This includes initiatives such as solar-powered electricity for schools and solar-powered irrigation pumping stations.
	2. Establish community-based initiatives for climate resilience such as conducting educational workshops and campaigns, creating community gardens and green spaces to teach environmental responsibility and offer hands-on learning experiences, launching tree planting campaigns to boost biodiversity, combat climate change effects, and enhance air quality. This can include the selection of a committee of locals, implementing drought and flash flooding disaster risk reduction (DRR) strategies, and piloting anticipatory action projects like those with Northeast Syria farmers.
	3. Integrate climate change action as additional components and youth clubs to school to raise awareness among children and young people and empower them to become agents of change in climate action.
	4. Strengthen social protection programs for vulnerable children and young people by providing them with essential support and resources to cope with the increasing risks and impacts associated with environmental degradation and climate-related disasters.
Syrian Refugees in Jordan	1. Improve access to safe and affordable housing which not only minimizes the environmental impact of displaced communities but also provides protection against the adverse consequences of climate change. This includes initiatives that support livelihoods and projects like solid waste management in Azraq with high participation from female labourers.
	2. Provide vocational training and employment opportunities for Syrian refugees while considering innovative approaches to involve young people in particular in greener and more sustainable agricultural practices.
	3. Enhance coordination between humanitarian agencies and local authorities to achieve improved resilience and adaptation measures, efficient resource allocation, and better support systems tailored to the specific needs of refugees in the face of environmental challenges.
	4. Promote community-based initiatives for waste management and renewable energy such as the use of organic waste for solar absorbers in desalination plants.
Iraq	1. Develop climate-resilient agricultural practices such as agroforestry, conservation agriculture, and Climate-Smart Agriculture (CSA) techniques, integrating trees, shrubs, and sustainable farming methods into crop and livestock systems
	2. Improve access to clean water and sanitation facilities by implementing rainwater harvesting systems in public buildings, greenhouses, and infrastructure incorporating Ecosystem Based Adaptation (EBA) strategies and landscape-based rainwater harvesting methods like ponds. This includes decentralized water purification and recycling systems that using advanced filtration technologies for low energy wastewater treatment
	3. Strengthen disaster preparedness and response mechanisms which involve developing and implementing climate-resilient infrastructure, early warning systems, and evacuation plans tailored to mitigate the effects of extreme weather events, such as floods, droughts, dust storms and heatwaves
	4. Invest in renewable energy infrastructure including the implementation of community-owned micro grids powered by a combination of solar energy sources to promote sustainable energy solutions and reduce carbon emissions.
occupied Palestinian territories	1. Expand educational opportunities and vocational training programs specifically tailored to the needs and aspirations of children and young people
	2. Empower children and young people to actively participate in community-based initiatives aimed at adapting to climate change impacts, such as tree planting projects and sustainable agriculture practices.
	3. Ensure access to comprehensive healthcare services, including mental health support to address the psychological impacts of climate change-related events.
	4. Advocate for the development and implementation of gender-responsive climate policies and programs that address the unique vulnerabilities and needs of girls and boys, promoting gender equality and inclusion in climate action efforts.

Table 2. Policy and Practice Recommendations for Climate Change Adaptation and Resilience in Lebanon, Syria, Jordan, Iraq and occupied Palestinian territories

VIII. Ethical Considerations

Ethical considerations were paramount throughout the research process, particularly regarding the protection and well-being of all participants, especially children and young people. A thorough informed consent process preceded data collection, wherein participants received detailed explanations of research objectives, procedures, potential risks and benefits, and their rights to voluntary participation and withdrawal. Consent forms were obtained from all participants, with additional consent sought from caregivers or legal guardians for children.

To uphold safeguarding principles, measures were enacted to ensure participants' physical and emotional safety. Unique identifiers were assigned to maintain confidentiality and anonymity, with personal information kept secure and accessible only to authorized researchers. Participants were assured that their responses would be respected and used solely for research purposes.

In cases where sensitive information or instances of harm or distress were uncovered, referral pathways were established to prioritize participants' well-being and mitigate potential harm. These processes aimed to uphold the highest standards of research integrity and respect for human rights, guided by internationally recognized ethical guidelines.

The research team remained dedicated to ethical practices throughout the research process, from data collection to analysis and dissemination of findings. By emphasizing informed consent, safeguarding measures, and referral protocols, the study aimed to protect participants' rights, dignity, and well-being while fostering an environment of trust and respect.



Children drinking from water tanks installed by World Vision Syria Response in Syria after recurring waves of drought. – Photo by World Vision Syria Response partner, Action For Humanity.

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X. Annex

Program response	Iraq		Lebanon		Syria		Jordan		JWG	
	Child	Young	Child	Young	Child	Young	Child	Young	Child	Young
1. Disaster Risk Reduction (DRR)	x	x	x	x	x	x	x	x	x	x
2. Community climate education awareness & empower positive collective action	x	x	x	x	x	x	x	x	x	x
3. Poverty reduction programming	x	x	x	x	x		x	x	x	x
4. Climate resilient primary services: water / education	x		x		x	x	x		x	x
5. Gender equality and social inclusion (GESI)	x	x	x	x	x				x	
6. Child protection and social inclusion	x		x		x		x			
7. Food Security and nutrition sensitive agriculture	x		x		x		x		x	
8. Clean air zone programming	x						x		x	
9. Improving public health capacity in climate related disease			x		x	x				
10. Disability-inclusive protection programming							x			
11. Violence prevention programming			x				x			
12. Climate resilient livelihood		x		x		x		x		x
13. Climate Smart Agriculture (CSA)	x		x		x		x		x	
14. Financial inclusions program		x		x		x		x		x
15. Faith integrated psychosocial support		x								



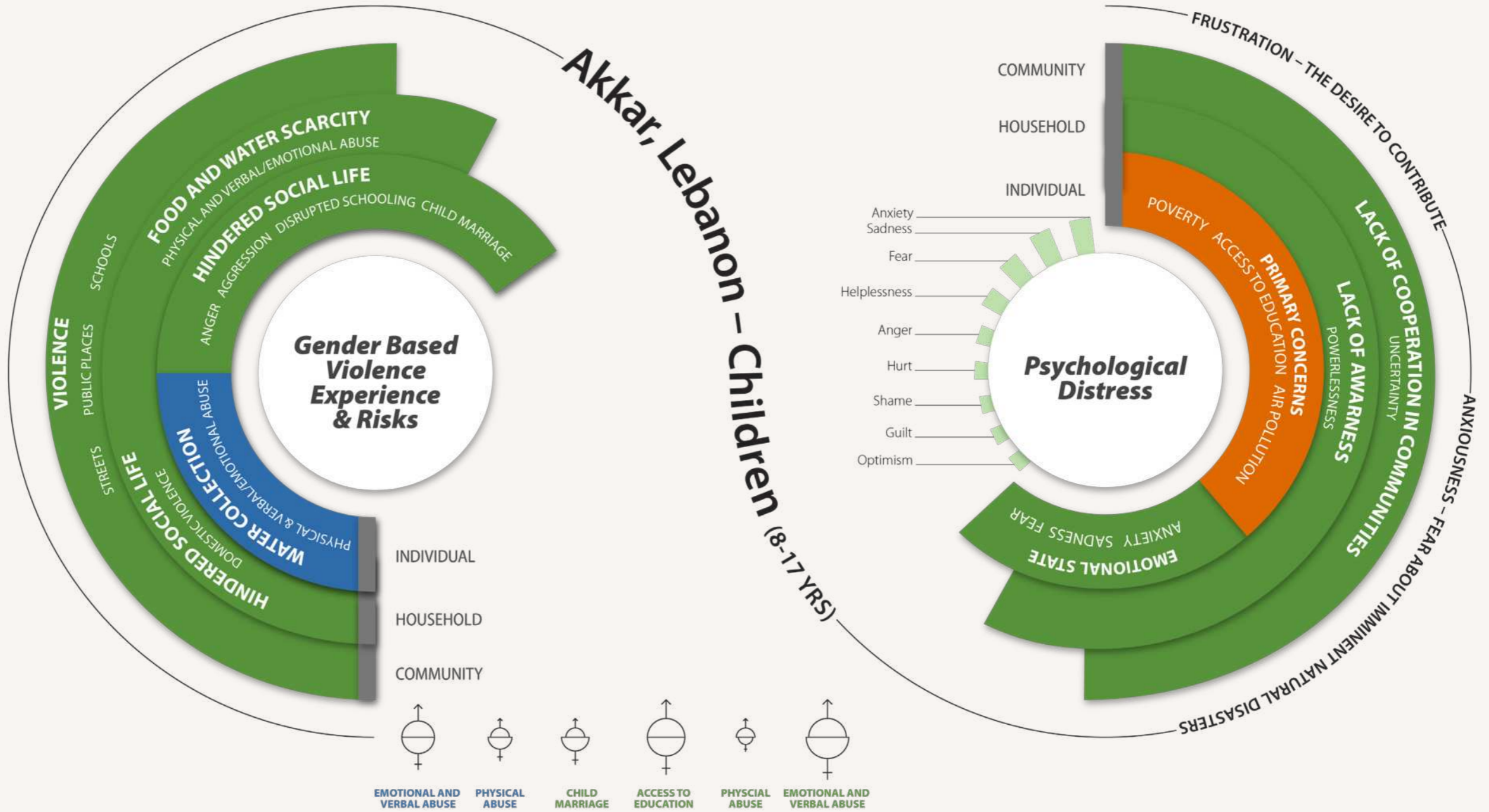


Program Response	
<ul style="list-style-type: none"> - Disaster Risk Reduction (DRR) - Community climate education awareness & empower positive collective action - Poverty reduction programming - Climate resilient primary services: water / education - Gender equality and social inclusion (GESI) 	<ul style="list-style-type: none"> - Child protection and social inclusion - Food Security and nutrition sensitive agriculture - Improving public health capacity in climate related disease - Violence prevention programming - Climate Smart Agriculture (CSA)

- Extreme Heat
- Drought
- Floods
- Water Scarcity
- Economic Stress
- Social Disruption

LEGEND

- Perception
- Observation
- Perception/Observation /Previous Experience



Mental Health and Psychosocial Wellbeing Repercussions of Climate Change Mental Model of Children (8-17 years old) in Akkar, Lebanon

Akkar, Lebanon – Children (8-17 YRS)



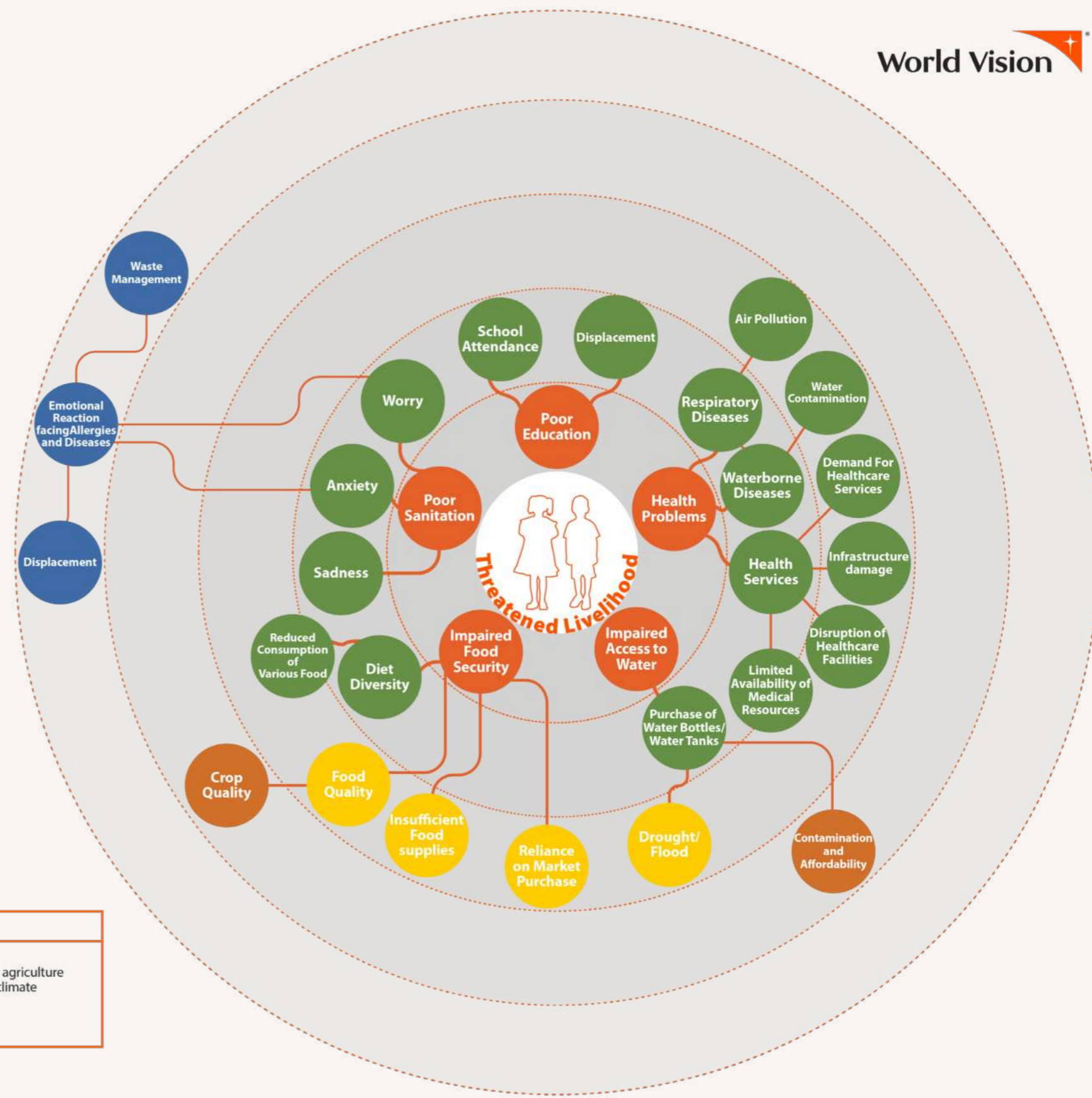
LEGEND

- Main Tangible Repercussion Themes
- Perception
- Previous Experience
- Perception/Observation /Previous Experience

Intensity of Experience

Low High

Program Response	
<ul style="list-style-type: none"> - Disaster Risk Reduction (DRR) - Community climate education awareness & empower positive collective action - Poverty reduction programming - Climate resilient primary services: water / education - Gender equality and social inclusion (GESI) 	<ul style="list-style-type: none"> - Child protection and social inclusion - Food Security and nutrition sensitive agriculture - Improving public health capacity in climate related disease - Violence prevention programming - Climate Smart Agriculture (CSA)



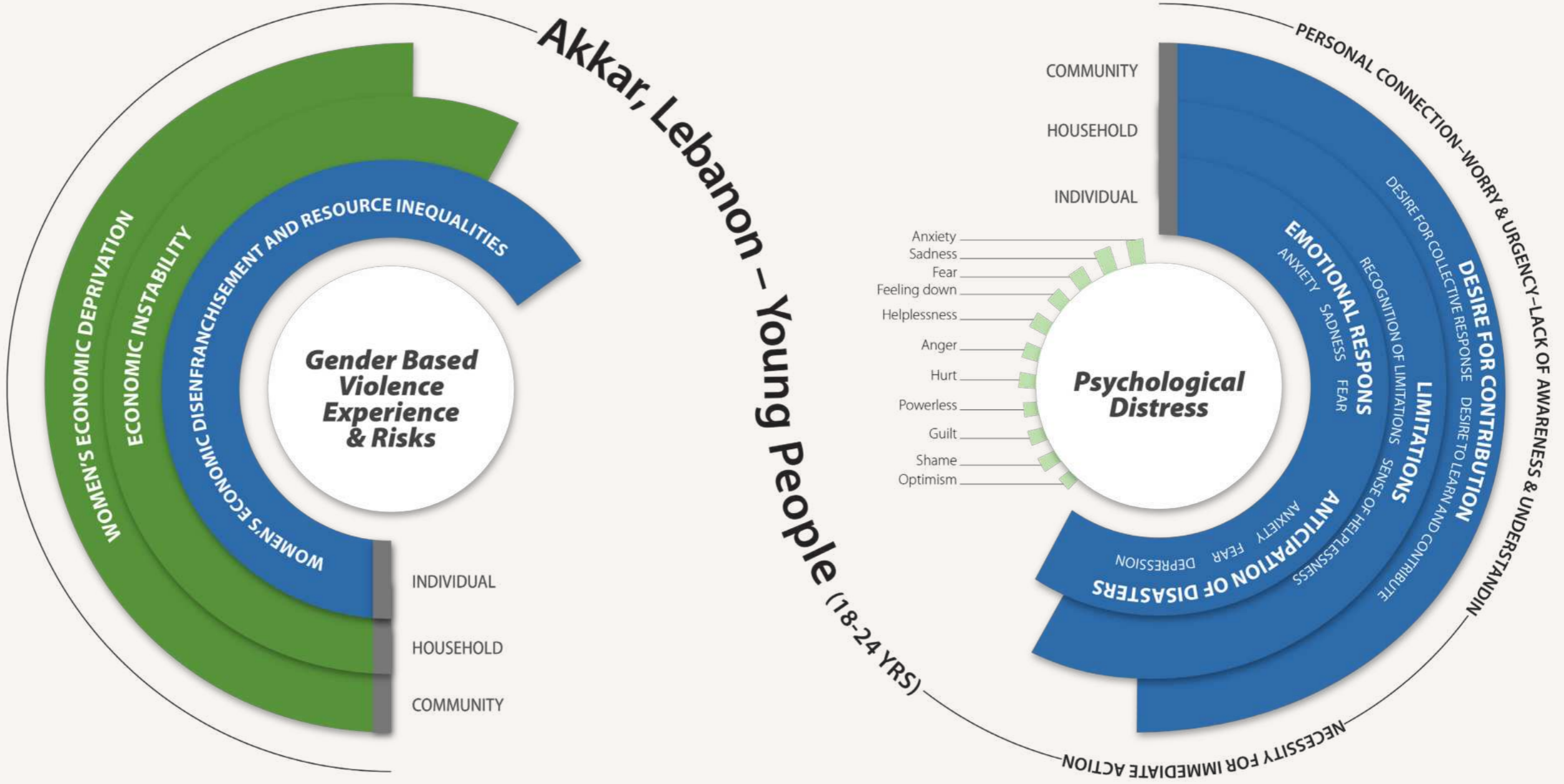
Tangible Repercussions of Climate Change Mental Model of Children (8-17 years old) in Akkar, Lebanon



Program Response	
<ul style="list-style-type: none"> - Disaster Risk Reduction (DRR) - Community climate education awareness & empower positive collective action - Poverty reduction programming 	<ul style="list-style-type: none"> - Gender equality and social inclusion (GESI) - Climate resilient livelihood - Financial inclusions program



- LEGEND**
- Perception
 - Perception/Observation /Previous Experience



Mental Health and Psychosocial Wellbeing Repercussions of Climate Change Mental Model of Young People (24-18 years old) in Akkar, Lebanon

Akkar, Lebanon – Young People (18-24 YRS)



Extreme Heat



Drought



Floods



Water Scarcity



Economic Stress



Social Disruption

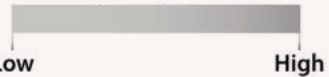
LEGEND

● Main Tangible Repercussion Themes

● Perception

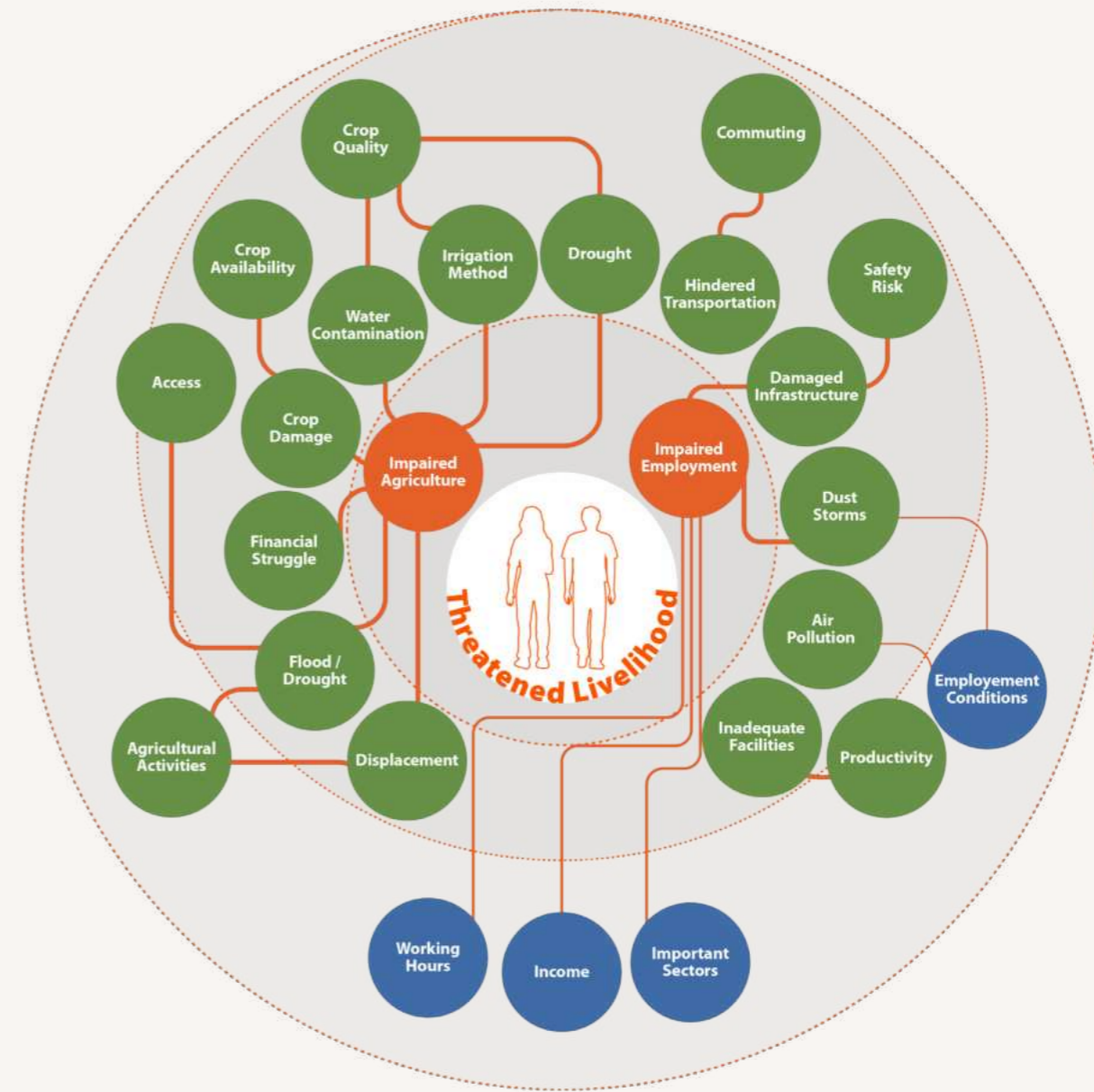
● Perception/Observation /Previous Experience

Intensity of Experience



Program Response

- | | |
|--|---|
| <ul style="list-style-type: none"> - Disaster Risk Reduction (DRR) - Community climate education awareness & empower positive collective action - Poverty reduction programming - Climate resilient primary services: water / education - Gender equality and social inclusion (GESI) | <ul style="list-style-type: none"> - Child protection and social inclusion - Food Security and nutrition sensitive agriculture - Improving public health capacity in climate related disease - Violence prevention programming - Climate Smart Agriculture (CSA) |
|--|---|



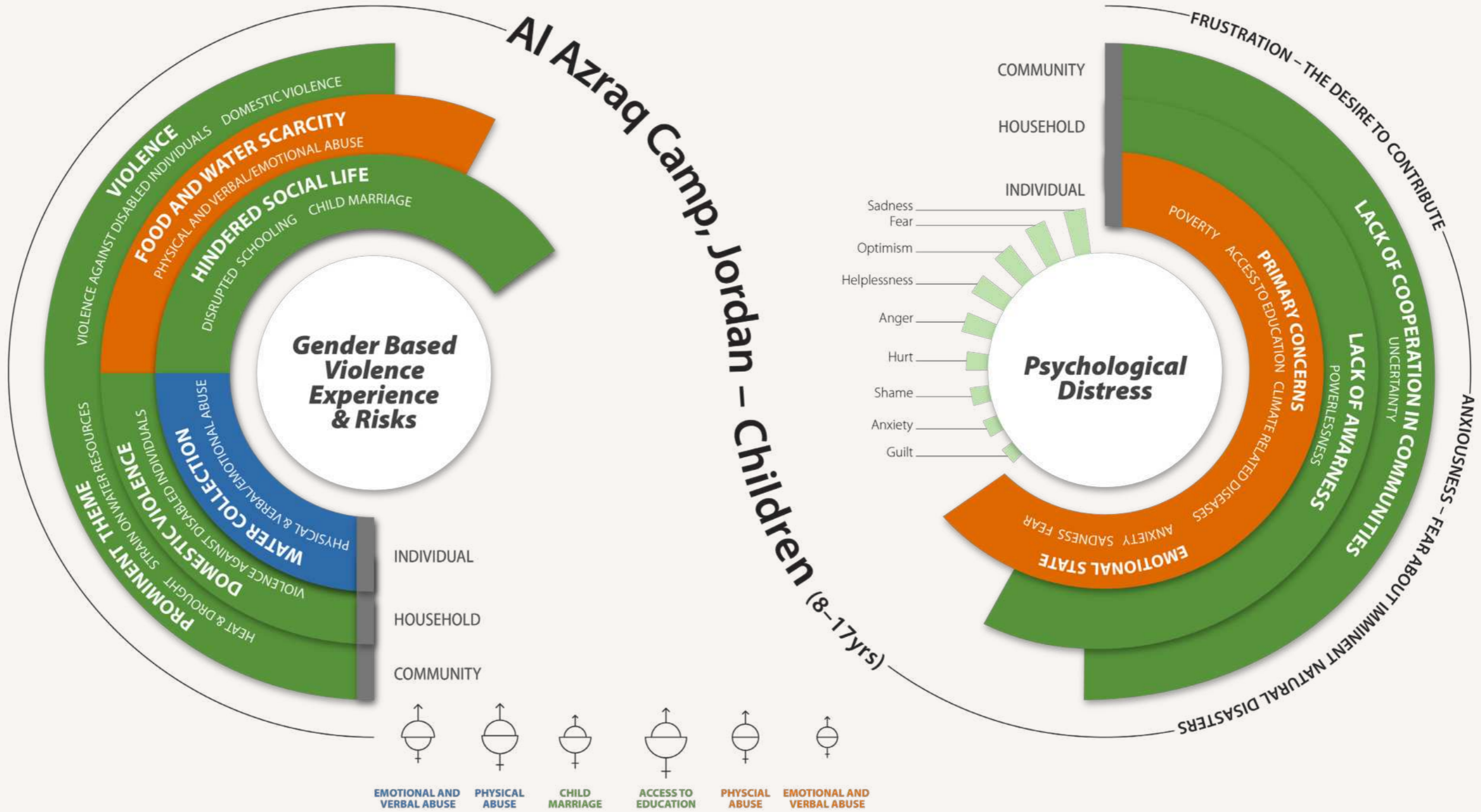
Tangible Repercussions of Climate Change Mental Model of Young People (18-24 years old) in Akkar, Lebanon



Program Response	
<ul style="list-style-type: none"> - Disaster Risk Reduction (DRR) - Community climate education awareness & empower positive collective action - Climate resilient primary services: water / education - Gender equality and social inclusion (GESI) - Child protection and social inclusion 	<ul style="list-style-type: none"> - Food Security and nutrition sensitive agriculture - Clean air zone programming - Disability-inclusive protection programming - Violence prevention programming - Climate Smart Agriculture (CSA)

- Extreme Heat
- Water Scarcity
- Economic Stress
- Social Disruption

- LEGEND**
- Perception
 - Observation
 - Perception/Observation /Previous Experience



Mental Health and Psychosocial Wellbeing Repercussions of Climate Change Mental Model of Children (8-17 years old) in Al Azraq Camp, Jordan

Al Azraq Camp, Jordan – Children (8–17yrs)



-  Extreme Heat
-  Water Scarcity
-  Economic Stress
-  Social Disruption

LEGEND

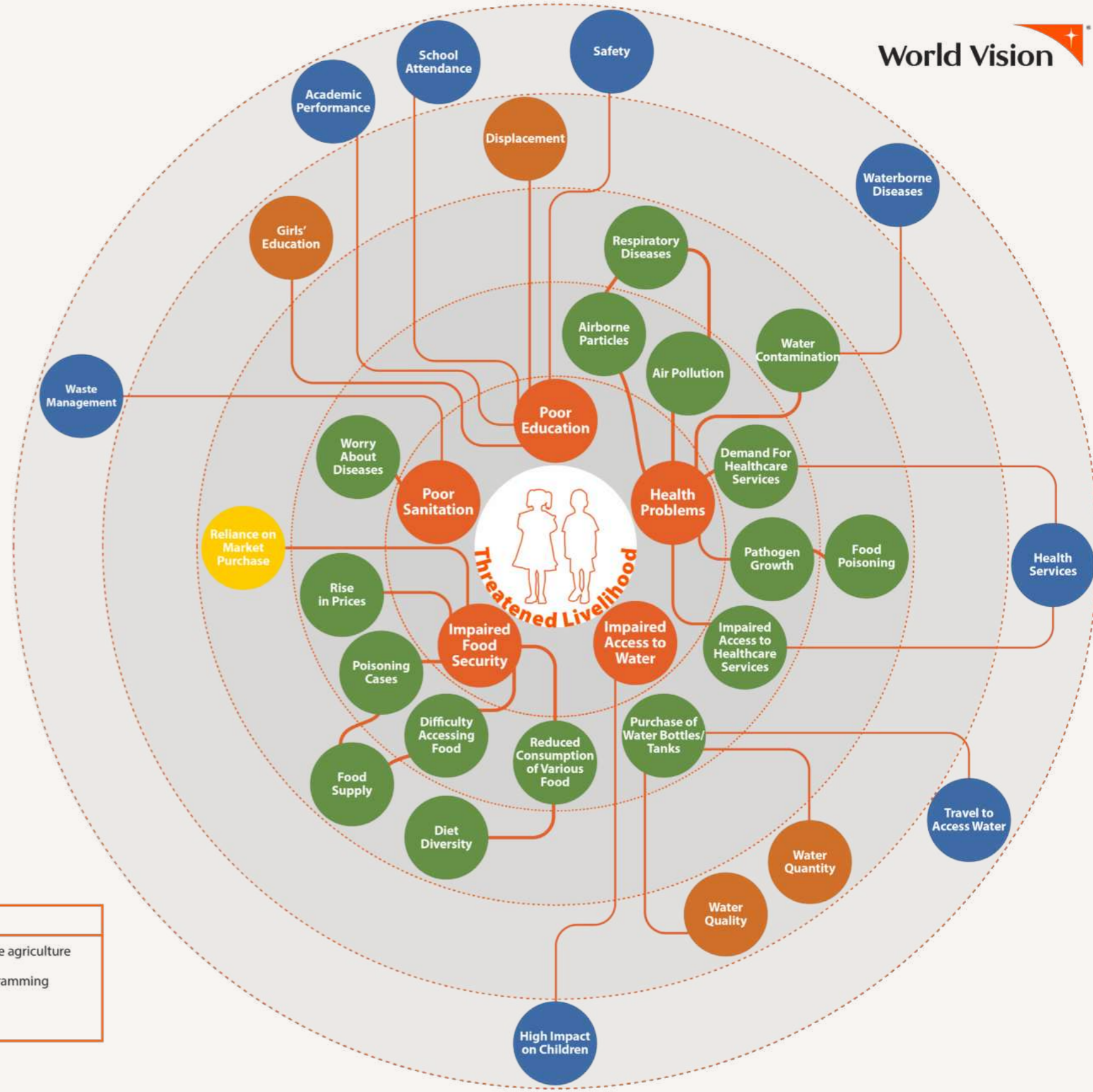
- Main Tangible Repercussion Themes
- Perception
- Previous Experience
- Observation
- Perception/Observation /Previous Experience

Intensity of Experience

ow

High

Program Response	
<ul style="list-style-type: none"> – Disaster Risk Reduction (DRR) – Community climate education awareness & empower positive collective action – Climate resilient primary services: water / education – Gender equality and social inclusion (GESI) – Child protection and social inclusion 	<ul style="list-style-type: none"> – Food Security and nutrition sensitive agriculture – Clean air zone programming – Disability-inclusive protection programming – Violence prevention programming – Climate Smart Agriculture (CSA)



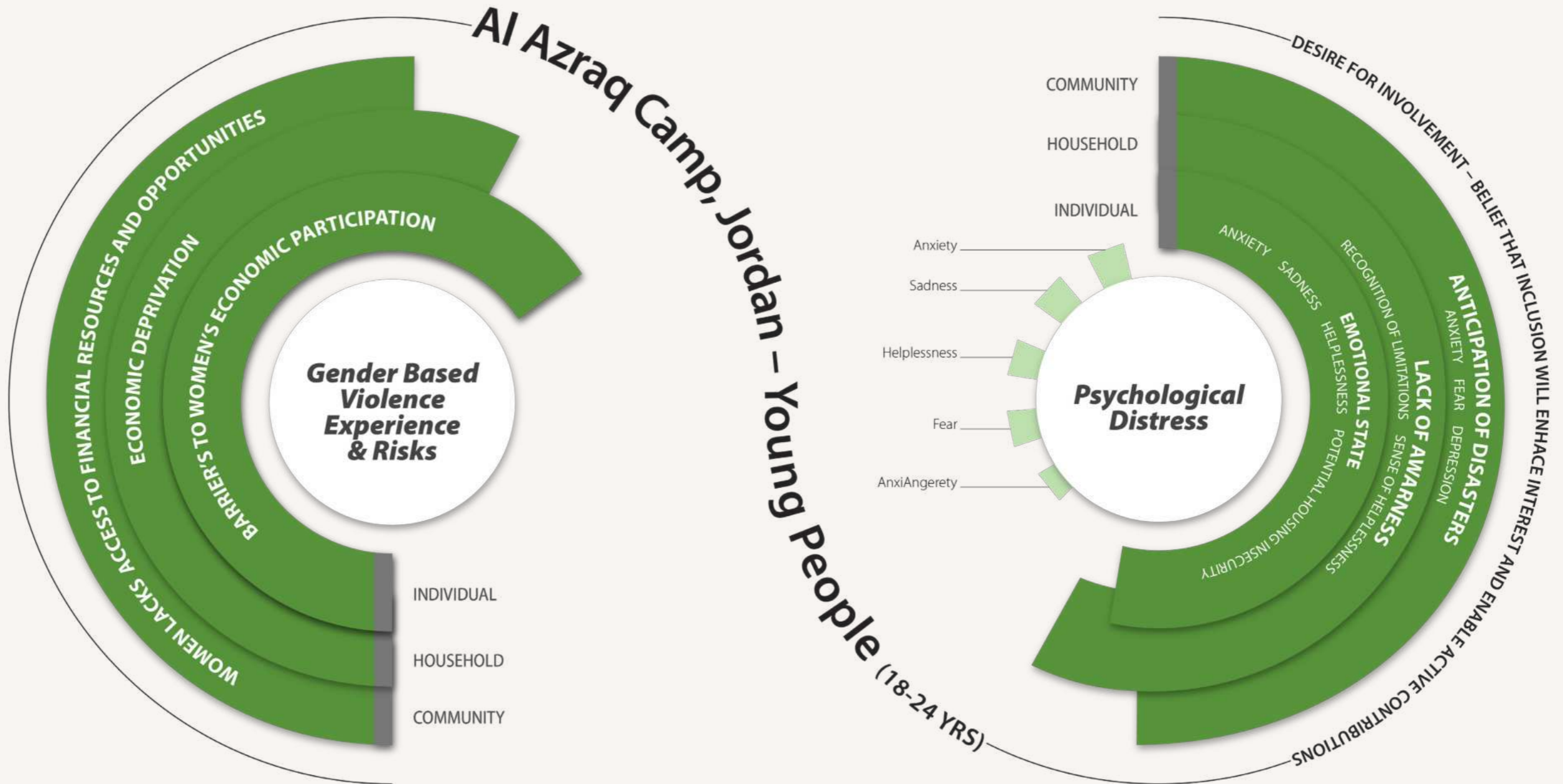
Tangible Repercussions of Climate Change Mental Model of Children (8-17 years old) in Al Azraq Camp, Jordan



Program Response	
<ul style="list-style-type: none"> - Disaster Risk Reduction (DRR) - Community climate education awareness & empower positive collective action - Poverty reduction programming 	<ul style="list-style-type: none"> - Gender equality and social inclusion (GESI) - Climate resilient livelihood - Financial inclusions program

- Extreme Heat
- Water Scarcity
- Economic Stress
- Social Disruption

LEGEND
 Perception/Observation /Previous Experience



Mental Health and Psychosocial Wellbeing Repercussions of Climate Change Mental Model of Young People (18-24 years old) in Al Azraq Camp, Jordan

Al Azraq Camp, Jordan – Young People (18-24 YRS)



Extreme Heat



Water Scarcity



Economic Stress



Social Disruption

LEGEND

● Main Tangible Repercussion Themes

● Perception

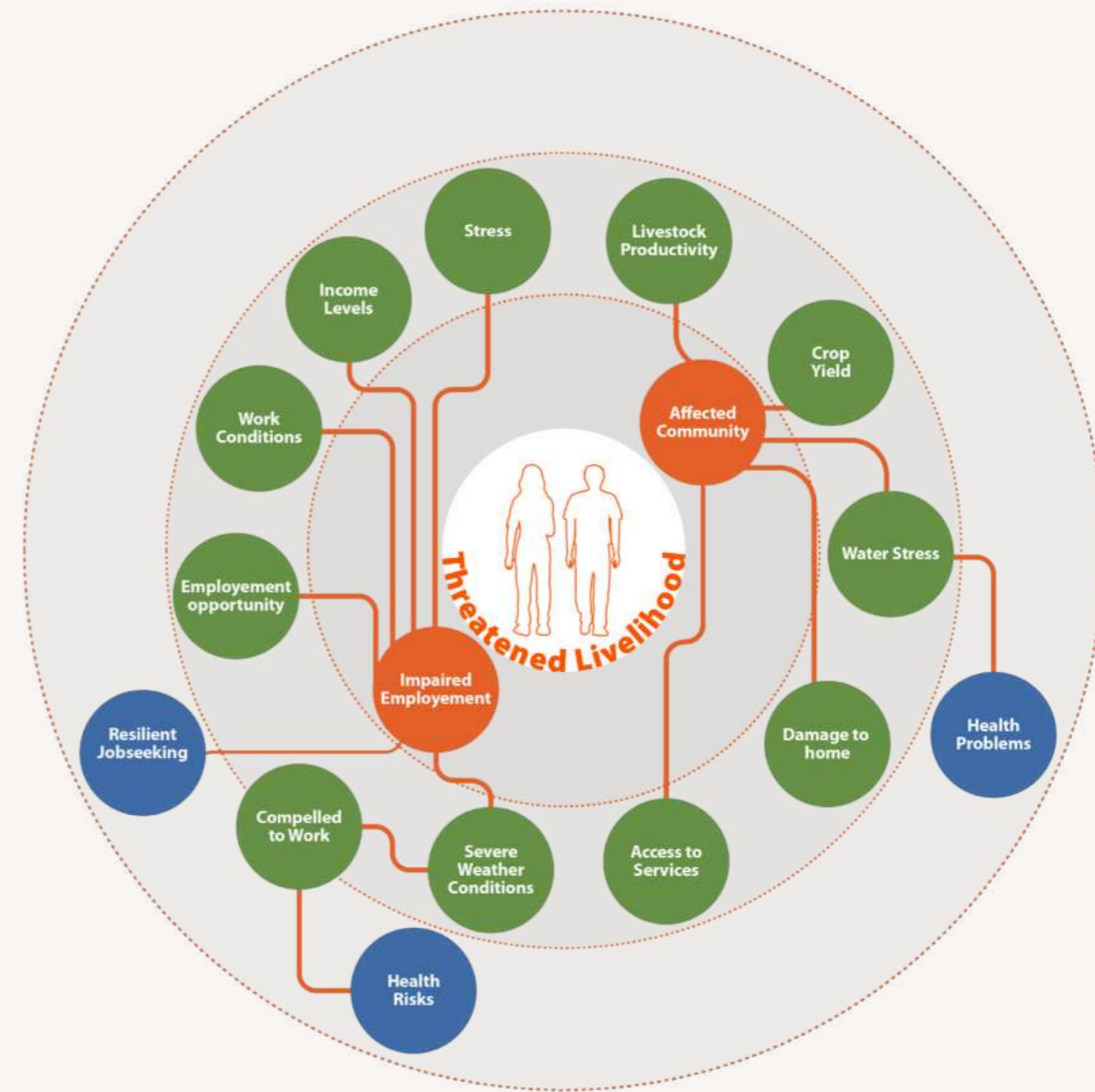
● Perception/Observation /Previous Experience

Intensity of Experience



Program Response

- | | |
|--|--|
| <ul style="list-style-type: none"> - Disaster Risk Reduction (DRR) - Community climate education awareness & empower positive collective action - Climate resilient primary services: water / education - Gender equality and social inclusion (GESI) - Child protection and social inclusion | <ul style="list-style-type: none"> - Food Security and nutrition sensitive agriculture - Clean air zone programming - Disability-inclusive protection programming - Violence prevention programming - Climate Smart Agriculture (CSA) |
|--|--|



Tangible Repercussions of Climate Change Mental Model of Young People (18-24 years old) in Al Azraq Camp, Jordan

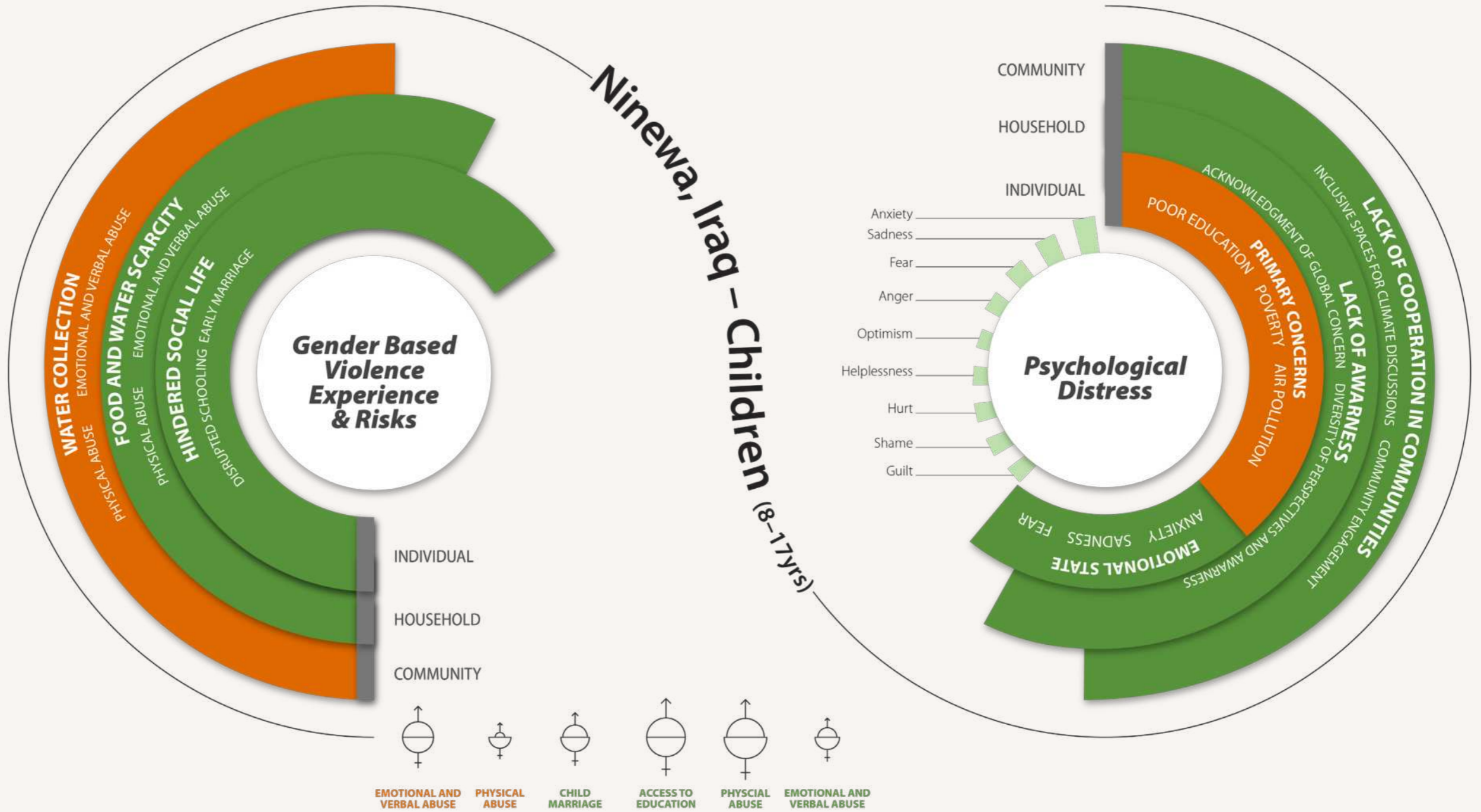


Program Response	
<ul style="list-style-type: none"> - Disaster Risk Reduction (DRR) - Community climate education awareness & empower positive collective action - Poverty reduction programming - Climate resilient primary services: water / education 	<ul style="list-style-type: none"> - Gender equality and social inclusion (GESI) - Child protection and social inclusion - Food Security and nutrition sensitive agriculture - Clean air zone programming - Climate Smart Agriculture (CSA)

- Drought
- Floods
- Water Scarcity
- Economic Stress
- Social Disruption

LEGEND

- Observation
- Perception/Observation /Previous Experience



Mental Health and Psychosocial Wellbeing Repercussions of Climate Change Mental Model of Children (8-17 years old) in Ninewa, Iraq

Ninewa, Iraq – Children (8–17yrs)

- Drought
- Floods
- Water Scarcity
- Economic Stress
- Social Disruption

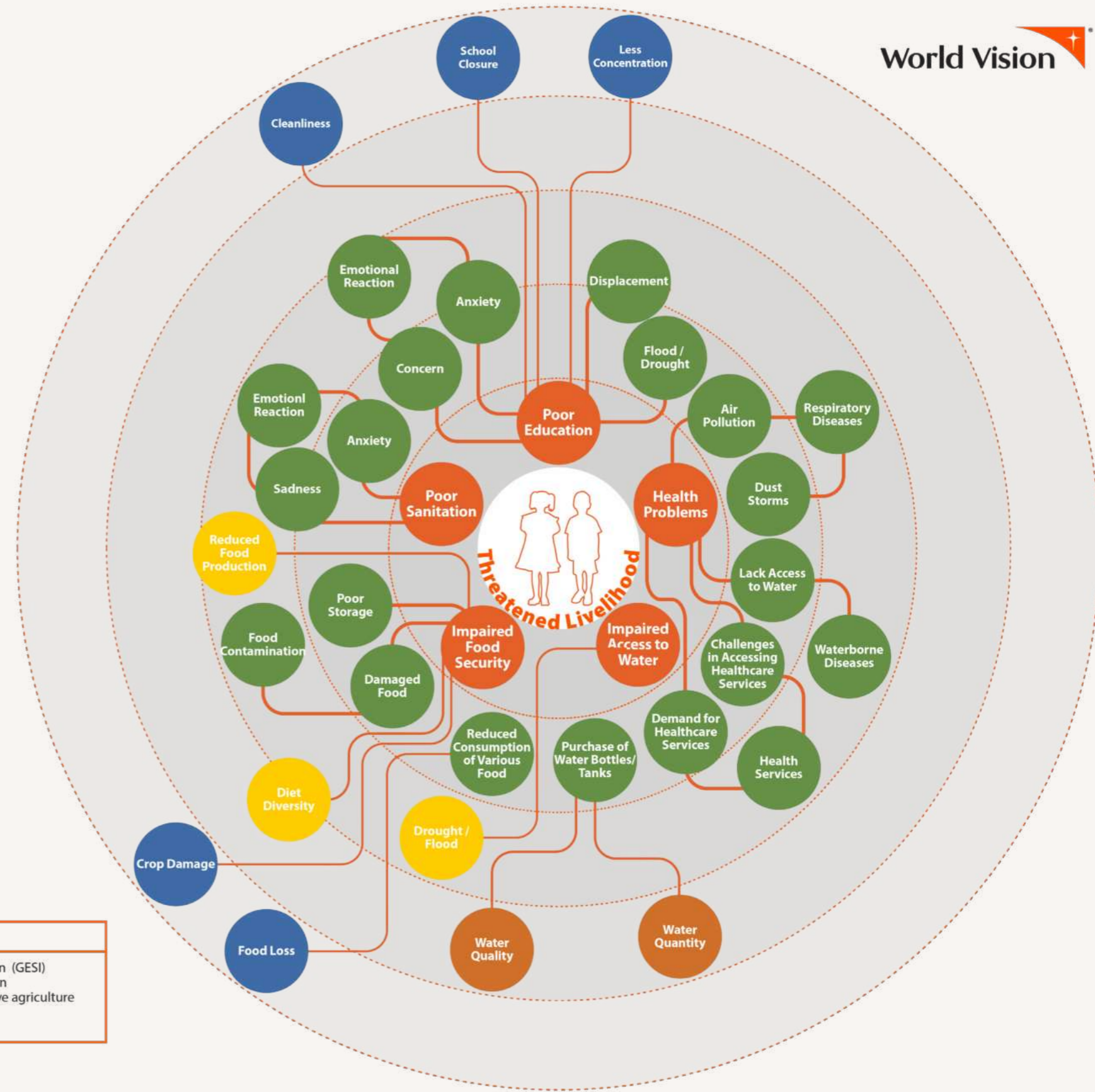
LEGEND

- Main Tangible Repercussion Themes
- Perception
- Previous Experience
- Observation
- Perception/Observation /Previous Experience

Intensity of Experience

Low High

Program Response	
<ul style="list-style-type: none"> - Disaster Risk Reduction (DRR) - Community climate education awareness & empower positive collective action - Poverty reduction programming - Climate resilient primary services: water / education 	<ul style="list-style-type: none"> - Gender equality and social inclusion (GESI) - Child protection and social inclusion - Food Security and nutrition sensitive agriculture - Clean air zone programming - Climate Smart Agriculture (CSA)



Tangible Repercussions of Climate Change Mental Model of Children (8-17 years old) in Ninewa, Iraq

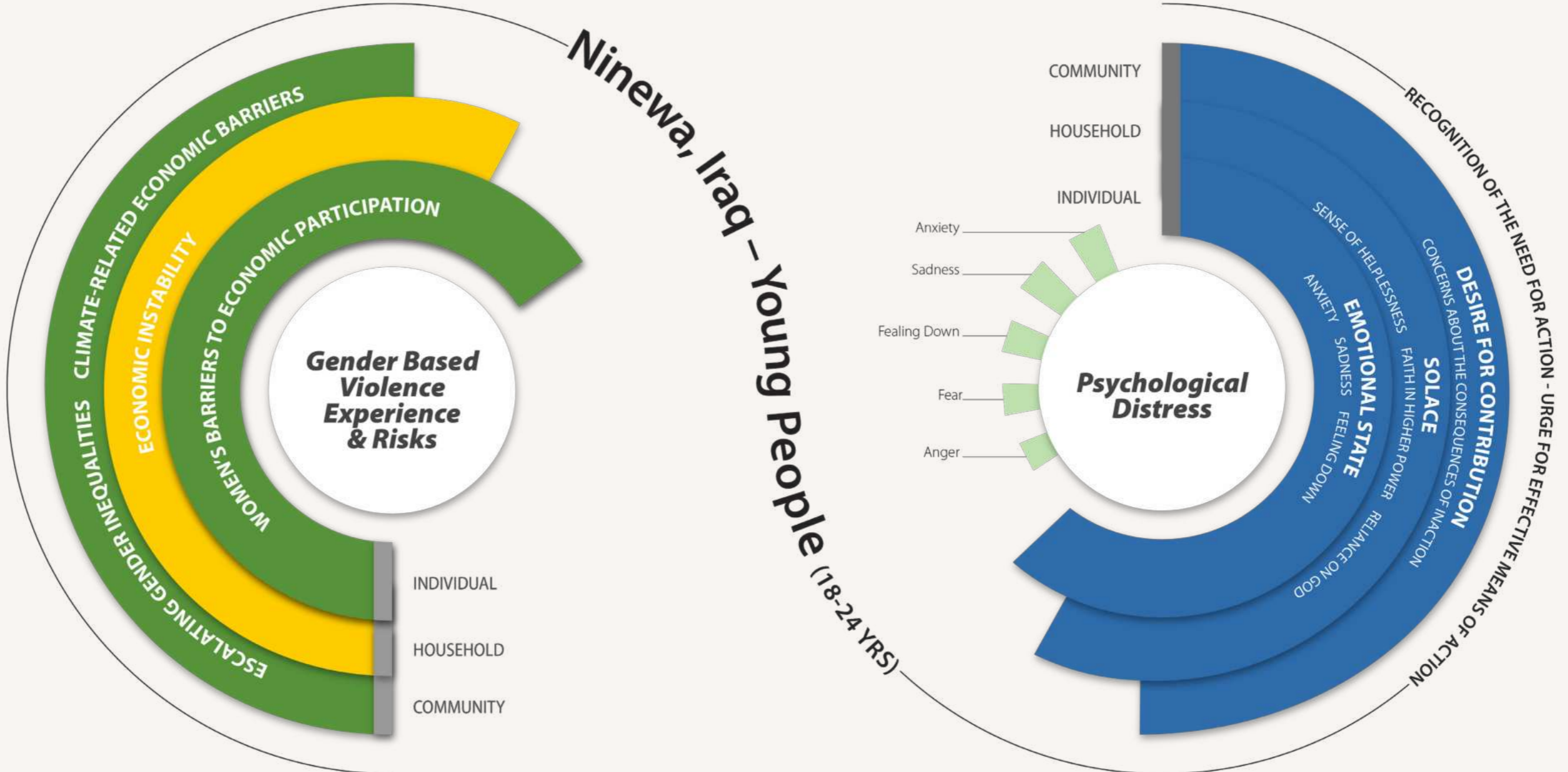


Program Response	
<ul style="list-style-type: none"> - Disaster Risk Reduction (DRR) - Community climate education awareness & empower positive collective action - Poverty reduction programming - Gender equality and social inclusion (GESI) 	<ul style="list-style-type: none"> - Climate resilient livelihood - Financial inclusions program - Faith integrated psychosocial support

- Drought
- Floods
- Water Scarcity
- Economic Stress
- Social Disruption

LEGEND

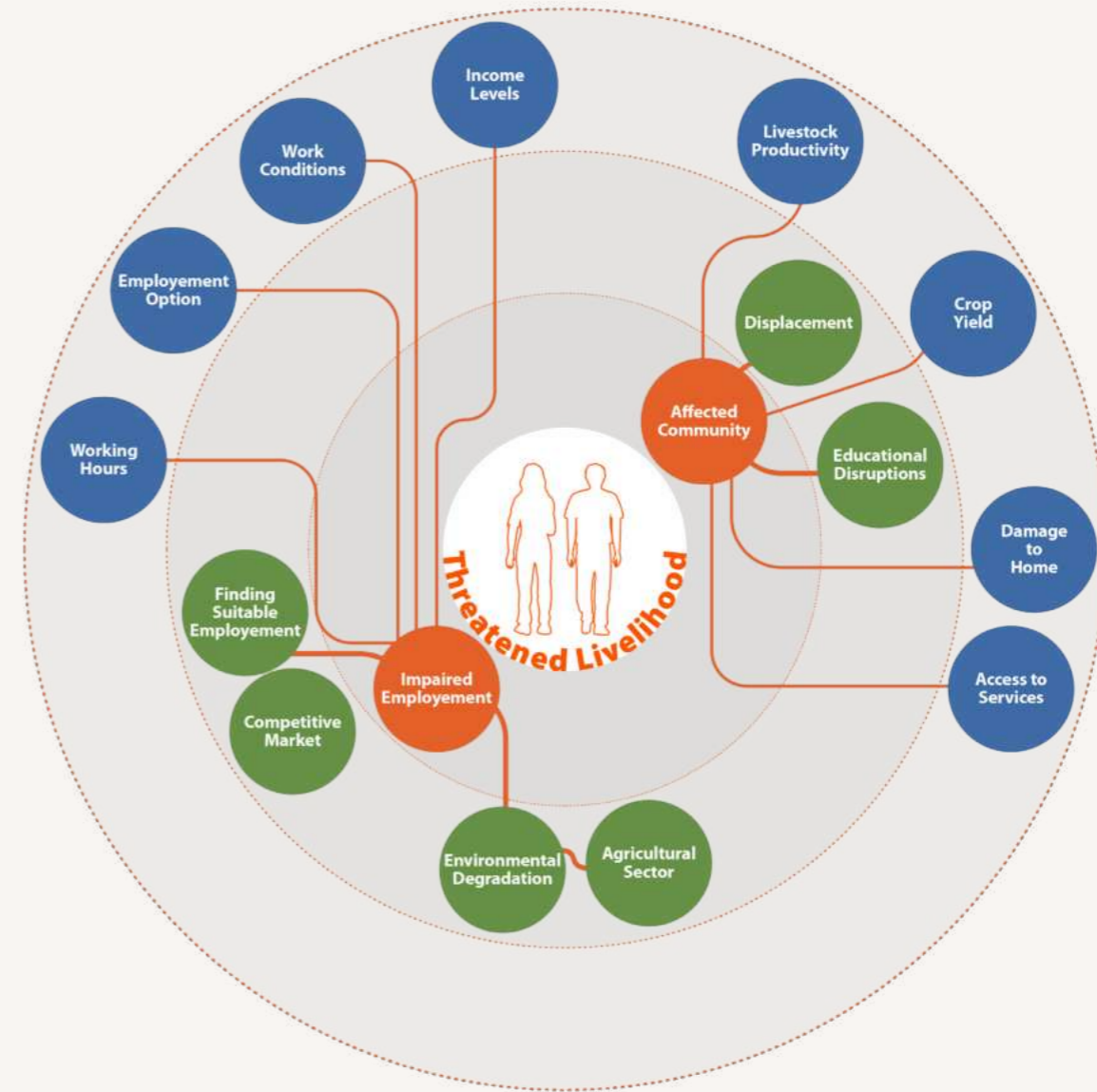
- Perception
- Previous Experience
- Perception/Observation /Previous Experience



Mental Health and Psychosocial Wellbeing Repercussions of Climate Change Mental Model of Young People (24-18 years old) in Ninewa, Iraq

Ninewa, Iraq – Young People (18-24 years)

-  Drought
-  Floods
-  Water Scarcity
-  Economic Stress
-  Social Disruption



LEGEND

- Main Tangible Repercussion Themes
- Perception
- Perception/Observation /Previous Experience

Intensity of Experience

Low High

Program Response	
<ul style="list-style-type: none"> - Disaster Risk Reduction (DRR) - Community climate education awareness & empower positive collective action - Poverty reduction programming - Climate resilient primary services: water / education 	<ul style="list-style-type: none"> - Gender equality and social inclusion (GESI) - Child protection and social inclusion - Food Security and nutrition sensitive agriculture - Clean air zone programming - Climate Smart Agriculture (CSA)

Tangible Repercussions of Climate Change Mental Model of Young People (24-18 years old) in Ninewa, Iraq

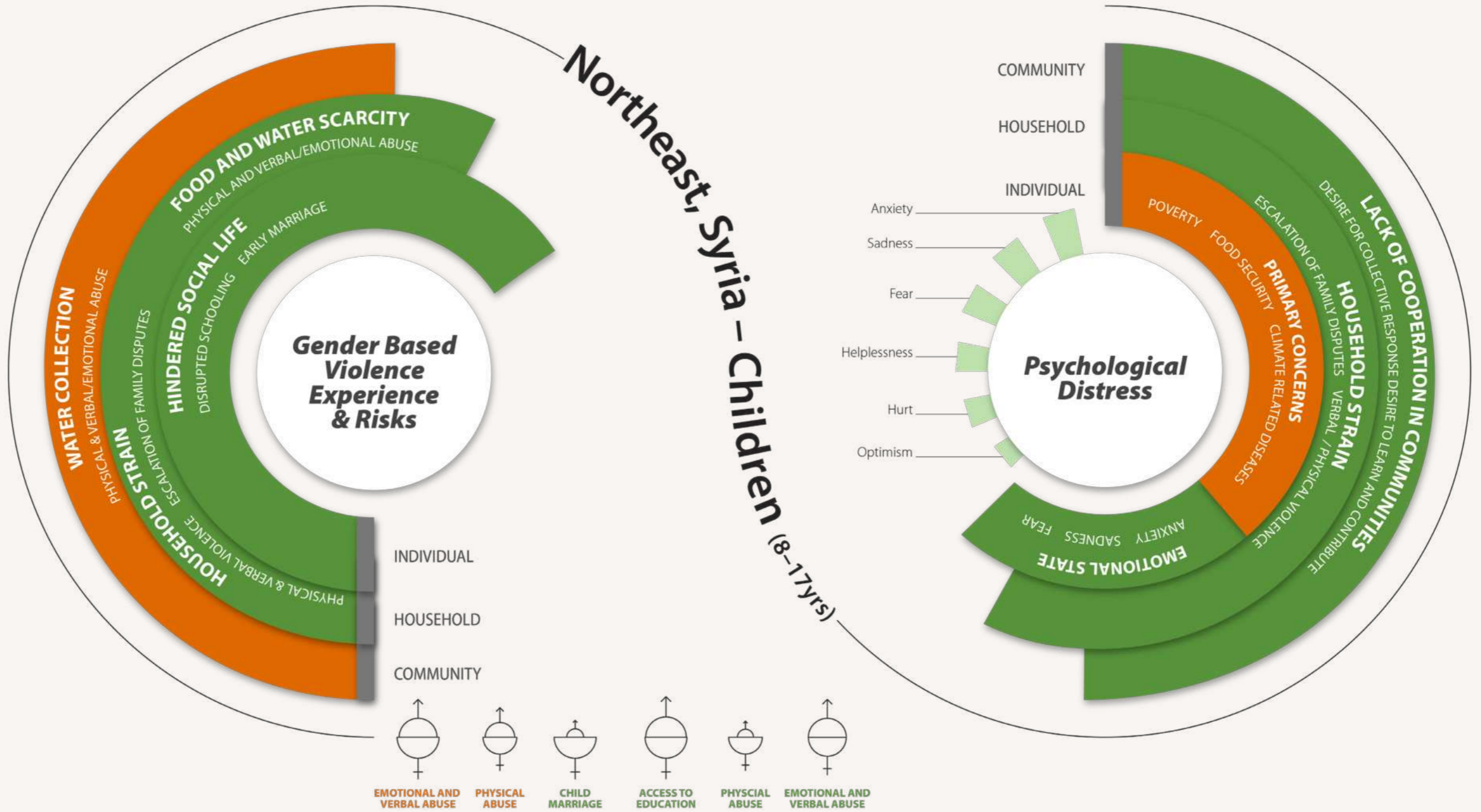


Program Response	
<ul style="list-style-type: none"> - Disaster Risk Reduction (DRR) - Community climate education awareness & empower positive collective action - Poverty reduction programming - Climate resilient primary services: water / education - Gender equality and social inclusion (GESI) 	<ul style="list-style-type: none"> - Child protection and social inclusion - Food Security and nutrition sensitive agriculture - Improving public health capacity in climate related disease - Climate Smart Agriculture (CSA)

- Dust Storm
- Water Scarcity
- Economic Stress
- Social Disruption

LEGEND

- Observation
- Perception/Observation /Previous Experience



Mental Health and Psychosocial Wellbeing Repercussions of Climate Change Mental Model of Children (8-17 years old) in Northeast, Syria

Northeast, Syria – Children (8–17yrs)



-  Dust Storm
-  Water Scarcity
-  Economic Stress
-  Social Disruption

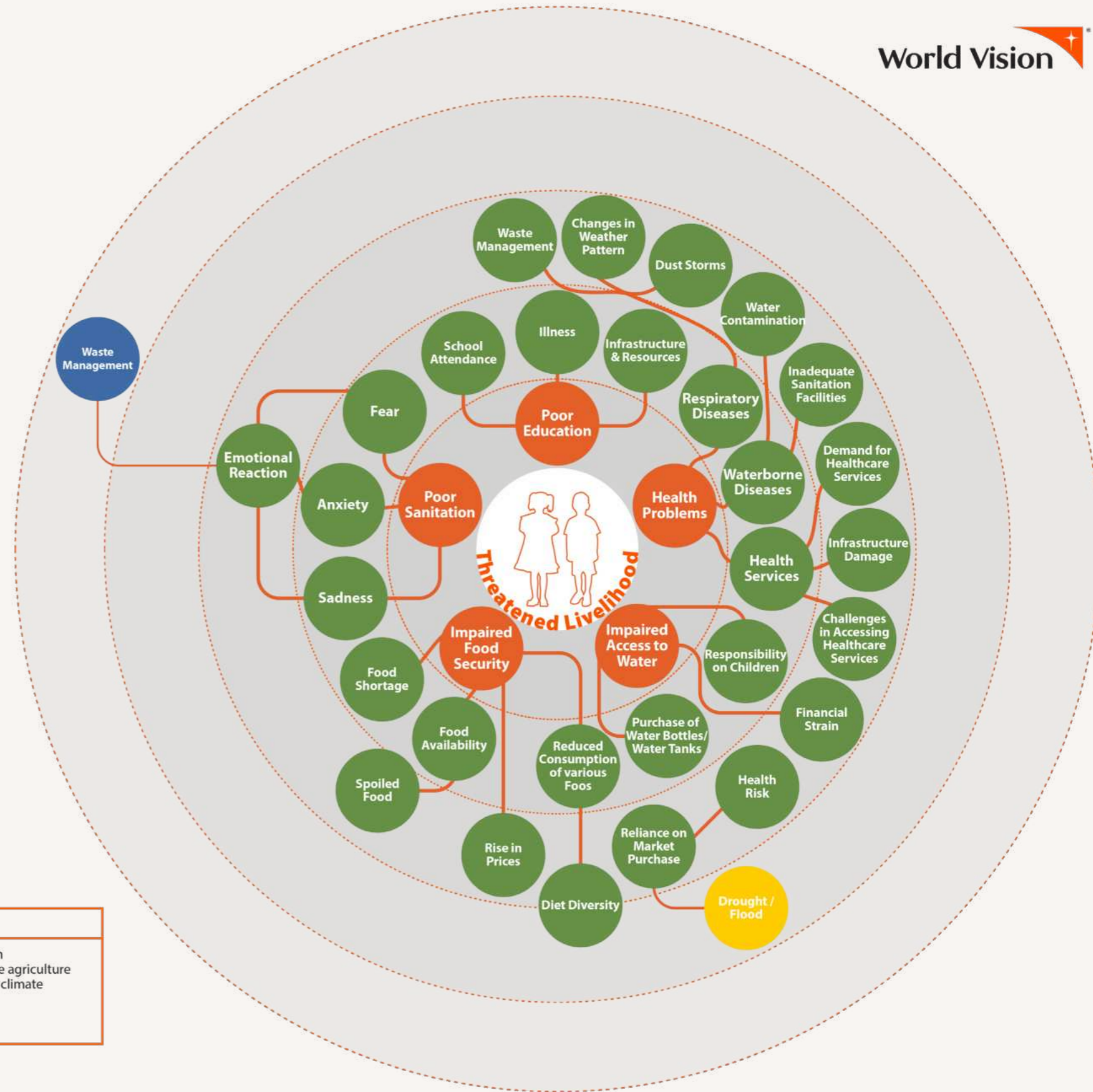
LEGEND

- Main Tangible Repercussion Themes
- Perception
- Previous Experience
- Perception/Observation /Previous Experience

Intensity of Experience

Low High

Program Response	
<ul style="list-style-type: none"> - Disaster Risk Reduction (DRR) - Community climate education awareness & empower positive collective action - Poverty reduction programming - Climate resilient primary services: water / education - Gender equality and social inclusion (GESI) 	<ul style="list-style-type: none"> - Child protection and social inclusion - Food Security and nutrition sensitive agriculture - Improving public health capacity in climate related disease - Climate Smart Agriculture (CSA)



Tangible Repercussions of Climate Change Mental Model of Children (8-17 years old) in Northeast, Syria

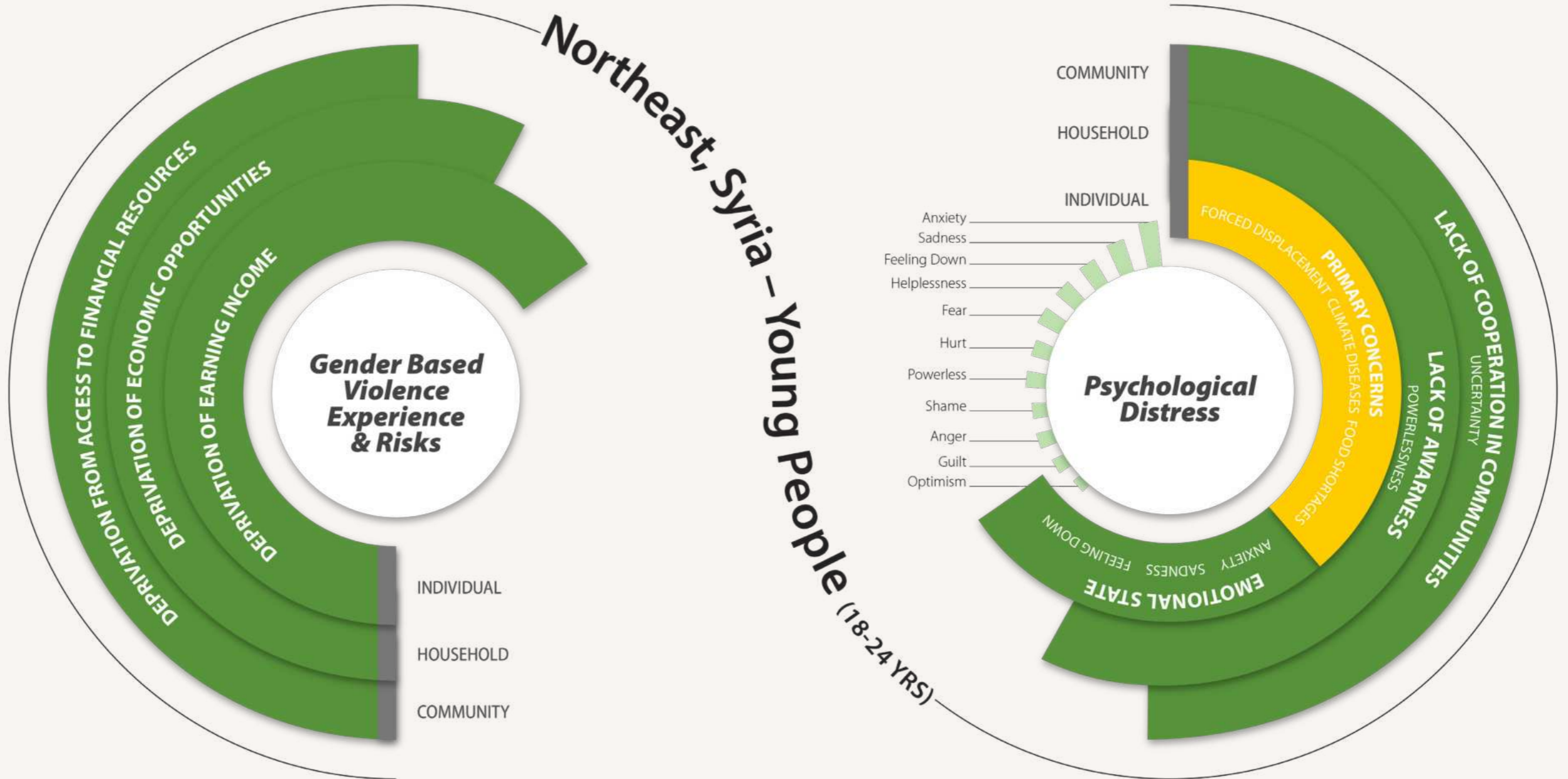


Program Response	
<ul style="list-style-type: none"> - Disaster Risk Reduction (DRR) - Community climate education awareness & empower positive collective action - Poverty reduction programming - Climate resilient primary services: water / education 	<ul style="list-style-type: none"> - Improving public health capacity in climate related disease - Climate resilient livelihood - Financial inclusions program

- Dust Storm
- Water Scarcity
- Economic Stress
- Social Disruption

LEGEND

- Previous Experience
- Perception/Observation /Previous Experience

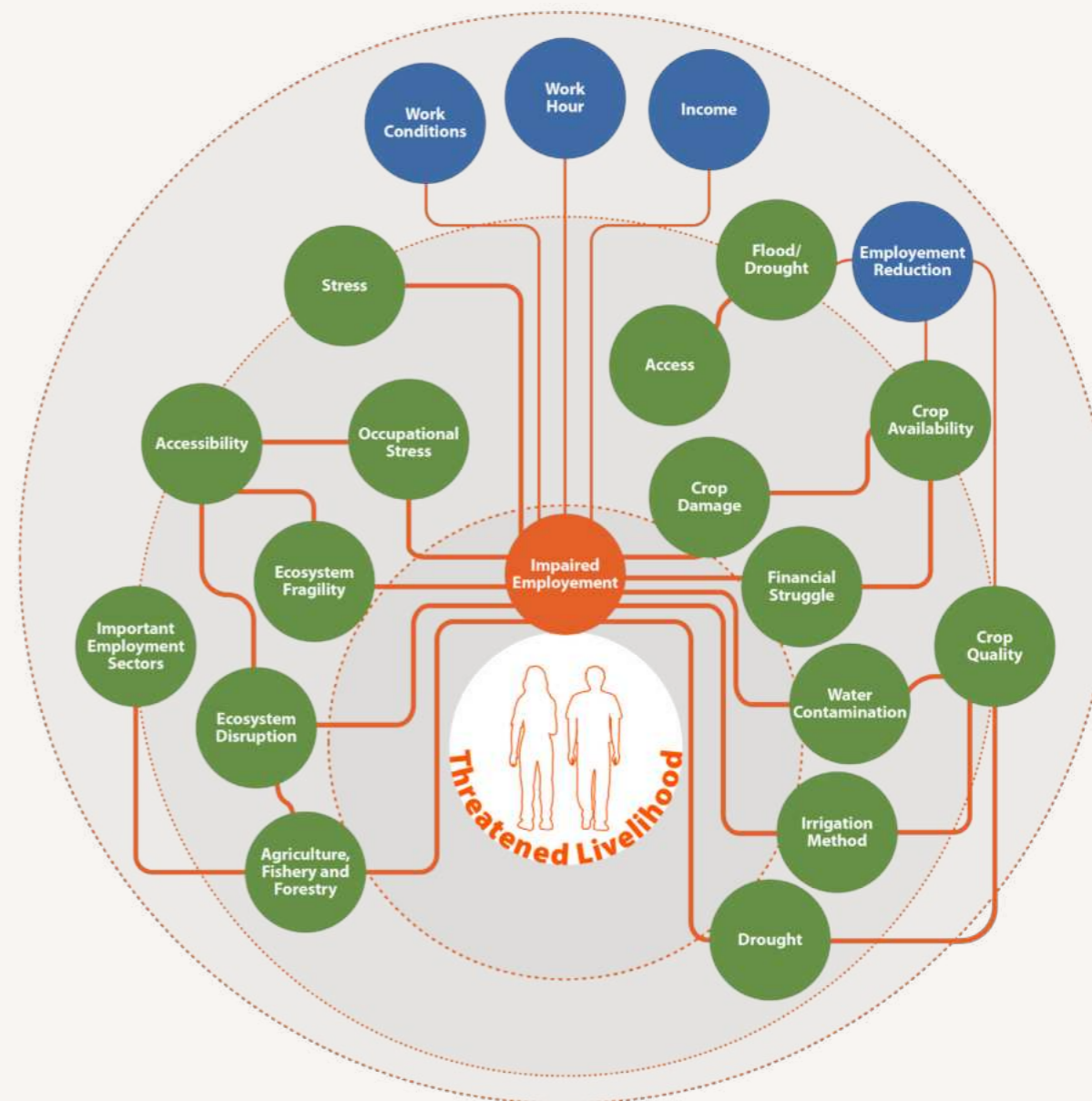


Mental Health and Psychosocial Wellbeing Repercussions of Climate Change Mental Model of Young People (18-24 years old) in Northeast, Syria

Northeast, Syria – Young People (18-24 YRS)



-  Dust Storm
-  Water Scarcity
-  Economic Stress
-  Social Disruption



- LEGEND**
- Main Tangible Repercussion Themes
 - Perception
 - Perception/Observation /Previous Experience
- Intensity of Experience**
- Low High

Program Response	
<ul style="list-style-type: none"> - Disaster Risk Reduction (DRR) - Community climate education awareness & empower positive collective action - Poverty reduction programming - Climate resilient primary services: water / education - Gender equality and social inclusion (GESI) 	<ul style="list-style-type: none"> - Child protection and social inclusion - Food Security and nutrition sensitive agriculture - Improving public health capacity in climate related disease - Climate Smart Agriculture (CSA)

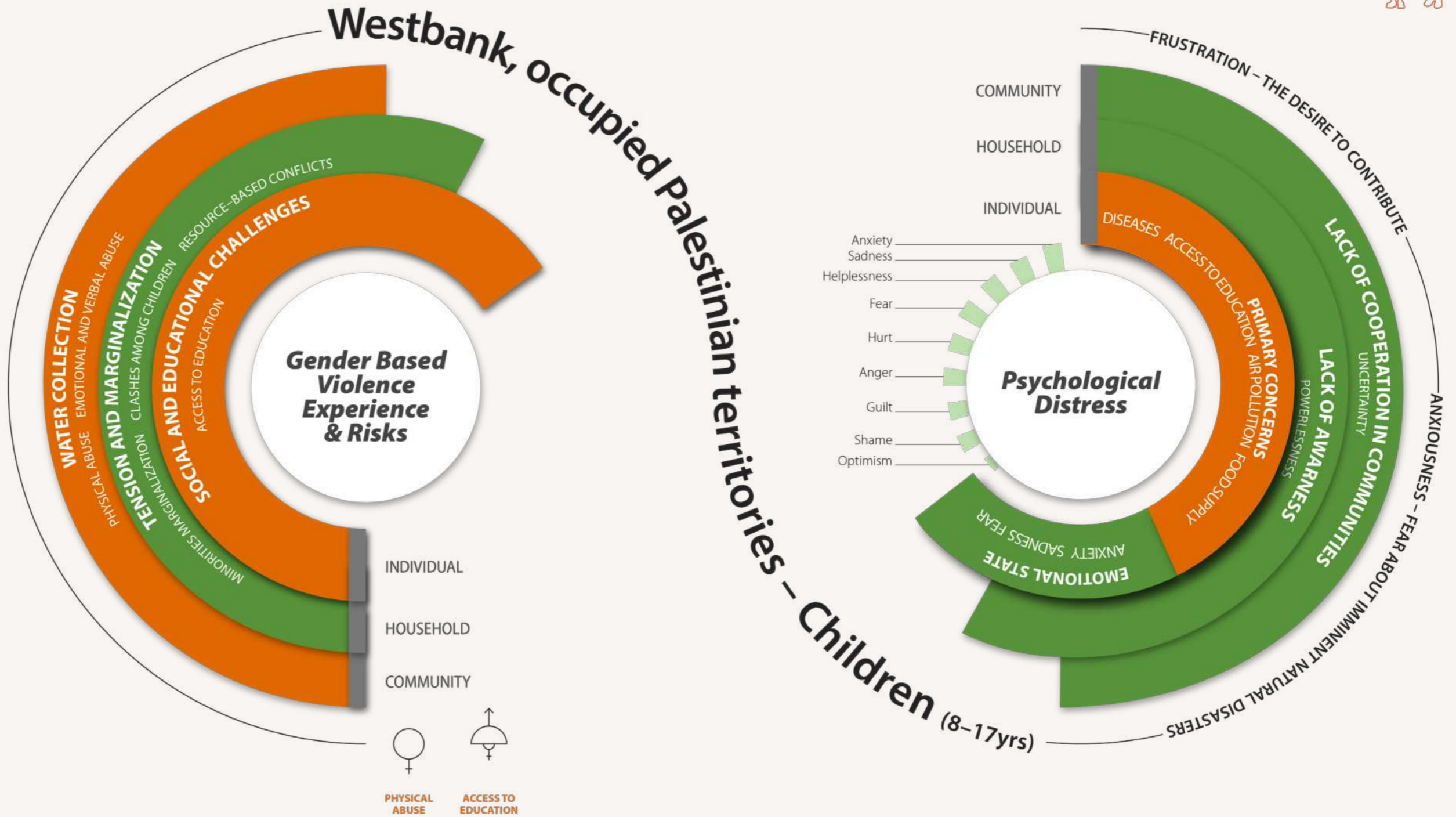
Tangible Repercussions of Climate Change Mental Model of Young People (24-18 years old) in Northeast, Syria



Program Response	
<ul style="list-style-type: none"> - Disaster Risk Reduction (DRR) - Community climate education awareness & empower positive collective action - Poverty reduction programming - Climate resilient primary services: water / education 	<ul style="list-style-type: none"> - Gender equality and social inclusion (GESI) - Food Security and nutrition sensitive agriculture - Clean air zone programming - Climate Smart Agriculture (CSA)

- Extreme Heat
- Drought
- Water Scarcity
- Economic Stress
- Social Disruption

- LEGEND**
- Observation
 - Perception/Observation /Previous Experience



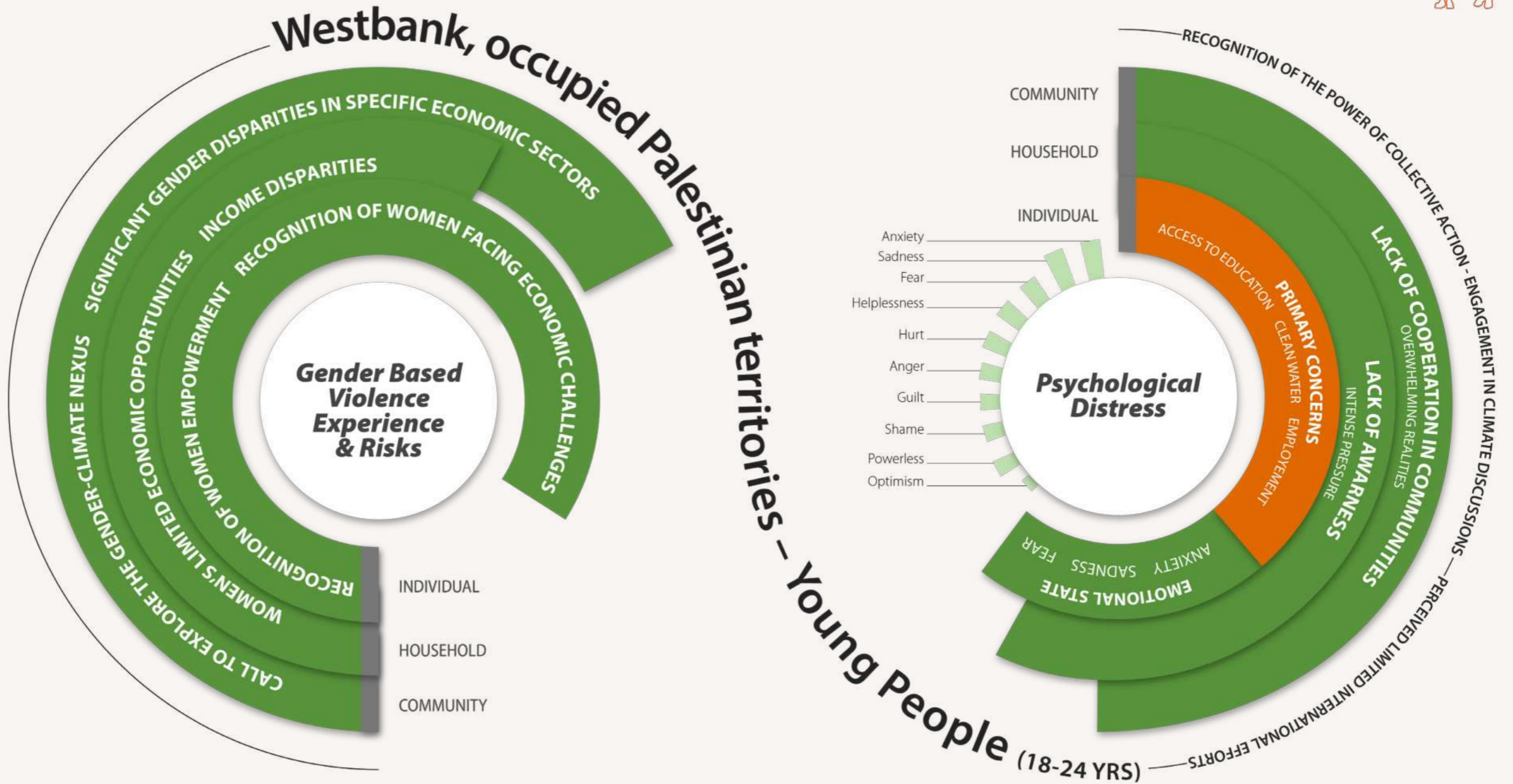
Mental Health and Psychosocial Wellbeing Repercussions of Climate Change Mental Model of Children (8-17 years old) in Westbank, occupied Palestinian territories



Program Response	
<ul style="list-style-type: none"> - Disaster Risk Reduction (DRR) - Community climate education awareness & empower positive collective action - Poverty reduction programming 	<ul style="list-style-type: none"> - Climate resilient primary services: water/education - Climate resilient livelihood - Financial inclusions program

- Extreme Heat
- Drought
- Water Scarcity
- Economic Stress
- Social Disruption

- LEGEND**
- Observation
 - Perception/Observation /Previous Experience



Mental Health and Psychosocial Wellbeing Repercussions of Climate Change Mental Model of Young People (24-18 years old) in Westbank, occupied Palestinian territories

Westbank, Occupied Palestinian Territories – Young People (18-24 YRS)



Extreme Heat



Drought



Water Scarcity



Economic Stress



Social Disruption

LEGEND

● Main Tangible Repercussion Themes

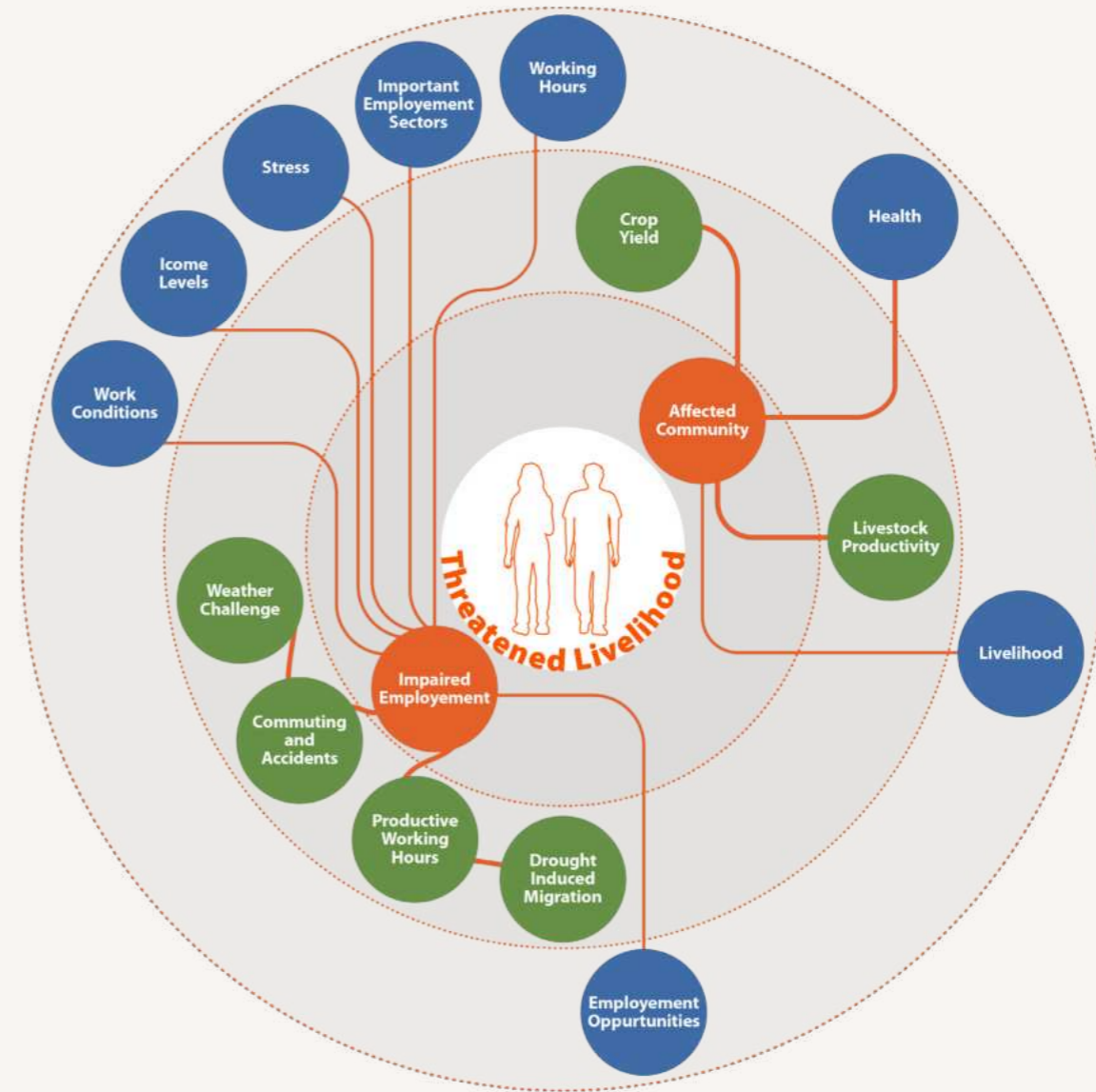
● Perception

● Perception/Observation /Previous Experience

Intensity of Experience



Program Response	
<ul style="list-style-type: none"> - Disaster Risk Reduction (DRR) - Community climate education awareness & empower positive collective action - Poverty reduction programming - Climate resilient primary services: water / education 	<ul style="list-style-type: none"> - Gender equality and social inclusion (GESI) - Food Security and nutrition sensitive agriculture - Clean air zone programming - Climate Smart Agriculture (CSA)



Tangible Repercussions of Climate Change Mental Model of Young People (24-18 years old) in Westbank, occupied Palestinian territories

World Vision Middle East and Eastern Europe Regional Office (WV MEER) is grateful to American University of Beirut (AUB) and Beirut Urban Lab (BUL) for partnering with us on this important research. Special thanks World Vision Iraq, Jerusalem-West Bank-Gaza, Lebanon, and Syria Response field offices' Monitoring, Evaluation, Accountability and Learning teams for their essential support with data collection. Our appreciation goes to Dr. Ghinwa Harik (AUB) and Ghida Krisht (WV MEER) for their partnership as co-authors, as well as to Professor Rami Zurayk (AUB), Kate Kobaidze (WV MEER), Juliana Breidy (WV GC), Aaron Tanner (WV MEER), Mike Kirakossian (WV MEER) and Evita Jourdi (WV MEER).

About WV MEER:

World Vision has been working in the Middle East and Eastern Europe region (MEER) for more than 45 years with a focus on child protection, education, gender equity and climate change prevention. We currently have both emergency and longer-term programmes in 16 countries across the region. The four largest UN humanitarian appeals and operations in the world also fall under WV MEER's area of operations and include Syria, Afghanistan, Ukraine and Yemen. Serving the most vulnerable girls and boys in the toughest of places, World Vision is leading the way in contexts of high fragility and gender disparity, where children continue to be impacted by the ongoing hunger crisis and climate change.

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