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TITLE
A SYSTEMATIC APPROACH TO ASSESSING REGIONAL CONDITIONS

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A SYSTEMATIC APPROACH TO ASSESSING REGIONAL CONDITIONS

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by

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ABSTRACT

50/ This paper suggests a simple way of assessing the prospects for regional stability/instability. \)

RESUME

Ce document presente une methode pour estimant la stabilite/instabilite.

I. INTRODUCTION

1. For some time, the Strategic Assessment Team (SAT) has been concerned with finding/developing some systematic way of forecasting the future stability/instability of countries and regions of concern to them in their work. Many such approaches exist, of course, but often they suffer from significant deficiencies. A major problem can be that they rely on data which it is difficult or impossible to get. Another problem can be that approaches employed are far more complex than either the data used or the problem being considered would warrant.

2. A major difficulty for any such analysis from the perspective of the "user" is that it is often difficult to replicate work done even in a very general way and, at the same time, it is difficult to see how major analytical lines were developed given the essentially intuitive nature of the work. The approach offered below is designed to meet some of these problems by providing a simple and replicable way of generating propositions about a country or region. Moreover, the approach attempts to offer a simple way of aggregating the time-series data produced for specific variables.

3. Inherent in the approach is an implicit theory of political stability/instability which is not considered to be either complete or unalterable. Neither is it suggested that the approach used is sufficient. The intention is that this method of proposition generation should be complemented with more classical methods of analysis to produce a comprehensive review of any country or region.

4. What follows, then, is a short feasibility study designed to expose those in the SAT to this approach in the hope that it may be a step along the road to developing an analytical tool which may help them in their work. At bottom, the approach is functional in that it seeks only to provide something where, at the moment, a readily useable method is not available. Having made this point, it may be worth noting that the approach will not satisfy the methodological/philosophical extremes of either "Luddites" or those demanding technical perfection. The intricacies of this methodological/epistemological debate are well-known to the author, but a functional perspective sees little utility in engaging in debates which offer no prospects for resolution.

II. THE APPROACH

5. The technique used for generating propositions on the likely future stability of a nation or region consists of selecting appropriate time-series data which bear on this general condition such as population statistics, food-production/consumption, cost-of-living trends, import/export data, GNP and/or GDP values and so on. In this paper, no effort has been made to establish a set list of variables, not because this is unimportant but rather because the appropriate list needs to be established through discussions with appropriate tasking personnel and on the basis of a thorough examination of the sources of time-series data. One useful and reliable source of such information is the Europa Yearbook. The work done below has relied on this source.

6. The country selected for examination is Zimbabwe. It has been chosen mainly because it is a new country about which there are doubts as to its future stability. In this case, observed data have been taken from the Europa Yearbook exclusively. In each case, a curve has been fitted to observed data in a scattergram and an equation generated which allows both interpolation and extrapolation from the observed data. In this example, extrapolated data will be taken out to 1995 as the point in time at the extreme end of the SAT forecast.

7. There are, of course, problems with the curve fitting/extrapolation approach since it is essentially as "business-as-usual" perspective. Nevertheless, comparing trends can indicate the possible development of critical events which could add to the destabilizing tendencies in a country or region.

8. Rather than examine all data in the body of the paper, population will be considered below to demonstrate the technique. Table 1 provides population figures to 1995 from observed data.

TABLE 1: POPULATION FORECASTS FOR ZIMBABWE
1974-1995 (x 1,000)

<u>YEAR</u>	<u>OBSERVED DATA</u>	<u>FORECAST DATA</u>
1974	6080	
1975	6290	
1976	6500	
1977	6710	
1978	6920	

1980	7360	
1985		8639
1990		10126
1995		11868

In many situations, it is not possible to produce forecasts from as many observed points as are available here. Nevertheless, there is usually sufficient information to satisfy the requirements of this approach which is to simply generate some systematic sense of the likely trends in a country or region.

9. Having developed a set of forecasts from a specific time-series, it can be useful if some simple method of cross-impacting these data can be provided. If the first observed data point (or any other point which seems appropriate) is selected and given the index value of 100, all other values both observed and projected can be set relative to this original value. For example, if the observed population datum for 1974 is given the value of 100, then subsequent index values for 1975, 1985 and 1995 would be 103.5, 142.1 and 195.2 respectively. For this one trend the rise in the index value over time would indicate that the internal pressure from population increase was becoming greater. Table 2 below indicates how observed and forecast data can be produced as an index based scale which may be used to formulate propositions about tendencies to stability or instability.

TABLE 2: POPULATION VALUES EXPRESSED IN TERMS OF 1974
AS INDEX VALUE 100

<u>YEAR</u>	<u>FORECAST VALUES</u>	<u>INDEX SCALE</u>
1974	6080	100.0
1975	6290	103.5
1980	7370	121.1
1985	8639	142.1
1990	10126	165.5
1995	11868	195.2

10. A similar approach can be taken with all other trends to produce both forecast and indexed values. To achieve a comprehensive view of the stability/instability of a country or region, indexed values for appropriate years can be summed and reduced to a set of aggregated annual values which could give some sense of the anticipated condition of any country at some time in the future. Table 3 provides observed and forecast data along with indexed values for the production of crops in Zimbabwe for the period from 1974 to 1995.

TABLE 3 PRINCIPAL CROP PRODUCTION
(000 metric tons)

<u>YEAR</u>	<u>OBSERVED DATA</u>	<u>INDEXED VALUES</u>
1974	7121	100.0
1975	6573	108.3
1980	4406	161.6
1985	2953	241.1
1990	1979	359.8
1995	1327	536.6

11. These two trends may be used to illustrate how a comprehensive trend curve can be generated. If the indexed values for each year from 1974 to 1995 are now added and reduced to a set of indexed values for the years in question, a general description of the country or region under consideration may be achieved. Table 4 provides these aggregated values using data from population and crop production trends only.

TABLE 4: AN ILLUSTRATIVE AGGREGATED TREND LINE (1974=100)

<u>YEAR</u>	<u>INDEX VALUE</u>
1974	100.0
1975	105.9
1980	141.4
1985	191.6
1990	263.2
1995	365.9

III. SUMMARY

12. The approach provided tries to provide an understandable and easily managed method of systematically evaluating the impact of major trends over time. The method is in no sense definitive and should be seen only as a tool designed to help in the generation of perspectives and propositions about any given country or region. At the same time, the data generated could be readily portrayed graphically if there were some need to provide that sort of depiction. In all cases, forecast data for any year can be compared with observed values for that year when this information is available and index values and equations can be altered accordingly.

ANNEX A:

This Annex provides the equations which may be used to produced interpolated and extrapolated values for population and crop production trends.

Population equation: value for any year = $3.6261 \times 10^{-21} e^{.0318 x}$ where x is the year.

Crop production equation: value for any year = $2.8106 \times 10^{72} e^{-.0800 x}$ where x is the year.

Aggregate Indexed Value equation = $1.7279 \times 10^{-51} e^{.0615 x}$ where x is the year.

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