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# The Multidimensional Vulnerability Index under the lights: for what purpose? \*

Patrick GUILLAUMONT



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It has been a long road to arrive at the Multidimensional Vulnerability Index, now known as MVI. For more than 30 years, Small Island Developing States (SIDS), at international meetings dedicated to them, notably in Mauritius in 2005 and Samoa in 2014, have been calling for an index that would show their high vulnerability and could be used to channel more resources to them. The impetus for the development of such an index was given by UN General Assembly Resolution 75/215 in December 2020 inviting its Secretary-General to make recommendations to establish a “Multidimensional Vulnerability Index for Small Island States, including its potential finalization and use”.



\* This text benefited from the assistance of Sosso Feindouno, without being able to engage his responsibility.

.../... The first outcome of this resolution was the preparation and publication of a report prepared by UN-OHRLS as part of its mandate to coordinate the SAMOA Pathway<sup>1</sup> and entitled *Possible Development and Uses of Multi-dimensional Indices. Analysis and Recommendations* (United Nations, December 2021).

This report reviewed the existing indicators similar to an MVI and set out the criteria that the MVI should be met. In addition to the criteria that any composite indicator must meet, i.e. the availability and statistical reliability of its components on the one hand, and its clarity and transparency on the other, three essential and specific criteria were put forward: (i) be multi-dimensional by covering the three dimensions, economic, environmental and social; (ii) be universal, i.e. cover all categories of developing countries and not only small island states, which was the condition for being able to compare the vulnerability of these countries with that of others; (iii) to be separable in its components between the factors that were truly exogenous in relation to the present policy, factors also known as structural factors, and those that depend on this policy, which was on the condition that the exogenous or structural part could be used as a criterion for the allocation of external resources, without moral hazard<sup>2</sup>.

These three essential principles that underpin the MVI were included in the roadmap given by the President of the General Assembly to the High-level Panel that was established to develop a multidimensional vulnerability index. This panel of 12 members chosen from the names proposed by the States met for 18 months from the beginning of 2022. Its report was released in the fall of 2023 and its final version published in February 2024 as the *High-Level Panel on the Development of a Multidimensional Vulnerability Index* (United Nations, 2024), referred to here as *HLP MVI*.

1. As noted by the report "Patrick Guillaumont and Laurent Wagner are the lead authors of this report under the direction of Tishka Fancis and Sai Navoti".

2. We highlighted with Laurent Wagner the scope of these three criteria, in Guillaumont and Wagner (May 2022), after presenting them to the panel at its opening session.

The panel should be congratulated for the important and outstanding work done both conceptually and statistically. This work is an essential reference for researchers and policy makers who are concerned about the structural vulnerability of countries and wish to take it into account in their work or decisions. However, there does not appear to be a full consensus on the outcome, nor does it appear to be able to be used as such to allocate more resources according to the vulnerability of countries. In order to assess the use that can be made of the *HLP MVI*, it should be noted both that its analysis of vulnerability factors meets the criteria set out above, but also includes few debatable choices. These choices explain some anomalies found in the ranking of countries, which have attracted various criticisms both within and outside the United Nations, and may jeopardize the use of the index, at least in its current form, by international funding sources. As the report is based on a distinction between structural factors of vulnerability and structural factors of lack of resilience, we consider these two parts of the report in turn before presenting some remarks on its results and the use that can be made of them.

### ► Rather well met criteria for designing the index

Compliance with the three criteria of multi-dimensionality, universality, and exogeneity seems to have been a constant concern of the authors during the drafting of the report. The scope of the three dimensions (economic, environmental, and social) can certainly be defined in various ways. Rather than a classification according to the source of the shocks, a classification according to their manifestation (economic, environmental, and social) was preferred, which proved to be relevant.

The principle of *universality* has been fairly well respected, despite the fact that the index was built at the request of Small Island Developing States. The pressure to have an index

that is of primary concern to them has given way to the obvious fact that, in order to serve these countries as a priority, their vulnerability must be comparable in a fair manner with that of other countries. However, LDCs, perhaps not sufficiently involved in the development of the index, expressed some reservations about the reliability and true universality of the index.

The principle of *multidimensionality* of the index has itself been well respected, even if the indicators of the social dimension have failed to integrate the recurrent domestic violence which is a structural component of the fragility of States. The coherence of the two principles of universality and multidimensionality has been ensured through the use, relevant although sometimes misunderstood, of a *quadratic average* to aggregate the indices of the various dimensions of vulnerability<sup>3</sup>: this kind of average is what makes it possible to highlight a significant vulnerability specific to a country in a given dimension, for example an island or a semi-desert, even if it is low in the other dimensions.

The *exogenous* criterion was the most difficult to meet, as the boundary could sometimes seem uncertain between what is a matter of present policy and what is due to past policies, which is inherited by the current governments and constitutes for them a structural factor. But it is an essential criterion for the index to be used as a criterion for the international allocation of concessional resources, without creating a moral hazard problem (i.e. without creating an incentive in a recipient country to increase its vulnerability): in case of doubt, the right way to draw the line between what should or should not be considered structural was to ask whether it is logical that an increase in the level of the component indicator envisaged should lead to an increase in the level of aid to a country. It is for this reason, for example, that income inequality should rightly not be included<sup>4</sup> (and not, as stated in the report, due to a lack of statistics).

3. Recommended and applied by FERDI for several years (cf. Guillaumont, 2022a).

4. Cf. Guillaumont, 2022b.

In this regard, there was a discussion on the desirability of including the export rate of goods and services as a component of economic vulnerability. This variable, included in the preliminary version, was ambiguous, because both structural and the expression of an openness policy. So it was opportunely removed from the final version, but it could just as opportunely have been retained as a multiplicative variable of the instability of exports of goods and services, an undisputed structural factor of vulnerability, the impact of which depends on the exposure of countries to this type of shock, i.e. the export rate. On a related subject, it is surprising that the instability in migrants' remittances, a major source of foreign exchange earnings for some countries, has not been considered in the same way as exports of services, itself weighted by the share of these flows in domestic product. These are details among others, not undermining the HLP MVI.

### ▶ A debatable treatment of resilience

While the analysis of structural vulnerability in its three dimensions is generally satisfactory, the same cannot be said for resilience, which is referred to in the report as structural resilience. The treatment of resilience in HPLMVI raises several important issues.

The first is the result of the artificial symmetry that the report sought to introduce between the three dimensions of structural vulnerability and the supposed dimensions of structural lack of resilience.

Resilience, which is the country's ability to cope with shocks, is partly structural and partly attributable to the country's policy. As far as the structural part is concerned, there is no reason to take up the distinction between the three dimensions of structural vulnerability (economic, environmental and social) and to match them with three "similar" dimensions of structural resilience. The main structural factors of resilience

(infrastructure and human capital) are essentially the same regardless of the kind of shock, and there is no clear logic in the division of components between the three dimensions.

Moreover, the way in which the components of structural resilience were aggregated was based on a quadratic average, as for the average of the components of structural vulnerability, without any reason to operate in this way: the quadratic average was appropriate for structural vulnerability because, as has been pointed out, its different components are not perfectly substitutable for each other, whereas they are for structural resilience, especially since, as we have just indicated, the boundaries between these three arbitrarily assumed dimensions are uncertain. In short, if a structural resilience indicator were to be introduced in the MVI, it would have been more relevant to do it whether as a fourth dimension, or as a multiplicative coefficient of structural vulnerability (both solutions are included in the Commonwealth Universal Vulnerability Index, which also clearly distinguishes between structural resilience and “policy” resilience and measures the latter by a specific index).

Another problem, linked to this artificial symmetry, is the number of indicators chosen on the resilience side, which was chosen equal to the number of structural vulnerability indicators, i.e. 13, which brings the total number of indicators to be manipulated to construct the index to 26. This is a far from the recommendation of simplicity and transparency contained in the UN report of December 2021, prior to the establishment of the HLP. The parsimony of a composite indicator determines its transparency. And, if the objective is to have an indicator that can be used in a formula for allocating concessional funds by multilateral banks, a high number of components will be seen as an obstacle, as already heard from these institutions.

In order to ensure that the MVI is likely to be used for allocation, the number of components covered by the lack of structural resilience

should be reduced by first removing those components that cannot be considered really independent of the current policy and will never be used as arguments for increasing the allocation of funding. The most obvious is the low proportion of women in parliaments (indicator 26). But other components fall under the same criticism: which institution will agree to allocate more to a country that is reducing its forest cover (indicator 20) or even decreasing its investment rate (indicator 16)?

Finally, the treatment of resilience in the *HLP MVI* could have been lightened not only by removing those components that are not clearly exogenous, but also by merging elements that could find their place in structural vulnerability as well as in the lack of resilience. It is traditional in vulnerability analysis to include both the magnitude and probability of shocks, and the countries’ exposure to these shocks, as is done in the CDP Economic and Environmental Vulnerability Index (EVI). However, it must be recognized that the distinction between exposure to shocks and lack of structural resilience is sometimes uncertain<sup>5</sup>.

The report’s proposal to supplement the index with a vulnerability and resilience profile, as is done by the CDP for countries graduating from LDC status, could help to move in this direction of simplification. It should also make it possible to identify the political drivers of resilience and lower vulnerability.

### ► Is the proof in the pudding?

The classification by groups of countries (SIDS, LDCs, LLDCs and all developing countries, themselves classified by per capita income level) is in line with what could be expected, as shown in Table I on p. 43. The SIDS group is clearly the most vulnerable, both in terms of the median and the mean, followed by the LICs group or the

5. For example, the concentration of production is one of the indicators of lack of resilience, and the concentration of exports is one of the indicators of vulnerability.

LDC group, the difference being more significant for the median than for the average.

But there are significant anomalies at the country level. These have provoked negative comments on the index, which, if not corrected, risk undermining its credibility and thereby weakening the principle of using such an index in a formula for allocating concessional funds. The panel chose not to show the ranking of countries for the different indicators, probably fearing too specific reactions or because the differences in rank correspond in some cases to very small differences in the value of the indicators. But if the objective is to see the *HLPMVI* used as one of the criteria for the allocation of concessional funds between countries, it is obviously the level of the indicator in each country that matters and transparency is then required.

As an example of an anomaly, let us note the case of Nepal, found (even if slightly) “less vulnerable than India” (in 110<sup>th</sup> place instead of 108<sup>th</sup> for India)! If only structural vulnerability (without resilience) had been retained, Nepal would have been considered more vulnerable (ranked 98<sup>th</sup> versus 137<sup>th</sup> for India). Even if this ranking is high, it raises questions for the *HPMVI*, as it had done in the past for the level of the *EVI* used by the CDP for the graduation of this country from the category of LDCs (cf. Guillaumont, 2017, 2019): nor the very significant shocks that are likely to be repeated in this country represented by the fall in migrant remittances (the main source of foreign exchange) during the Middle East crises, neither the terrible (and recurrent) earthquake of 2015, nor the risk of glacial lake outbreak flood (GLOF) due to global warming (which could have been included by extending the flood risk for low elevated coastal areas) had a significant impact on the Nepal level of the *HLPMVI*. Looking for anomalies would have made it possible or perhaps will make it possible in the future to improve the indicators.

If the minor modifications suggested above were implemented, it would greatly mitigate some criticisms that have been identified. An

even more convincing and operational result could be achieved by using the only part of the *MVI* dedicated to structural vulnerability for the allocation of concessional funds.

It should be noted that the ranking by country groups would not be fundamentally changed, but the main anomalies by country could be avoided.

## ► The way forward

In order to avoid getting bogged down in the *MVI* adoption process and to find a real consensus on the *MVI* and how it can effectively contribute to a better allocation of concessional resources to poor and vulnerable countries a simple solution should be looked for.

One solution, suggested above, would be to focus on the “structural vulnerability” part of the index as an allocation criterion, leaving aside the “structural resilience”, which would be presented for information purposes, as a complement of the vulnerability and resilience profiles, the development of which would be strongly recommended. The lack of structural resilience, as analysed in the *MVI* is too debatable to be used as such for the allocation of concessional resources and could be taken into *account* by another way in the formulas used by the main multilateral donors. But the UNGA may not wish to express an opinion on the content and related use of the *HLP MVI*.

Another solution would be to present the *HLP MVI* as an example illustrating what a multidimensional vulnerability index can be, emphasizing that it is up to the various financial institutions that agree to take structural vulnerability into account in their allocation to establish their own index “in the spirit of the *MVI*”, i.e. in accordance with the principles that underpin its development: multidimensionality, universality, exogeneity (cf. Guillaumont, 2023a et 2023 b). For these institutions the UNGA would only recommend using an index built according to these principles. At the same time, these institutions

would be recommended to refine the analysis of resilience by distinguishing between structural and policy resilience. The normal complement to the inclusion of structural vulnerability (and lack of structural resilience) in their allocation formula would indeed be to take into account the resilience policy in the assessment of “Performance”, which is a traditional and important variable of such a formula (precisely qualified as *Performance Based Allocation*, PBA). The resilience policy is not included as such in the performance index and is no more analysed in the HLP report.

Finally, as an extension of the previous proposal, it would be appropriate to refer to the declaration entitled *MDBs Vision Statement*, adopted at the Paris Summit in June 2023 for a new global financial pact and now supported by the Paris Partnership for People and Planet (4P), which states: “*MDBs could explore a common definition of vulnerability taking into account the UN workstream in that regard and to develop common guidelines for the targeted use of concessional finance to address vulnerabilities*” (para 4.c). Following, it could be recommended that a joint working group be set up by the main multilateral development banks, to which the United Nations, through OHRLLS and/or UNDESA, could provide assistance. The experts nominated by these institutions would be invited to agree on the kind of index likely to be used if they wish to do so.

Without flexibility in the MVI design and content, there is no chance that the MVI as such be used by the MDBs for their policy, except to argue that the whole principle of an allocation according vulnerability is inappropriate.

In any case, it would obviously be needed that the unit in charge of implementing the MVI should have, under the control of a group of experts, probably the *Independent MVI Advisory Panel* provided for in the report, the full freedom to improve it according to the scientific criticisms it has aroused.

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