

Water and Sanitation

Rising sea-level is disproportionately affecting the poor through salinisation of their water sources. Many poor communities still depend on untreated water, and inflow of brackish water into slow flowing rivers and groundwater from the rising sea-level exacerbates health hazards and nutritional disorders. In addition, sea-level rise leads to increased flooding of coastal areas, not only through direct inundation but also increase in the base for storm surges. More than 50 percent of disaster incidences in Indonesia are hydro-meteorological disasters that have a huge impact on sanitation facilities². PMI has been developing emergency water and sanitation capacity to meet the needs of people affected by disasters since 2006. A significant number of volunteers throughout the country have received training on emergency water and sanitation, and 27 of them have become specialists who are able to manage and operate treatment facilities. These specialists are now valuable assets for PMI with hands-on experience in operating various treatment facilities initially brought to Indonesia from different parts of the world during the 2004 Tsunami operation. With such expertise, the trained specialists of PMI have been deployed to countries like Myanmar and Pakistan to aid International relief operations.



The Way Forward



PMI recognizes the huge variation among risks and vulnerabilities of different regions in this vast country of Indonesia and believes the best long-term solution to strengthen the resilience of vulnerable communities is to increase the capacity of those communities, for them to empower themselves to carry out preparedness measures against multi-hazard risks guided by local individual needs. Thorough and comprehensive understanding of the concept of climate change, its negative impacts and practical adaptation measures in the community and at local level are therefore fundamental to the success of risk reduction. Hence PMI has planned for 2009 to carry out awareness and promotion activities at the local level in the provinces of DKI Jakarta, Aceh, West Java, West Sulawesi, DI Yogyakarta, Central Java, Nusa Tenggara Timur and Nusa Tenggara Barat. PMI uses a variety of different materials and mediums such as brochures, flip-charts, records of previous projects and lessons-learnt, documentary video, and participatory video to cover the diversity of the target communities. At the same time, PMI performs periodic monitoring and evaluation exercises to measure the impact of these awareness raising activities, and to evaluate the success of behavioral changes in the target communities, against the initial baseline surveys and indicators from the project log-frame. In this way PMI aims to improve its service delivery, planning, project revision process and accountability.

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Climate
Change | **Multi**
Adaptation | **Hazards**

² Boer R., Kolopaking L., Bagja B., Dwi Dasanto B., and Setiawan R. (2006) Early Warning Experiences for Flood, Volcano & Forest Fire in Indonesia and Tsunami in Pacific Region, Working Document No. 7, German-Indonesian Cooperation for Tsunami Early Warning System (GITEWS) Capacity Building in Local Communities.

Background



One of the biggest reasons why some people underrate the seriousness of climate change is misunderstanding how climate dependent and sensitive our lives are. The interaction between climate and human well being is multi-faceted, and changes in the climate to which we have long adapted cause changes that can range from being immediate and obvious to gradual and less obvious. For example, climatic changes are recently being blamed for altering bird migration and consequently spreading pathogens into new regions.

Climate change is a multi hazard phenomenon, and risks can be posed from a complex combination of several different hazard events. Single hazard events such as floods and heat waves can overlap, resulting in a broad range of impact scenarios. Addressing the consequences of climate change and providing means of adaptation therefore requires a multi-hazard approach, focusing on different vulnerabilities simultaneously. Projects by Palang Merah Indonesia or PMI (Indonesian Red Cross) and Red Cross Red Crescent partners in Indonesia are designed to capture interactions between social, economic and environmental factors. Recognizing the variation among risks and vulnerabilities of different regions, practical interventions are guided by the local needs and realities for risk reduction.

Avian Influenza

Minor disturbances in the environment surrounding the ecosystem can have far reaching consequences on the exposure of humans to pathogens that originate and move through wildlife populations. Migratory birds experiencing changes in their habitat because of climate change are a good example. Since they use temperature as a cue for many life cycle decisions, their migratory timing as well as routes is now in question. This means that Indonesia, with world's highest number of reported deaths from avian influenza (AI), needs its people to understand the importance of preventing AI outbreaks and future challenges. PMI started its community-based avian influenza control project in 2006, aiming to provide knowledge to more than six million people through trained volunteers making door-to-door visits. Through a number of workshops at the national level and distribution of specially produced educational DVDs, flip-charts, and leaflets at chapter and branch level, PMI has guided positive behavioral changes and poultry keeping practices.



Malaria Project



Health experts use the term “biological amplification” in connecting the warming climate and increase in malaria. A mere half-degree centigrade temperature increase can bring about a 30-100% increase in mosquito abundance¹. This means that highlands with low temperatures where cases of malaria have been relatively low must now become better prepared. PMI with the support of Ministry of Health has run an anti-malaria campaign, promoting the use of mosquito nets. Some 42,000 families in Bangka Belitung, Bengkulu and Jambi provinces received mosquito nets and information on malaria prevention from PMI community volunteers making door-to-door visits.

¹ Pascual M., Ahumada J.A., Chaves L.F., Rodó X., and Bouma M. (2006) “Malaria resurgence in the East African highlands: temperature trends revisited,” *Proceedings of National Academy of Sciences*, Vol. 103, No. 15, pp.5829-5834.