

# WE HELP HERE AND NOW

RESILIENCE, A PHENOMENON  
OR A MULTIFACTORIAL PROCESS



RMIS: RESILIENCE MEASUREMENT INTEGRATED SYSTEM





## 1 ASB IN BRIEF

Arbeiter-Samariter-Bund Deutschland or ASB (in English: Workers' Samaritan Foundation Germany) is a German aid and welfare organization, engaged in areas such as civil protection, rescue services and social welfare services. As a non-political and non-denominational organization, ASB has, since its foundation in 1888, represented continuity and reliability. With its first mission abroad in 1921, Foreign Aid became a major component of the organization. Using an integrated approach, ASB provides effective worldwide aid and quick and targeted relief according to the needs of the affected population. ASB also support the establishment and development of local self-help structures. ASB is currently intervening in more than 12 countries in numerous domains such as Food security, reconstruction, protection of environment, emergency preparedness and disaster risk reduction.

## 2 HAITI - OVERVIEW

Haiti is the poorest country in the Western Hemisphere, with a gross domestic product (GDP) per capita of \$756 in 2019 and a human development index ranking it 169 out of 189 countries in 2019. According to the Human Capital Index, a child born today in Haiti has an adult potential estimated at 45% of what he or she could have had if fully educated and healthy. The latest poverty survey (2012) reports that more than 6 million Haitians live below the poverty line on less than \$2.41 a day, and more than 2.5 million have fallen below the extreme poverty line, living on less than \$1.23 a day. Haiti is an extremely high disaster-prone region with a hazard-profile of floods, earthquakes, droughts, storms, landslides, fires, tsunamis as well as all threats related to climate change and extreme climate events. Haiti generally faces a threat of hurricanes and tropical storms during the annual hurricane season between June and November. In 2010, an earthquake killed more than 200 000 people and caused extensive damage to infrastructure and to the country economy. The capacity of the government to mitigate the huge impact in terms of buildings destroyed and people affected was limited as Haiti was in 149th position out of 189 in the human development index. General poverty and inadequate living conditions, in rural areas but also in urban areas with many families living in provisional conditions because of the earthquake of January 2010 and successive hurricanes and tropical storm, are enhancing the adverse effects of natural disasters. In addition, the lack of road infrastructure, sanitation, education, and health-care pose additional obstacles to an effective response in the affected zones.





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## DISASTER RISK REDUCTION AND RESILIENCE

## INTRODUCTION TO RESILIENCE MEASUREMENT INTEGRATED SYSTEM

### ASB IN HAITI

ASB has been working in Haiti since January 2010. With its efforts concentrated originally in the towns of Petit Goave and Grand Goave, ASB was committed to an approach that aimed to link Relief, Rehabilitation and Development with a special focus on victims of the earthquake. Moving forward, ASB expanded its geographic scope to include Fonds des Nègres and Leogane, as well as its Disaster Risk Reduction (DRR) strategy to encompass a wider range of activities in an effort to strengthen the disaster resilience of rural populations within the municipalities of Petit Goave, Grand Goave, Leogane, Fonds des Nègres through the rehabilitation of key infrastructures (schools, roads, school gardens) and the implementation of educational measures in the areas of safe construction and correct behavior in disaster situations, as well as new initiatives to enhance food security. Through our various programs, by strengthening local disaster management and self-help capacities, we reduce the local population's vulnerability in the event of an emergency. We also assist the local population to prepare for dealing with the aftermath of disasters.



# RESILIENCE AND RESILIENCE CAPACITIES

Resilience is defined as: “**the capacity of individuals, households, communities or states to cope with and recover quickly from shocks caused by extreme natural events and adapt to chronic stress or transform their means of living or functions without compromising their medium to longer-term prospects**”. A resilient community has the capacity to withstand, rapidly adapt to, and recover from a shock or possess the capacity to respond effectively to stressors even if external resources are limited or cut off. Self-reliance is therefore a primary feature of community resilience that is usually achieved by effectively combining social capital and collective action in response to shocks and stresses. Resilience is therefore understood as the ability to manage and recover while Resilience capacities are a set of behaviors that enable communities to increase their resilience to stress and shocks.

Resilience capacities can be classified into three categories, according to the Resilience Learning Initiative (RLI):

**Absorptive capacity** relates to disaster risk management, the ability of communities to decrease exposure to shocks and to recover after exposure. Absorptive capacity is characterized by :

- Family and community level preparedness and response and hazards proofed infrastructure.
- Formal and informal safety nets and insurance options together with access to income, work and credit to allow families the resources to engage in disaster preparedness, mitigation and prevention actions.
- Watershed management and other environmental approaches that mitigate up-stream and downstream factors leading flooding, landslide and soil erosion.
- Promoting local production, value chains and alternative energy sources to reduce the reliance on external market fluctuations
- Conflict preparedness, community social cohesion (mitigation) and conflict resolution tools that enhance displaced people's contribution to local economies (negating future conflict risk and escalation).

**Adaptive capacity** refers to the ability of communities to make active and informed choices about their lives based on changing conditions. Adaptive capacity is characterized by :

- Activities that mitigate climate change and deforestation/erosion/biodiversity
- Connection to long-term weather forecasting information, experimentation and innovation in terms of agricultural cultivation and production: use of seed, sapling livestock varieties that are more resistant to drought, increased salinity, increased water-logging of soil.
- Diversification of energy resources (biogas, micro-hydro, sustainable charcoal).
- Supporting women who are left with families in difficulty when men migrate for work.
- Providing local opportunities for youth to mitigate long-term economic migration from the countryside.
- Setting up joint rural and urban production, value chain and labour projects to mutually strengthen rural and urban communities.

**Transformative capacity** relates to disaster risk management, the ability of communities to decrease exposure to shocks and to recover after exposure. Absorptive capacity is characterized by :

- Promotion of economic activities for women that increases their standing and mobility (in and outside the village), encouraging partnerships between men and women, rather than as women-focused activities
- Community activities linking different religious groups, ethnic groups or caste groups promoting tolerance and cooperation.
- Education of people on their rights, facilitating access to technical line ministries and the political system.
- Resolution of land tenure issues, between different wealth groups and for women, at the root of conflict.
- National efforts to strengthen rule of law, justice, government transparency and accountability.

**Resilient communities** consist of resilient community members, who are organized, have access to basic services, economic opportunities, infrastructure and possess the ability to manage their natural assets. Given their intricacies, measuring resilience capacities requires linking an array of indicators of elemental concepts essential in each context to a corresponding level of resilience.



# INTRODUCTION TO RMIS

ASB's community-based activities seek to strengthen the resilience of the community to disasters, through disaster risk management and food security. Implementing Disaster Risk Reduction projects at the community level implies creating environments that are safer and better prepared to withstand the onslaught of extreme natural events as well as chronic stressors. Therefore, its assessment should focus on evaluating the impact on target communities' level of comprehension and changing habits in relation to impending risks. Thus, in order to better assess the impact of our actions on communities, a computerized measurement tool (RMIS) was set up.

In order to more accurately measure levels of resilience achieved in target communities, a resilience measurement matrix was developed. Similarly to the Indicator-Questionnaires, this matrix links levels of resilience to impact indicators and then to corresponding interview questions. In addition, each level of resilience is then assigned a range of values from one to four representing the levels capacity of resilience to shocks and stressors. Each value represents a different type of resilience capacity of 25%. The resilience capacity values are outlined below :

- Level 1: Demonstrates low capacity of resilience to shocks and stressors- 0% - 25%
- Level 2: Demonstrates moderate capacity of resilience to shocks and stressors- 25.1% - 50%
- Level 3: Demonstrates high capacity of resilience to shocks and stressors- 50.1% - 75%
- Level 4: Demonstrates excellent capacity of resilience to shocks and stressors 75.1% & up

Each answer from the interview questionnaires is assigned a value of either 0 or 1 (0 or 100%) point and are added up to a total per corresponding level of resilience and divided by number of questions. This average is then assigned a level of resilience based on score.



## IMPACT INDICATORS

A set of impact indicators was developed by project component/activity based on levels of resilience. Once the impact indicators were finalized, a set of supporting interview questions were formulated in order to measure the achievement against each impact indicator.

The impact indicators were developed based on the definition of resilience levels set forth by the RLI. Each impact indicator therefore seeks to measure community members level of resilience through corresponding interview questions. Impact indicators are for the most part qualitative in nature as they seek to provide a better understanding of community members' significance of behavioral changes in response to shocks and chronic stressors.

**Impact indicators have been classified into four categories:**

**Absorptive capacity** has been divided into two categories:

**Coping:** which seek to measure community members understanding of hazards that specifically affect their communities and their determination to develop and implement coping mechanisms in response;

**Recovery:** which seeks to measure community members implementation of quick solutions based on local knowledge and their determination to find long term solutions

**Adaptation capacity** seeks to measure community members' ability to make more informed decision based on acquired knowledge

**Transformation Capacity** seeks to measure community members ability and willingness to sustain activities, relations to outside actors (GoH) and activity's overall impact on community's condition in relations to risks.







# EXAMPLES OF IMPACT-BASED RESILIENCE INDICATORS

## 1. Construction / Rehabilitation of critical infrastructure points

### Intervention logic

Living conditions of the population in the target area drastically improved through the construction of safe schooling facilities, rehabilitation of road infrastructure and sensitization measures for safe housing construction

### Quantitative indicator

Construction, reconstruction and improvement of 12 critical infrastructure points in the target area: Until the end of the 30th project months 12 critical infrastructure points will be accessible during the coming hurricane season. This action will render 10km of rural road passable and ensure direct access to a minimum of 6,000 inhabitants (500 people X 12 critical infrastructure points) in target communities

## Impact indicators

### Coping

Inhabitants living in target communities understand the specific hazards threatening their communities and the need to reduce the impact of impending hazards

Inhabitants living in target communities proposed and reached consensus on solutions to reinforce their coping mechanisms through improved preparedness & response to natural disasters and elect community steering committees

Inhabitants living in target communities are determined to collectively implement proposed coping mechanisms and have developed roadmap to achieve this objective

### Recovery

Inhabitants living in target communities are utilizing makeshift passages repaired with their own means & recognize the need to identify safe alternative passages to ensure evacuations during and after natural disasters

Inhabitants living in target communities have researched alternative passages to ensure safe evacuations during and after natural disasters

Community steering committees representing target communities have reached consensus to propose 12 critical points for rehabilitation/upgrade

### Adaptive

Inhabitants living in target communities have actively participated in the construction/upgrade of critical points

10 kilometers of road are used by a minimum of 6000 inhabitant following the 12 months after rehabilitation

### Transformation

Community steering committees organized respective communities to perform maintenance of upgraded critical points

12 critical points are protected by communities in collaboration with local authorities from greater exposure by natural disasters

Safe access demonstrates improved life conditions of target communities

# School Gardens

## Intervention logic

Improved access to nutrient-rich nourishment increased sustainable livelihoods through the establishment of school gardens and performing of small mitigation works

## Quantitative indicator

Set-up of 8 new School Demonstration Gardens



Trou-Chouchou (English: "Sweetheart Hole") is the third section of Petit-Goâve, Haiti





## RESILIENCE MEASUREMENT SURVEYS

Resilience measurement is critical for formulating evidence-based policy programs that can help strengthen the resilience of communities prone to regular disasters. Resilience measurement surveys are an important means to collect data on communities for the above mentioned purpose. The purpose of conducting resilience measurement surveys is to gather details about community members' perceptions of the elements that influence their resilience and the underlying causes for the way in which they choose to react to shocks and stresses.

In the course of our programs, a two-phases survey was conducted, the first phase focusing on testing the tools (Impact indicators, Questionnaires, measurement system) through an evaluation of the following activities : Construction of 8 disaster-resistant schools; Rehabilitation of critical infrastructure points; school-gardens, while the second phase focused on evaluating DRR activities.

## QUESTIONNAIRES

The questions inside each questionnaire is associated with an impact indicator. Interviews and focus group discussions are utilized to maximize participation as well as to gain understanding of the community level perceptions of interventions. All questions were derived from a thorough review of the project indicators and expected outcomes. The questionnaires were then converted into a mobile data collection application to more efficiently capture a larger amount of information in real time. Once field data is collected, information is thorough reviewed through a post processing step (Review, error correction, transformation, data quality assurance). Then all accurate data is uploaded into the Resilience Information System for analysis.

## Coping

Students in target communities understand the specific hazards threatening their communities and the need to reduce the impact of impending hazards on food security

Students/ teachers & farmer's cooperatives in target communities proposed and reached consensus on solutions to reinforce their coping mechanisms with regard to agriculture and food security

Students in target communities are determined to collectively implement proposed coping mechanisms and have developed roadmap to achieve this objective

## Recovery

Students & teachers in target communities recognize the need to identify alternative agriculture methods to ensure bountiful harvests despite the impending threat of natural disasters

Students, teachers, and farmer's cooperatives in target communities have proposed preferred seeds selection and appropriate land

## Adaptive

# of school that have successfully implemented a garden using methods that mitigate climate change and deforestation

# of community members that are participating the implementation of school gardens

# of community members that have received training on vertical agriculture

## Transformation

# of school gardens replicated by school on their own

# of schools that are using harvest for either school canteens and/ or to procure more seeds to continue school garden

# of school members who replicated gardens activities outside of the schools

Impact indicators

