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'PUNCHING ABOVE THEIR WEIGHT'

Approaches to improved life expectancy in developing nations.

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Developing economies, also referred to as the global south or low-middle income states, are classified by the United Nations to be low in gross domestic product (**GDP**) and high in economic vulnerability (WESP, 2014). The presence of such factors often coincides with mass poverty, poor nutrition, low schooling rates and, as a result, high mortality (UNCDP, 2018). However, within these factions of states there are several nations that ‘punch above their weight’ in life expectancy relative to their low GDP (Baum et al., 2018). This variation indicates that appropriate policies and practices may have a significant effect on the relationship between GDP and vitality (Freeman et al., 2020). This paper examines the varying approaches that, all else equal, may contribute to higher life expectancy and a greater quality of life within developing countries.

Reviewing the available literature, ‘punching above weight’ (**PAW**) states hold such titles for their effective countermeasures against the most common causes of mortality within the region. Such measures are often spearheaded using one of two approaches; the top-down approach: improving the lifestyle of older ages; or the bottom-up approach: improving conditions that alleviate child mortality. However, the primary issue facing these initiatives is the identification of factors that reduce the leading causes of death (Baum et al., 2018). This task becomes more difficult due to a majority of developing nations’ low GDP, quality delivery of services and access to reliable data surrounding life expectancy, which are often difficult to obtain (Hushie, 2016). Hence, this paper discusses the importance of collaboration between NGOs, IOs, civil societies and governments in improving living conditions unique to the developing region (Hushie, 2016; Freeman et al., 2020).

The Top-Down Approach

By 2030, 80% of the world’s elders will reside in developing countries, despite long term care services within developing nations being significantly lower in quality compared to their developed counterparts (Adamek et al., 2016). As a result, top-down approaches such as those observed in Costa Rica should be stressed in catering for this demographic. Costa Rica, holding a population of 11.2% sitting above the age of 65 and a life expectancy of over 80, is a nation that punches well above its weight of 81st in global GDP (AARP 2022; WB 2021; WB 2019). Numerous studies point to the success of the state’s primary health care system which reaches 82% of the populace (Kabir, 2008; Pesec et al., 2017; Rosero-Bixby, 2008).

However, the minimal prevalence of cardiovascular diseases and obesity within Costa Rica also hints at the long-term effects of educational attainment,

which significantly influences diet and heart health (Rosero-Bixby, 2008; Bilas, Franc & Bosnjak, 2014; Okrainec, Banerjee & Eisenberg, 2004). This is further supported by the state's 93.3% literacy rate for citizens above 65 and its use of proactive health education within the primary healthcare system (Knoema, 2018; Pesec et al., 2017). Moreover, top-down approaches used in sustaining the wellness of individuals above 65 have found their success in areas such as Algeria and Cuba, where improved healthcare and education provide for a more gender-equal and long-lasting society (Miladinov, 2020; Hussan 2017).

The Bottom-Up Approach

Despite the Top-Down approach's significance in improving health outcomes for the elderly majority of specific demographics, the bottom-Up approach has the most pronounced effect on the life expectancy of a nation (Miladinov, 2020). The same objectives used in the Costa Rican experience have also had a significant impact on life expectancy in youth, at times for varying reasons (Rosero-Bixby, 2008 & Baum et al., 2018). This is further evidenced by the vast child demographic (14 and under) of the PAW state of Ethiopia, where youth make up 40% of its total populace (WB, 2019). According to a 2020 study conducted by Freeman et al., the main causes of mortality within the nation (non-communicable diseases, respiratory infections, and gut-related illnesses) were significantly reduced via inclusive "community-based health strategies, improving access to safe water, female education, gender empowerment, and the rise of civil society organisations" which directly targeted the health of Ethiopian youth.

This interaction between civil societies and governments to provide health education and care has proven effective in reducing the spread of communicable diseases such as malaria and tuberculosis as well as non-communicable diseases often related to gut health (Freeman et al., 2020; Wubshet & Engida, 2012). Here, health education pertains to the education of parents and children on topics surrounding sanitation, hygiene, diet, and knowledge of diseases and methods of prevention. Such tactics have similarly proved helpful in transition states such as Brazil, with female education also assisting in the reduction of birth complications, fertility, and the spread of HIV/AIDS (Sen in Satio, 2003; Makamana & Johnri, 2016; Freeman et al., 2020).

Subsequently, health education within schools and communities aid in the creation of generational sanitation practices, reducing mortality due to diarrhea and other sanitation-based illnesses which can become interwoven into communal practices over time. Such is similarly observed in the

Bangladesh experience, where parent-based educative practices proved to have greater long-term impacts than re-sourcing piped water and/or installing greater numbers of bathroom facilities (Lee, Rosenzweig & Pitt, 1997). Although to further reduce these incidences in areas such as Ethiopia, studies suggest a greater presence of health education (Wubshet & Engida, 2012). Thus, stressing the significance of teaching-based methods as a sustainable mode for reducing mortality.

The Approaches' Application in Non-PAW States

Studies have shown that the four broad factors inherent to these PAW states are nutrition, education, public health measures, and income (Bergh & Nilsson, 2010; Mondal & Shitan, 2013). The successful application of these approaches in Developing/Lowest Developing Countries (**LDCs**) such as Ethiopia might offer valuable lessons for other LDC states such as East Timor. Like Ethiopia, East Timor holds a youth majority equal to approx. 37% of its populace and would thus benefit from a Bottom-Up approach (WB, 2021). Further, akin to this demographic, the state's highest causes of mortality are respiratory infections, birth complications, gut-related illnesses, and - like Costa Rica - poor heart health (IHME, 2019).

However, the adult literacy rate only sits at 68% with their national GDP at 181st place, far behind both of the latter nations (WB, 2018; WB, 2021).

Notwithstanding this, the state's urban primary education attendance is fairly gender-equal, sitting at 90% and 91% for females and males respectively (The Borgen Project, 2019). Yet inequality between urban and rural areas still pertain with school attendance rates reaching 60% in rural areas, despite holding 70% of the state's population (UNESCO, 2017). Here, education, alongside other forms of quality government services range between these regions, and as a result, disadvantage the rural populace from securing greater income and affording nutritional meals granted via opportunities gifted through quality education (Sen in Satio, 2003). As such, undermining three of the four broad factors unique to PAW states, and hence, to rising life expectancy.

Therefore, nations with demographics similar to PAW states (such as East Timor) could improve overall life expectancy and thus, quality of life through community support systems, such as those named prior. Within this paper, education can be seen as an active node from which quality socioeconomic factors, such as healthy lifestyles, stable income, and equality can arise. Here the longevity of one's life and the life of others around them is the product of the many opportunities and abilities created by education. Thus, health

education and community outreach should be prioritized alongside proactive teaching used in primary healthcare to boost the welfare and life expectancy of the nation. Nonetheless, the relationship between life expectancy and education remains complex and multifaceted. The next paper to come will address this issue and relate the implications to potential impacts within East Timor and similar developing nations.

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