

USING THE HUMAN SECURITY INDEX AND GIS TO ENHANCE NATIONAL AND COMMUNITY DEVELOPMENT

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ABSTRACT

The Human Security Index strives to perceive security, well-being and resilience potential vs. vulnerability of communities and countries. Over the past two years, the HSI has advanced as follows:

1. Beyond the global HSI, versions are also being developed at provincial and county levels. This work has included the USA and two ASEAN countries.

2. The HSI is being assessed at global and community scales. This work has included a prototype grouping of countries, and communities within countries, according to development performance. Where most countries are making progress, some are stagnant or even regressing. Strategic forecasts may be strengthened by such assessments, if used appropriately, and with caution. Some forecasts may be surprising, until one impartially views the data more deeply than is typically done.

3. Methodologies are being developed for using the HSI to support national development strategies. Approaches have included how to visualize and improve situations within individual countries – and also on how to use the HSI in the context of ASEAN integration – to pursue optimal benefits, while protecting communities from possible vulnerabilities.

This paper reviews progress and challenges in formulating the Human Security Index, and in the use of Geographic Information Systems to assess situations and strategize progress.

1. INTRODUCTION

The Human Security Index evolved over the past decade, while the author was with the United Nations in Bangkok. It was first released at GIS-IDEAS 2008. Substantially refined HSI version 2, covering 232 countries, was released in 2010 at HumanSecurityIndex.org. Since then, considerable design and prototyping of sub-national HSIs has occurred, including for the USA (for ~3140 counties) and two ASEAN countries at the provincial level. Assessments have been made in several arenas, including evaluating the usefulness of the HSI for helping to strategize national development, and to look for strengths and vulnerabilities of countries and communities as ASEAN pursues greater integration. This paper reviews some of these developments.

2. HSI v2 REVIEWED

HSI version 2 has been presented and discussed by Hastings (2010, 2011A). A detailed review, including maps, would exceed the page limitations of this paper, so the reader is invited to view those papers plus Hastings (2008, 2009). Perhaps the main message for this paper is that the more comprehensive HSI may indicate different outcomes in combined economic, environmental and social fabric, thus human security and well-being vs. vulnerability, than has been assumed by inspecting only Gross Domestic Product per capita or the Human Development Index. Table 1 illustrates such similarities & differences.

Table 1. HSI vs. HDI and GDP per capita for selected countries.

Country	GDP p.c. global rank	HDI rank	HSI rank
Norway	6 th of 232 countries	4 th	4 th
USA	11 th	30 th	147 th
Bhutan	146 th	188 th	112 th

“HDI” here is by the author. More globally complete than UNDP’s, this version of HDI is available at HumanSecurityIndex.org

Note the USA’s perhaps unexpected low HSI rank. Low income equality, low peacefulness, high “legal corruption,” and globally leading incarceration rates contribute to that situation. Despite Bhutan’s much lower GDP per capita and HDI, its HSI outcomes are higher than the USA’s. Incidentally, Vietnam ranks 152nd in global HSI, roughly comparable with the USA. Vietnam’s lower GDP per capita (global rank ~170th) is compensated by strengths such as higher income equality: VN=94th vs. USA=157th of 198 countries with available values for income equality; and peacefulness: VN=118th vs. USA=224th.

3. SAMPLE ASSESSMENTS USING THE HSI, ENHANCED IN GIS

Three ongoing assessments are reviewed here. One uses the global HSI to help forecast future strategic scenarios. The second strategically assesses HSIs for two sample countries. The third sketches strategic frameworks to optimize benefits from ASEAN integration.

3.1 Possible future scenarios

The global HSI was sorted into six clusters based on HSI patterns. The clusters are:

- Group 1: Relatively high-income countries which appear to be making progress.
- Group 2: Relatively modest-income countries which appear to be making progress.
- Group 3: Relatively lower-income countries which appear to be making progress.
- Group 4: Countries with high trade surpluses and large sovereign wealth funds.
- Group 5: Countries with significant trade/other deficits including “Eurozone laggards.”
- Group 6: Countries which appear not to be making progress.
- Group 7: Countries which may be characterized by certain governance challenges.

Figure 1 maps these groups. Generally, Group 1-3 countries will likely continue their progress. Some may be upset by natural or other disasters, economic or social surprises at home or with important trade partners. But such challenges occur frequently, with countries or communities evolving responses and recovery, to eventually move forward again. Group 4 countries fall into this category also, but may be strengthened by their strong financials.

Communities within countries of Groups 5-7 are rather more vulnerable. Group 6 countries, including Somalia, Afghanistan, Sudan, and perhaps Group 7 candidate countries, are recognized for such challenges. Some Group 5 countries, such as Greece, are also now recognized for some of their challenges. The USA is in Group 5 for its endemic trade deficit and other challenges. Until they reform, Group 5-7 countries face diverse crises, indefinitely.

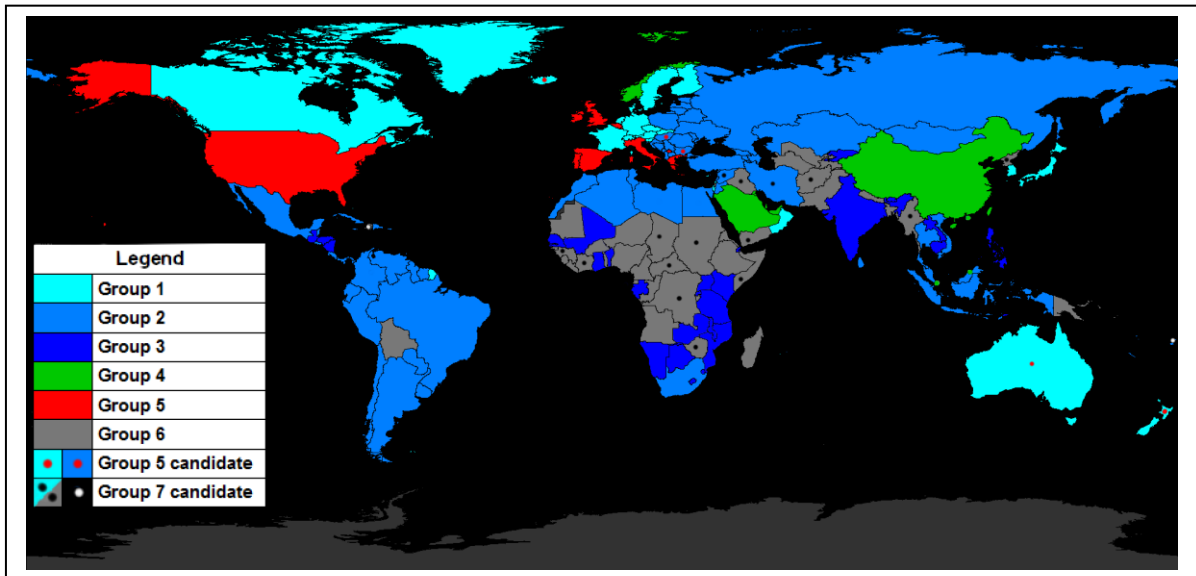


Figure 1. Country groups used in a draft futurism scenario.

3.2 Helping to assess situations within countries, and to strategize improvements

The past two decades have seen remarkable progress in compilation, enhancement, and availability of socio-economic-environmental data at national to community levels. This has occurred in “developed” and “developing” countries alike. The situation remains imperfect everywhere, such as the challenges in formulating HSI-appropriate environmental data and indicators appropriate for national and community-level decision-makers (Hastings, 2012). Nevertheless, cautious but proactive attempts to formulate Human Security Indices may help (1) assess imperfections and improvements in data and formulations, (2) begin to better assess situations and challenges, and (3) develop improved strategies for progress.

One attempt at a community-level HSI has been the USA, initially discussed in Hastings (2011B). Over thirty indicators are input to the HSI USA – with many of those indicators themselves being composites of several datasets. Residents of counties shown in yellows, oranges, and reds in Figure 2 are broadly more vulnerable than people in counties mapped in blues. Combine such local context with the global setting of the USA ranking 147th of 232 countries in the global HSI, and the situation is much worse by global norms for people in “red” counties than most people realize (though the “Great Recession” now gives many Americans a vague sense of unwell-ness). People from outside the USA are often surprised how many Americans, let alone some people in other Group 5-7 countries of the previous section, are unaware (or unwilling to admit) that progress continues in most Group 1-4 countries. American “popular media” tend to devote more space touting crises regarding Afghanistan, DPR Korea, Palestine or elsewhere than in discussing progress around the world.

Prototype HSI USA is being used by some strategists concerned with vulnerabilities and progress. For example, if one were to strategize optimal disaster management outcomes in areas impacted by Hurricane Katrina, might one wonder who should now be considered, or involved, in a strengthened process? Should a successful process in a (red-coloured) vulnerable community differ from that in a (blue-coloured) relatively better-off community? Is there more urgency to improve process in “red” zones? Should a storm warning be communicated differently than at present? Perhaps more work may be needed to improve communication within vulnerable communities before, during, and in the aftermath of a crisis.

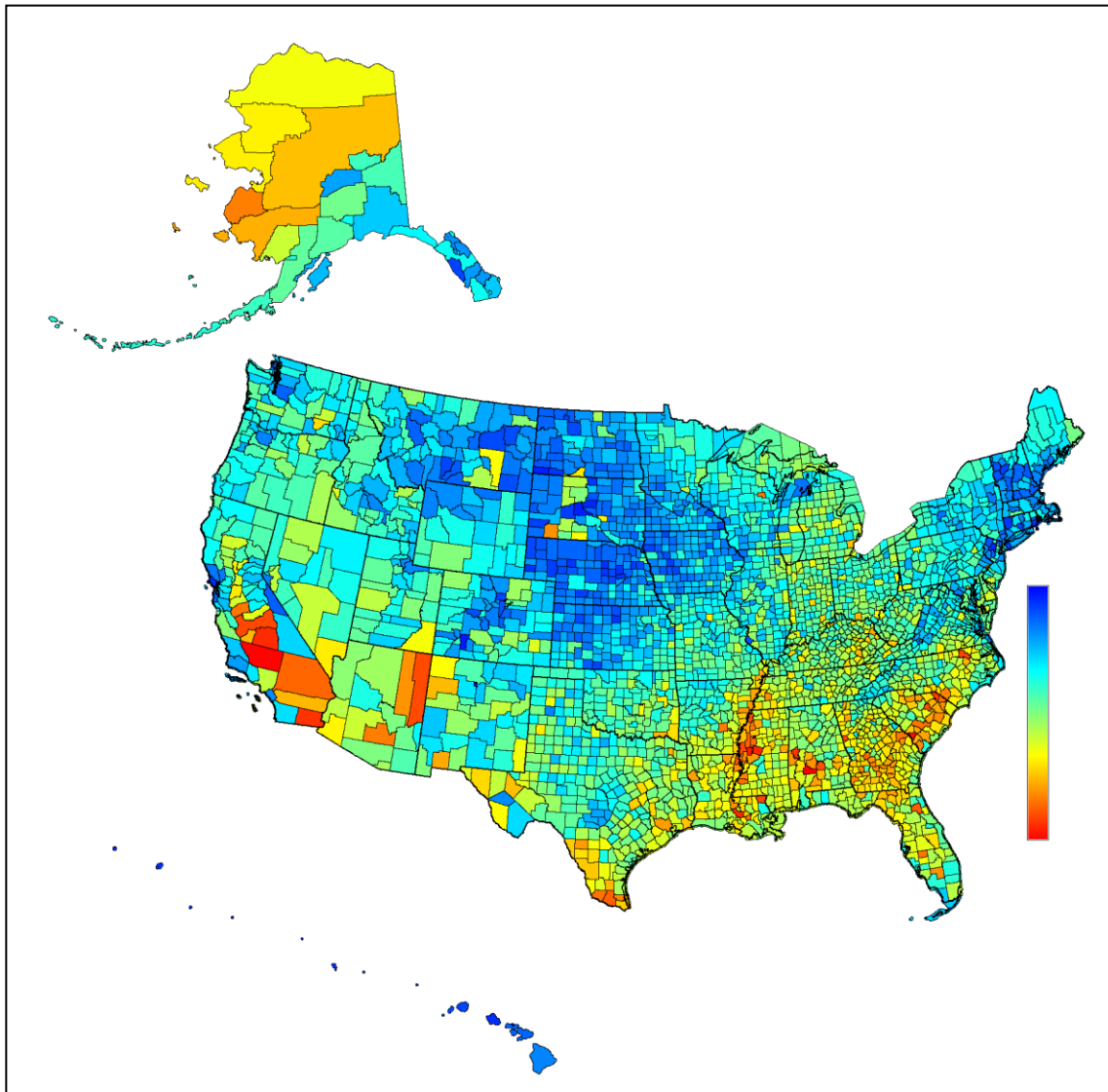


Figure 2. Prototype HSI for the USA. Red ~ vulnerable; Blue ~ more secure.

Figure 3A-D maps prototype Economic, Environmental, and Social Fabric Indices and a prototype Human Security Index for Thailand. Figure 3E-F shows the Human Achievement Index of UNDP (2009). Figure 3F shows the HAI in original colouring, to compare with the legend used in the HSI project (Figure 3E). Extensive discussion would take this paper beyond its permitted length. However, it may be worth noting two things: (1) Such mapping can be useful in strategizing improvement, prioritizing where to intervene, in what ways, with what potential partners; and (2) the form of GIS display is important. If one attempted to use Figure 3F to prioritize areas for pro-active interventions, one might be bewildered, and discouraged, at the apparent large number of most-poorly-off provinces. However, if one scales not in quintiles, but displays actual index values, one sees that there are only 1-7 most-vulnerable provinces in the HAI (Figure 3E) or the focused HSI (Figure 3D) which may need the most urgent focus. Then, if one looked at individual parameters, such as education, health, or indebtedness, one would also see that the number of priority urgencies may be smaller – and thus more amenable to focused attention - using the HSI colour scheme rather than the quintile grouping and legend of the UNDP report.

A framework for drafting a prototype provincial-level HSI for Vietnam is in process.

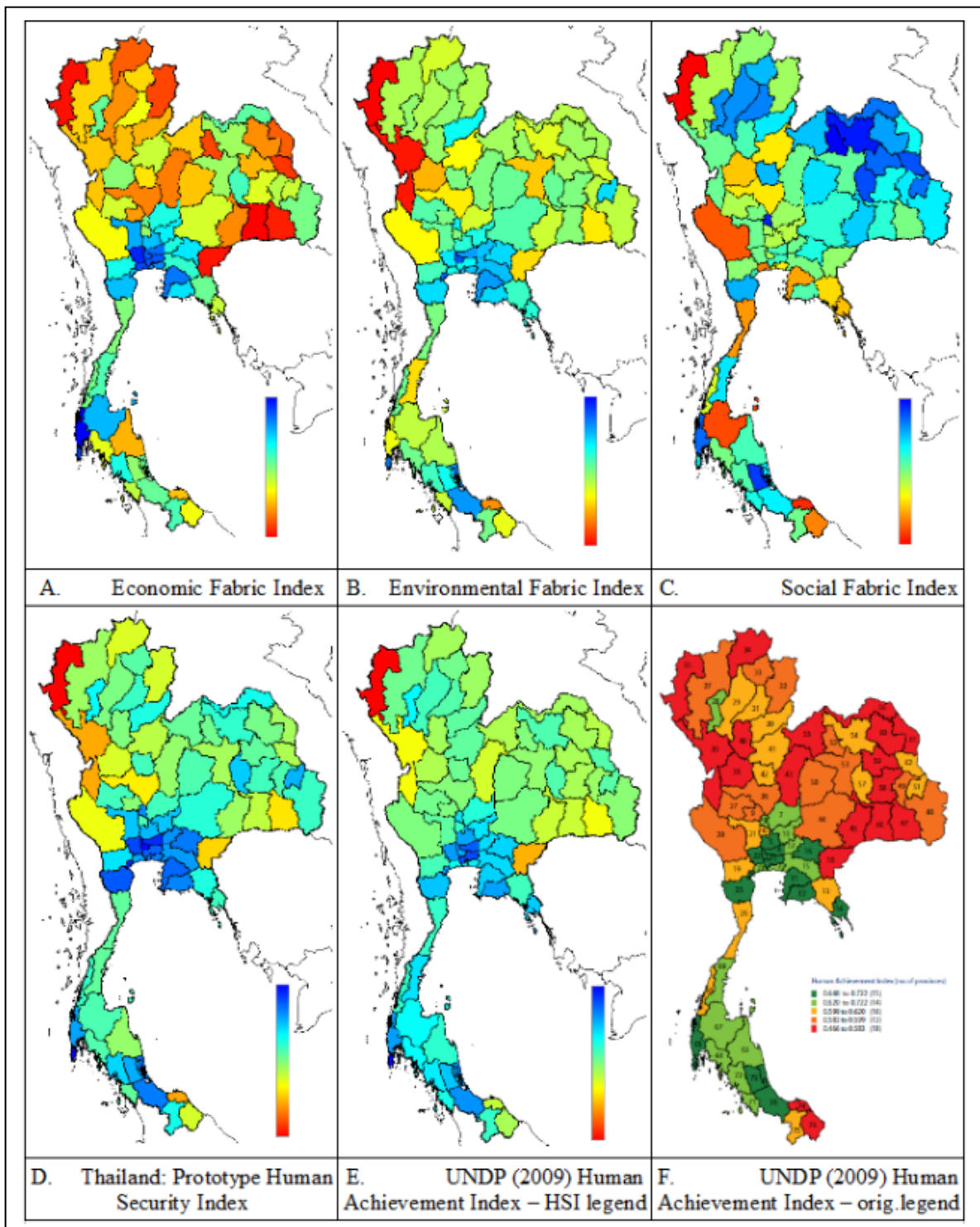


Figure 3. Prototype Human Security Index for Thailand (Hastings & Raghavan, 2012).

3.3 Helping to strategize situations related to ASEAN integration

Hastings and Raghavan (2012) discussed the question: “Toward ASEAN integration, how to benefit the most, while protecting potentially vulnerable countries and communities?” Again, full discussion of that issue would take this paper beyond its permitted length. The reader is referred to the full paper linked to in the references. One may group ASEAN into HSI groupings of: Upper (Singapore), Upper-middle (Brunei), Middle (Malaysia, Thailand,

Vietnam, and Indonesia), Lower-middle (Lao PDR), and Lower (Philippines, Myanmar, and Cambodia). Each grouping has several global peers offering successes which might be adaptable within ASEAN. Singapore ranks 47th in global HSI behind other island socio-economies like Dominica, French Polynesia and Taiwan, despite Singapore's high GDP per capita. Lao PDR, Vietnam and Thailand have HSI outcomes better than suggested by GDP. Brunei, Singapore and the Philippines do less well in HSI than in GDP per capita or HDI.

Assessing such patterns may help countries, and ASEAN as a whole, to better achieve progress. Analyzing relative strengths and weaknesses (and confirming that these are not artifacts in never-perfect data) in context of practices and outcomes in developmental peers, may help decision-makers to better see, and pursue, good ways forward.

4. SUMMARY

This paper, with cited references, illustrates how the HSI can serve as a framework for researchers and decision-makers to assess situations, and to help strategize progress in human security and well-being, vs. vulnerability - locally, nationally, and regionally.

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