

THE VULNERABILITY AND RESILIENCE FRAMEWORK APPLIED TO THE PUBLIC HEALTH SYSTEM

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INTRODUCTION

This presentation has three sections, as follows:

Section 1 deals with the general characteristics of small states, with particular reference to the constraints arising from small size.

Section 2 deals with the health aspects of the characteristics discussed in Section 1.

Section 3 explains the vulnerability and resilience framework, developed by the Islands and Small States Institute of the University of Malta, to explain why small states may have a strong public health system in spite of their economic disadvantages.

MEASURING THE SIZE OF COUNTRIES

The size of a territory can be measured in terms of its population, its land area or its gross national product. Some studies prefer to use population as an index of size, while others take a composite index of the three variables.

The World Bank and the Commonwealth Secretariat define small states as those with a population of 1.5 million or fewer. In this presentation, I shall define microstates as countries with a population of 1 million or fewer.

THE EUROPEAN MICRO STATES

The European microstates which form part of the WHO Small Countries Network are : Andorra, Cyprus, Iceland, Luxembourg, Malta, Montenegro, Monaco and San Marino.

Five of these, namely Cyprus, Iceland, Luxembourg, Malta and Montenegro, are fully independent:

Andorra, San Marino, and Monaco voluntarily associate themselves with their respective larger neighbours.



DISADVANTAGES OF SMALL SIZE

Small size of a country is economically disadvantageous for a number of reasons, including the following:

(i) Limited natural resource endowments and high import content. Small size often implies poor natural resource endowment and low inter-industry linkages, which result in a relatively high import content in relation to GDP.

(ii) Limitations on import substitution possibilities. The small size of a domestic market severely limits import substitution possibilities. In many islands where import substitution policies were adopted, the end result tended to be a protected economic environment, with inferior quality products, higher prices and a parallel market in non-domestically produced goods.

SMALL DOMESTIC MARKET & EXPORT CONCENTRATION

(iii) Small domestic market and dependence of export markets. A small domestic market and the need for a relatively high dependence on other countries or other regions to pay for the large import bill, gives rise to a relatively high dependence on exports and therefore on economic conditions in the rest of the world.

(iv) Dependence on a narrow range of products. In many cases, small size restricts the country's ability to diversify its production, and this renders the country dependent on a very narrow range of goods and services. This carries with it the disadvantage associated with having too many eggs in one basket, and intensifies the problems associated with dependence on international trade.

LIMITED ABILITY TO CONTROL DOMESTIC PRICES

(v) Limited ability to control domestic prices. Small states tend to have negligible control on the prices of the products they export and import. All developing countries are to an extent price takers, but islands tend to be price takers to a much higher degree due to the relative very small volume of trade in relation to the world markets in products they import and export.

ECONOMIES OF SCALE CONSTRAINTS

(vi) Limited ability to reap the benefits of economies of scale. Small size renders it difficult for islands to reap the benefits of economies of scale, mostly due to indivisibilities and limited scope for specialisation. In turn this gives rise to (inter alia) high per unit costs of production, high costs of infrastructural construction and utilisation per capita, high per unit costs of training specialised manpower, and a high degree of dependence on imported technologies, since small size inhibits the development of endogenous technology.

LIMITATIONS ON DOMESTIC COMPETITION

(vii) Limitations on domestic competition. Domestic competition tends to be curtailed in small economies due to the fact that small size does not support a large number of firms producing a similar product. This generates a tendency towards oligopolistic and monopolistic structures.

PROBLEMS RELATING TO PUBLIC ADMINISTRATION

(viii) Small manpower base. Small size creates problems associated with public administration, the most important of which is probably a small manpower resource base from which to draw experienced and efficient administrators.

Very often specialists can only be trained overseas in larger countries, without a guarantee that their services will be needed on their return. For this reason, many specialists originating from small states decide emigrate to larger countries where their services are better utilised and where remuneration for their services is better.

One outcome of this is that small states tend to rely on larger countries for certain specialised aspects of public administration.

HIGH PER UNITS COSTS OF PUBLIC ADMINISTRATION

(viii) Relatively high per unit cost of public administration. A related problem is that many government functions tend to be very expensive per capita when the population is small, due to the fact that certain expenses are not divisible in proportion to the number of users.

SPECIAL PROBLEMS OF SMALL ISLANDS

(i) High per unit transport. It is to be expected that transport costs associated with the international trade of small island states tend to be relatively higher per unit of export than in other countries. The main reason for this is that islands are separated by sea and are therefore constrained to use air and sea transport only for their imports and exports.

(ii) Fragmented cargoes, Apart from this, a small economy tends to require relatively small and fragmented cargoes, leading to high per unit costs. Moreover, the small size of islands often excluded them from the major sea and air transport routes, which give rise to delays and constrains the ability of these islands to exploit the advantages of modern and technologically advanced means of transport.

SPECIAL PROBLEMS OF SMALL ISLANDS

(iii) Uncertainties of supply. Apart for high per unit cost of transport, insularity from the main commercial centres may also give rise to additional problems such as time delays and unreliability in transport services. These create uncertainties in the provision of industrial supplies. These disadvantages are more intense for islands that are archipelagic and dispersed over a wide area.

(iv) Expensive stocks. An additional problem is that when transport is not frequent and/or regular, enterprises in islands find it difficult to meet sudden changes in demand, unless they keep large stocks. This implies additional cost of production, associated with tied up capital, rent of warehousing and wages of storekeepers.

2. SMALL COUNTRY SIZE AND PUBLIC HEALTH

INHERENT DISADVANTAGES WITH REGARD TO HEALTH

The characteristics of small states, discussed in the previous section, generally affect their health system as well.

Small states, when compared to large states, are likely to experience various constraints in their health systems mostly due to:

1. Small population pool;
2. Lack of capacity;
3. Small domestic market.

EFFECTS OF SMALL POPULATION

A small population often leads to limited ability to achieve sustainable volumes of activity.

- Limited contributor pool in sharing population resources (gene types, organs, etc);
- Difficulties with rare diseases: not enough patients to justify availability of treatment;
- Inability to offer all services, especially highly specialised care;
- Quality issues associated with low throughput;
- Deskilling;
- Lack of investment in the infrastructure.

EFFECTS OF LACK OF CAPACITY

Lack of capacity in small states often leads to various constraints including:

- Difficulties in segregating roles in the health system;
- Lack of peer review available at the national level;
- Access to innovation may be delayed;
- Lack of mobility and stagnation;
- Quality issues may remain unnoticed.

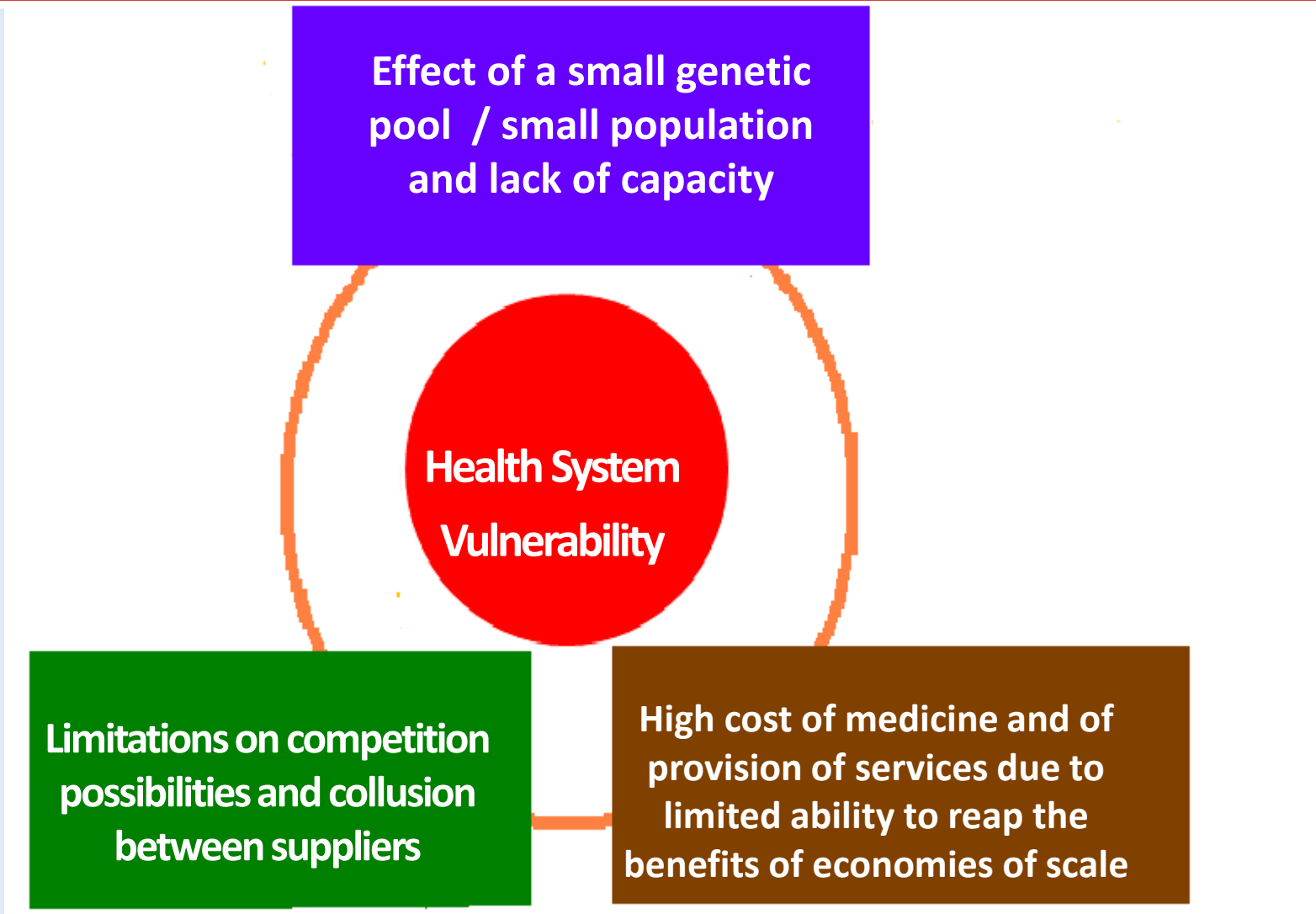
EFFECTS OF A SMALL DOMESTIC MARKET

A small domestic market leads to a number of disadvantages in the health systems of small states including:

- High overhead cost per unit of administration;
- Limited ability to reap the benefits of economies of scale;
- Administrative burden of regulation;
- Lack of interest by industry to place medical goods on the market;
- Lack of competition between providers;
- High prices for medicines and medical supplies due to small volume of consumption.

3. THE VULNERABILITY/RESILIENCE FRAMEWORK

VULNERABILITY: MAJOR INHERENT DISADVANTAGES



POLICY INDUCED AND COMMUNITY BASED MEASURES

However, on the other side of the coin:

- A small jurisdiction makes it easier for the government to identify and address shortcomings in health care;
- Policy makers have a “helicopter view” of health issues and implementation of health in all policies is therefore theoretically more feasible
- Measures may be put in place to enhance social cohesion, rendering it easier to coordinate and implement health policies;
- Population health surveillance through national registers is easier and more comprehensive;
- There is a “shorter distance” between research, policy and practice enabling more rapid uptake of innovation.

RESILIENCE: MAJOR POLICY/COMMUNITY MEASURES

A small jurisdiction makes it easier for the government to identify and address shortcomings

Health
Resilience

Population health surveillance and control measures & innovation easier to implement

The community tends to be more cohesive and therefore measures may be easier to coordinate and implement

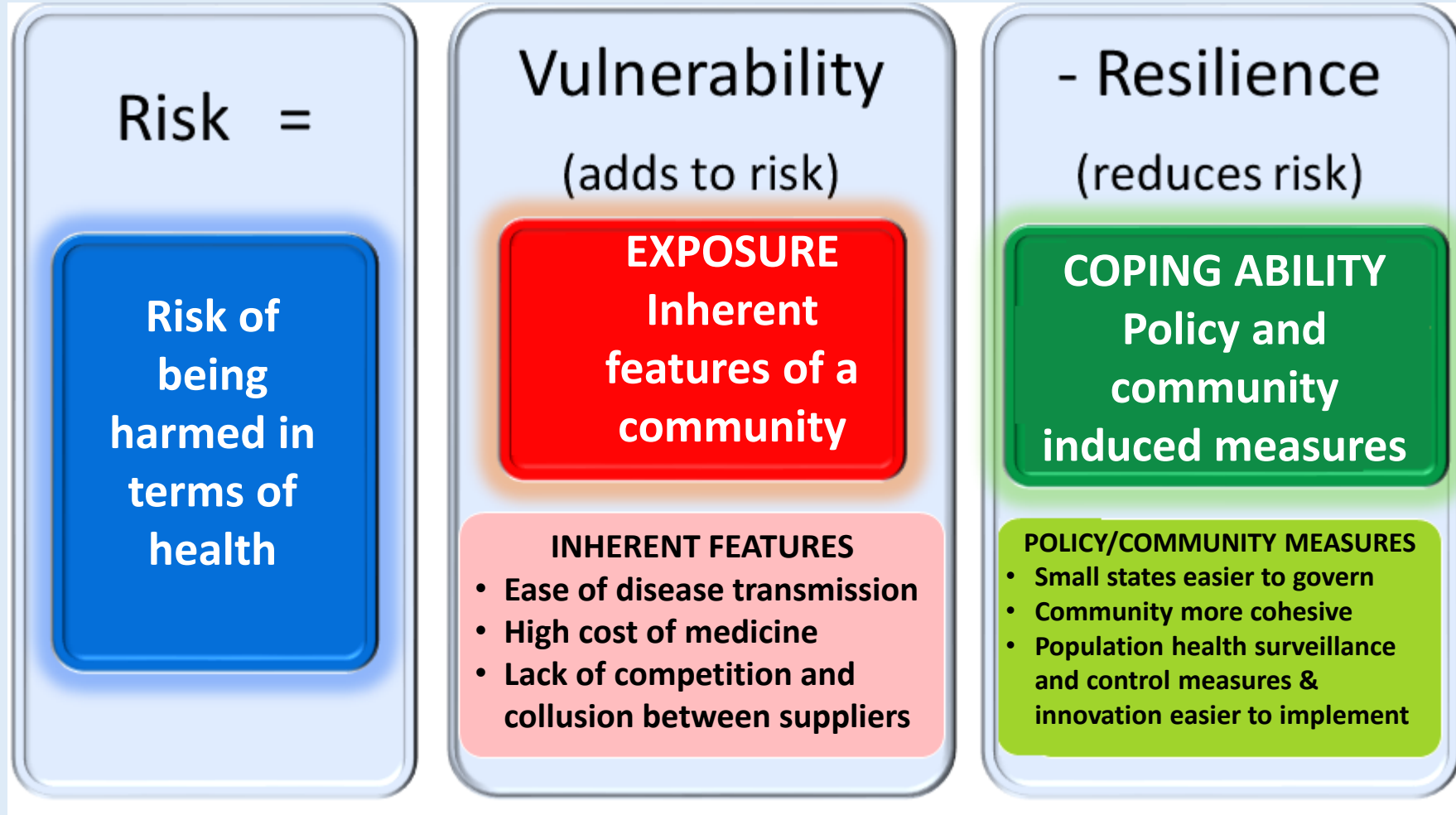
THE RISK OF BEING HARMED BY EXTERNAL SHOCKS

The vulnerability/resilience framework developed in Briguglio (2014) (shown in the next diagram) proposes the following scheme: **RISK OF HARM = VULNERABILITY MINUS RESILIENCE**

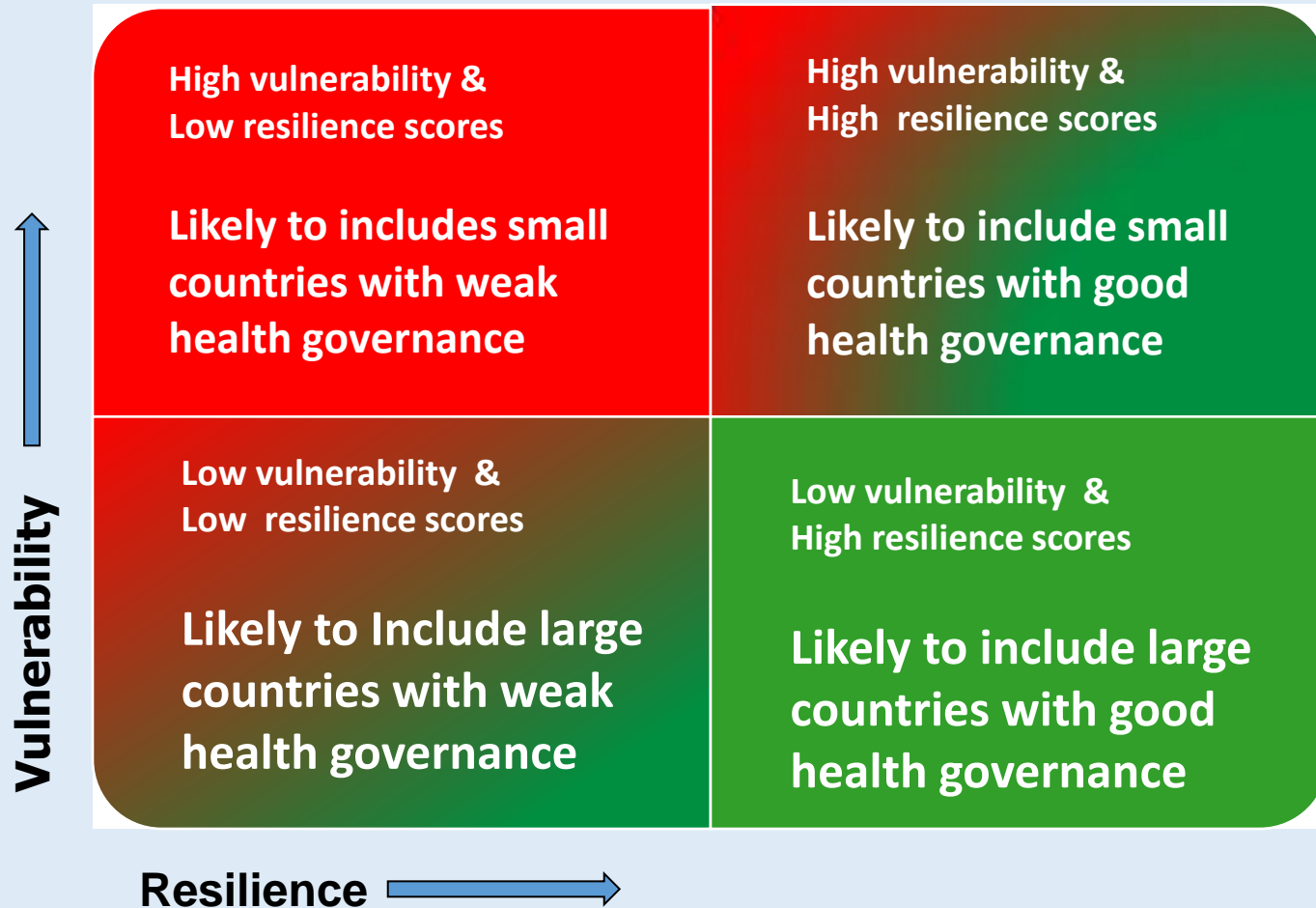
Increased risk (vulnerability): This is associated with inherent conditions that expose a system to harm.

Reduced risk (resilience): This is associated with policy-induced and deliberate measures leading a reduction of harm.

THE VULNERABILITY RESILIENCE FRAMEWORK



FOUR POSSIBLE COUNTRY SCENARIOS



OVERALL TENDENCIES

**Best- case
scenario**

- **Low vulnerability scores**
- **High resilience scores**
- **Includes large states with good health governance**

**Self-made
scenario**

- **High vulnerability scores**
- **High resilience scores**
- **Includes small states with good health governance**

**Prodigal-son
scenario**

- **Low vulnerability scores**
- **Low resilience scores**
- **Includes large states with weak health governance**

**Worst-case
scenario**

- **High vulnerability scores**
- **Low resilience scores**
- **Includes small states with weak health governance**

THE IMPLICATION OF THE V&R FRAMEWORK

The most important implication of the Vulnerability and Resilience Framework is that small states can succeed in having a strong public health system in spite of the disadvantages associated with small size, if these states adopt policies leading to good governance.

The Islands and Small States Institute of the University of Malta, as a WHO Collaborating Centre proposes to take forward the theoretical and empirical development of this proposed framework.

Thank you for your attention