

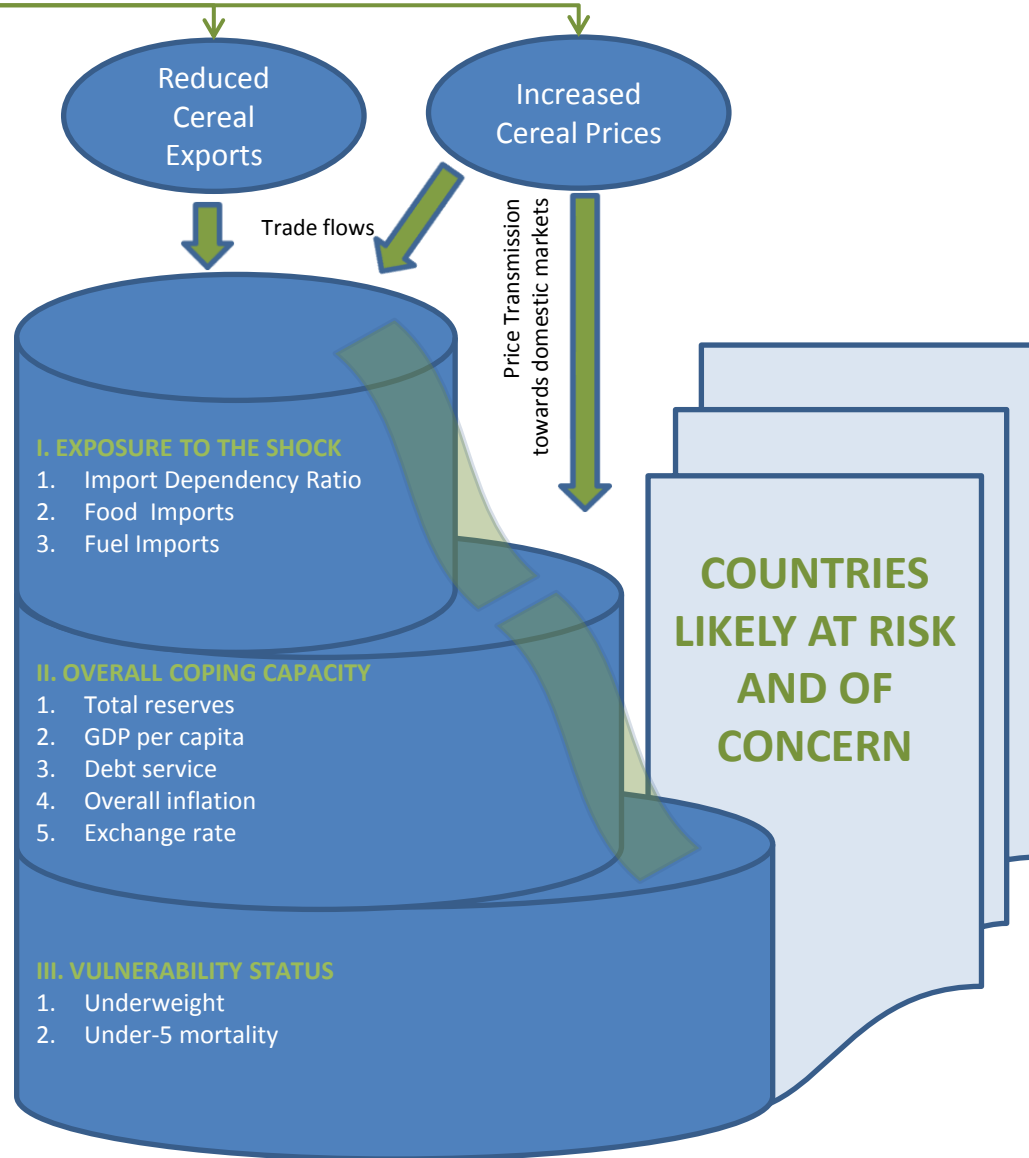
Identification of vulnerable countries and households A Two-Step Score Card Approach

Step 1.
Selecting Vulnerable Countries
Application To the US Drought Impacts

US Drought Impact Analysis Framework



Reduced Supply



ASSUMPTIONS

- A country is likely to be affected by the US drought depending on its exposure to Maize, Wheat and Soybean (MWS) imports (other than other food and non food imports) both in terms of quantity and price
- The transmission of the impact will depend on the overall capacity of the country to cope but also on the overall vulnerability status of its population

Defining Country Exposure to US Drought

US
Drought

Reduced
Supply

Reduced
Cereal
Exports

Increased
Cereal
Prices

Trade flows

Price Transmission
towards domestic markets

INDICATORS

I. EXPOSURE TO THE SHOCK

(Structural pass through determinants)

1. Cereal Import Dependency

Import Dependency Ratio of maize, wheat and soybeans

2. Food Import Dependency

Food imports as a share of total imports

3. Fuel Import Dependency

Fuel imports as a share of total imports

I. EXPOSURE TO THE SHOCK

1. Import Dependency Ratio
2. Food Imports
3. Fuel Imports

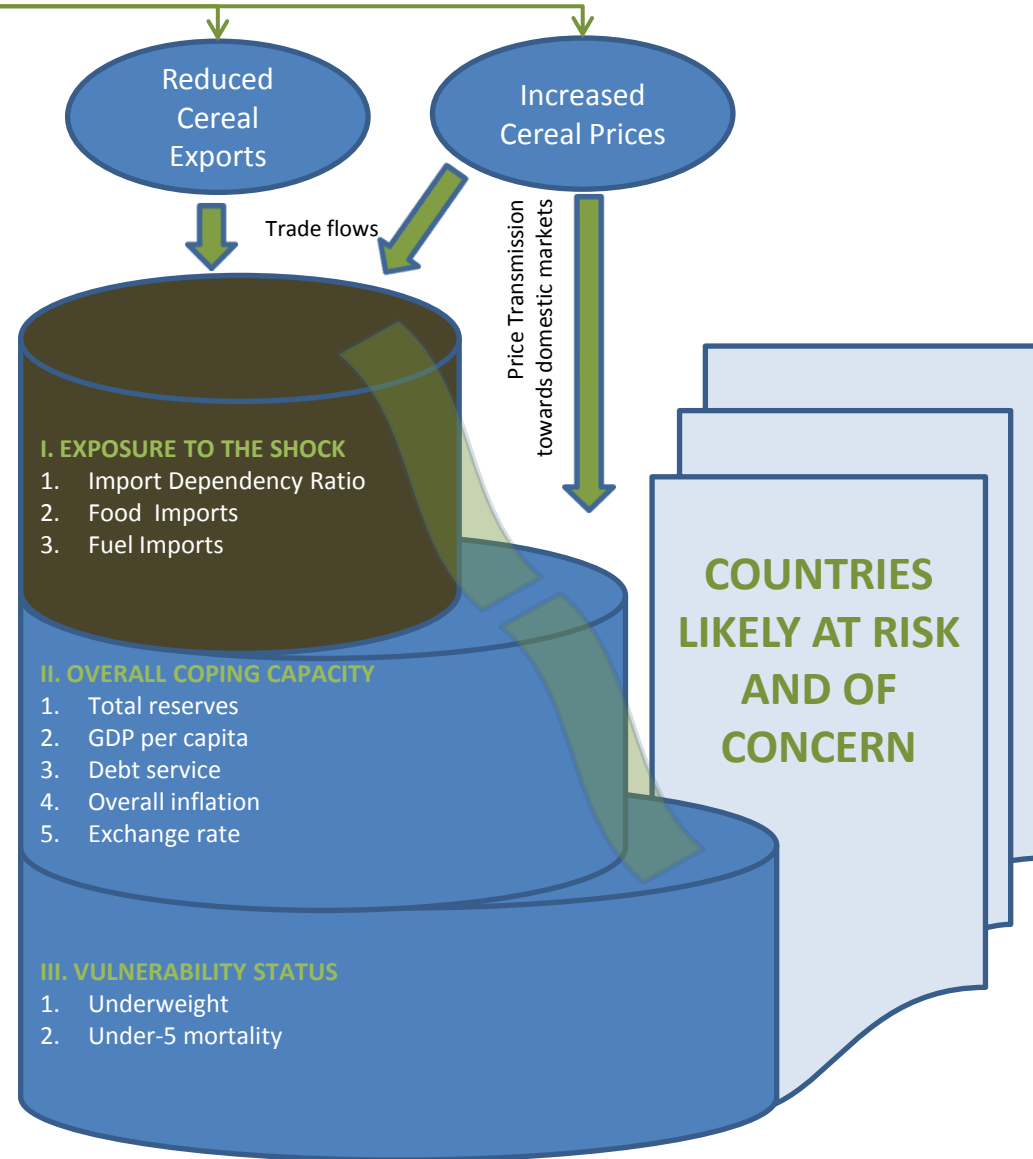
II. OVERALL COPING CAPACITY

1. Total reserves
2. GDP per capita
3. Debt service
4. Overall inflation
5. Exchange rate

III. VULNERABILITY STATUS

1. Underweight
2. Under-5 mortality

**COUNTRIES
LIKELY AT RISK
AND OF
CONCERN**



Defining Country Coping Capacity

US
Drought

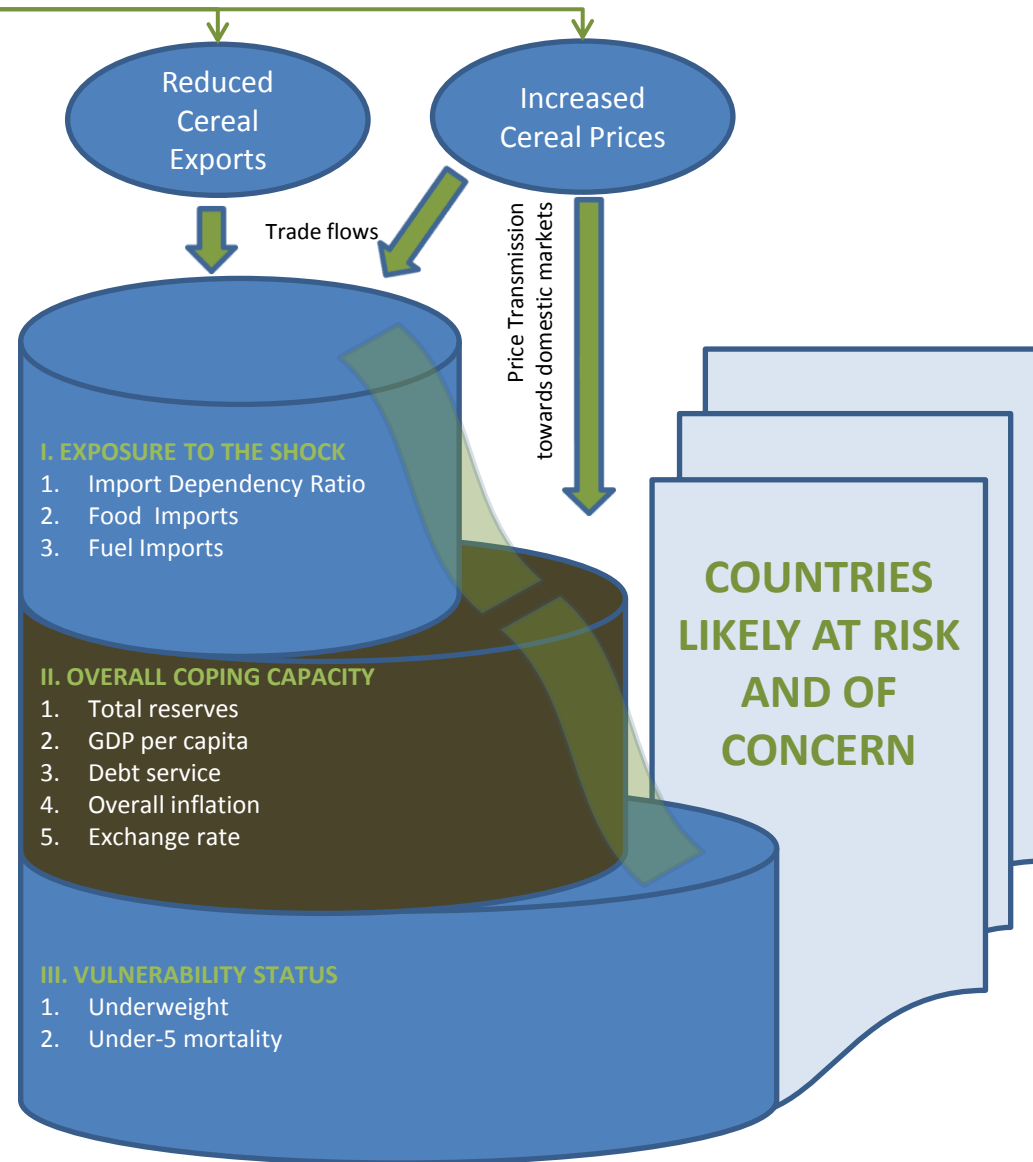
Reduced
Supply

INDICATORS

II. OVERALL COPING CAPACITY

(Short term pass through determinants)

- 1. Total reserves** in months of imports
Capacity of securing a pre-shock import flow
- 2. GDP per capita** in PPP
Overall wealth of the country
- 3. Debt service** as a share of GDP
Country's budget constraint in further expanding its import bill
- 4. Inflation**
Macro-economic stability and overall domestic price volatility
- 5. Exchange rate**
Currency volatility vis-a-vis foreign currencies



Underlying Country Vulnerability Status

US
Drought

Reduced
Supply

Reduced
Cereal
Exports

Increased
Cereal
Prices

Trade flows

Price Transmission
towards domestic markets

INDICATORS

III. VULNERABILITY STATUS

Overall vulnerability of the population (control variables)

1. Under-5 mortality

2. Underweight

I. EXPOSURE TO THE SHOCK

1. Import Dependency Ratio
2. Food Imports
3. Fuel Imports

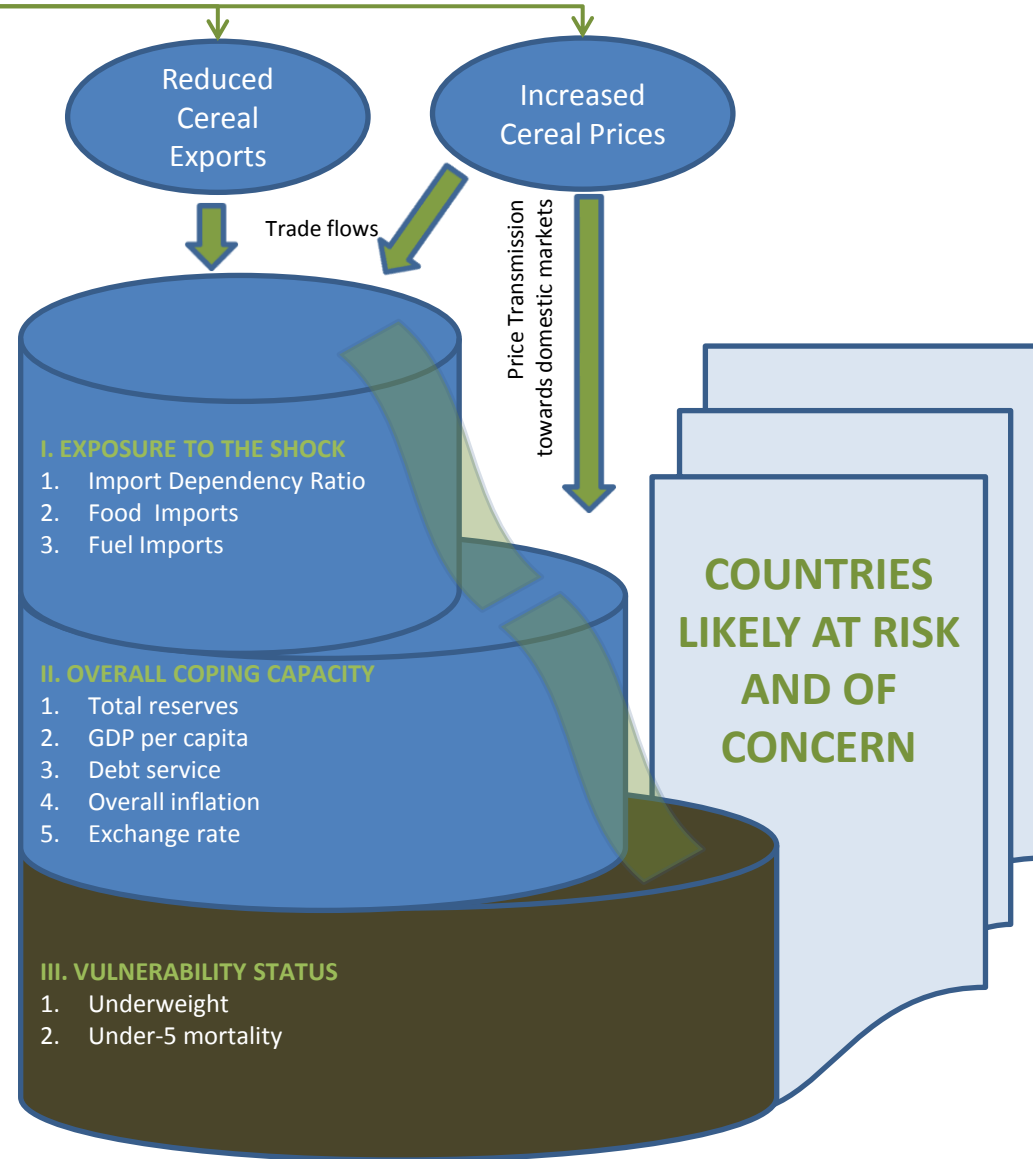
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**COUNTRIES
LIKELY AT RISK
AND OF
CONCERN**



Country Scoring Methodology

- Each variable in each dimension is normalized and weighted by its coefficient of variation to account for changes over time
- Quartiles computed for each normalized & weighted variable (Score: 1=low, 2=moderate, 3=high and 4=severe)
- A score is created for each dimension by averaging the scores of the variables within this dimension
- Countries ranked on the basis of the average score of the three dimensions (Vulnerability score: 1=low, 2=moderate, 3=high and 4=severe)

Countries of Concern

(High Risk and High Vulnerability)

	<i>Dim. I</i>	<i>Dim. II</i>		<i>Dim III</i>	
Country	Drought Exposure	Coping Capacity	Average Risk	Average Vulnerability	Overall Risk Classification
Afghanistan ^(*)	4	3	3	4	4
Bangladesh	3	2	3	4	3
Bhutan ^(*)	3	3	3	3	3
Burundi	3	3	3	4	4
Cameroon	4	3	3	3	3
Central African Republic	2	3	3	4	3
Cote d'Ivoire	3	3	3	3	3
Ethiopia	3	3	3	4	4
Ghana	3	2	3	3	3
Guinea	4	4	4	3	3
Indonesia	3	3	3	3	3
Kenya	3	3	3	3	3
Kyrgyz Republic	4	3	3	2	3
Madagascar	3	3	3	4	3
Malawi	3	3	3	3	3
Maldives	3	2	3	3	3

	<i>Dim. I</i>	<i>Dim. II</i>		<i>Dim III</i>	
Country	Drought Exposure	Coping Capacity	Average Risk	Average Vulnerability	Overall Risk Classification
Mali	3	2	3	4	3
Mauritania	3	3	3	4	3
Mozambique ^(*)	3	3	3	3	3
Niger	4	3	3	4	4
Nigeria	3	3	3	4	3
Pakistan	3	3	3	4	3
Rwanda	3	3	3	3	3
Sao Tome and Principe	3	3	3	3	3
Senegal	3	3	3	3	3
Sri Lanka	3	3	3	3	3
Sudan ^(*)	3	3	3	4	4
Swaziland	3	2	3	3	3
Tanzania	3	3	3	3	3
Togo	3	3	3	3	3
Yemen, Rep. ^(*)	3	3	3	4	3
Zimbabwe ^(*)	4	1	3	3	3

Scale: 1=low, 2=moderate, 3=high and 4=severe

Country Legend:

Upper middle income
Lower middle income
Low income

Notes: Countries marked with (*) present missing data issues for key indicators. The remaining ones are selected based on the full set of indicators presented in the framework.

Step 2.
Selecting Vulnerable Households

WFP Food Consumption Module

(developed as proxy for food access)

Household information on number of days per week that
8 food groups are consumed:



Food consumption score (*FCS*)

(food group x frequency x weight)



Food Consumption Groups (*FCG*)

Poor

Borderline

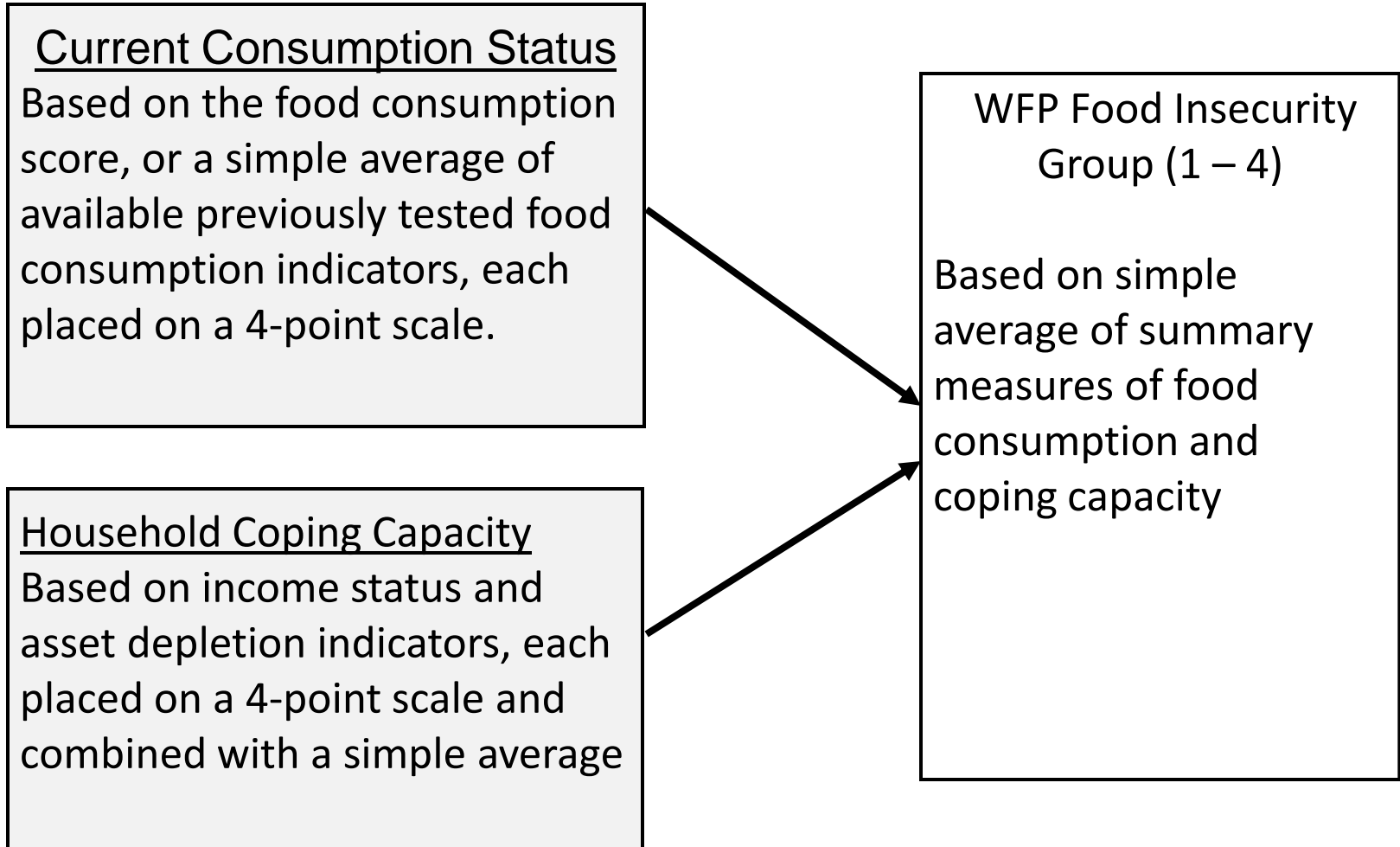
Acceptable

Description of household conditions similar to IPC

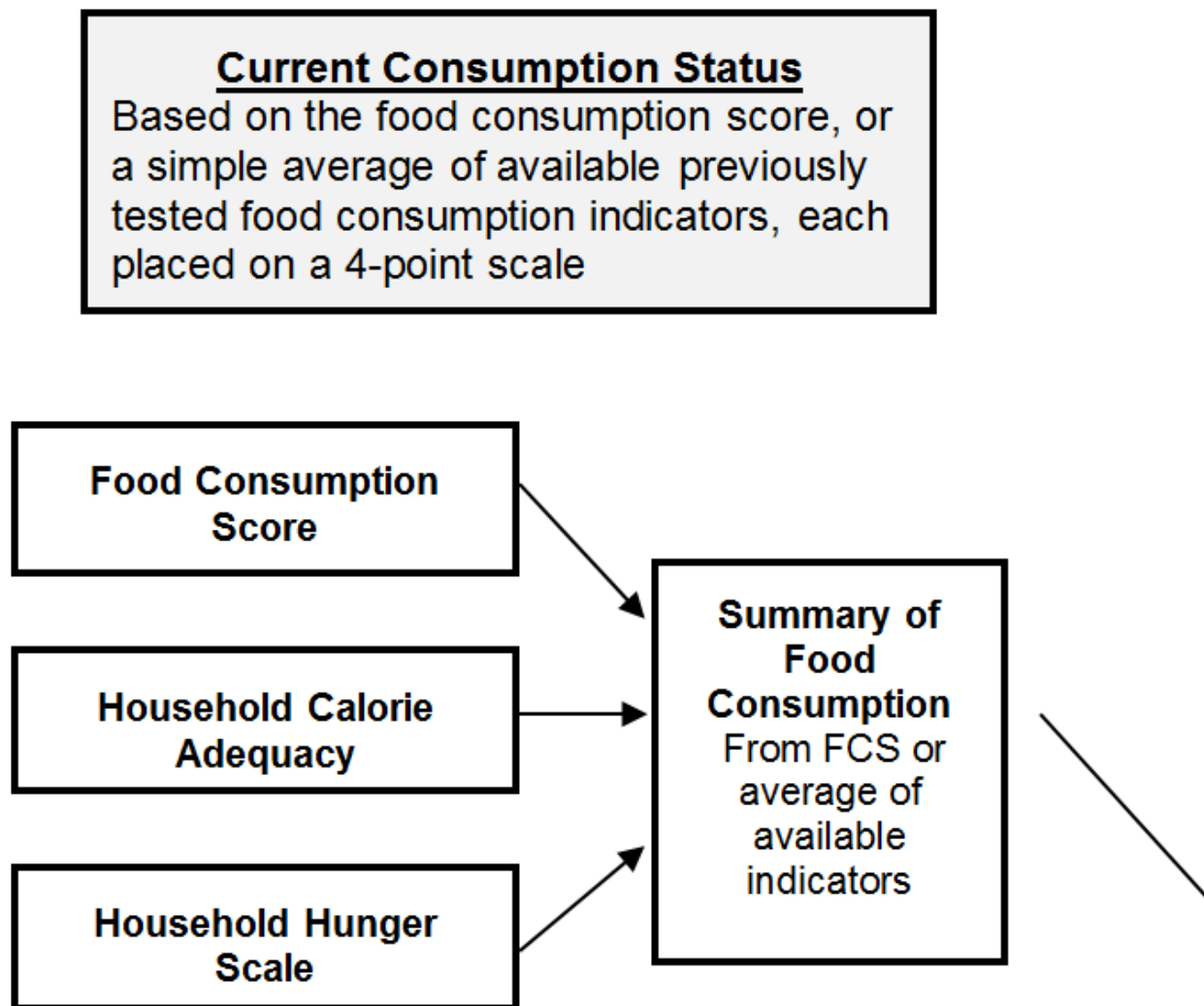
Food Security Group	Household Group Condition*
1-Food Secure	Able to meet essential food and non-food needs without engaging in atypical coping strategies
2-Mild Food Insecurity	Has minimally adequate food consumption without engaging in irreversible coping strategies; unable to afford some essential non-food expenditures
3-Moderate Food Insecurity	Has significant food consumption gaps, OR, Marginally able to meet minimum food needs only with irreversible coping strategies
4-Severe Food Insecurity	Has extreme food consumption gaps, OR, Has extreme loss of livelihood assets that will lead to food consumption gaps, OR worse

* Household group conditions adapted from IPC Technical Manual Version 2.0

A proposed algorithm for classifying households



A proposed algorithm for classifying households



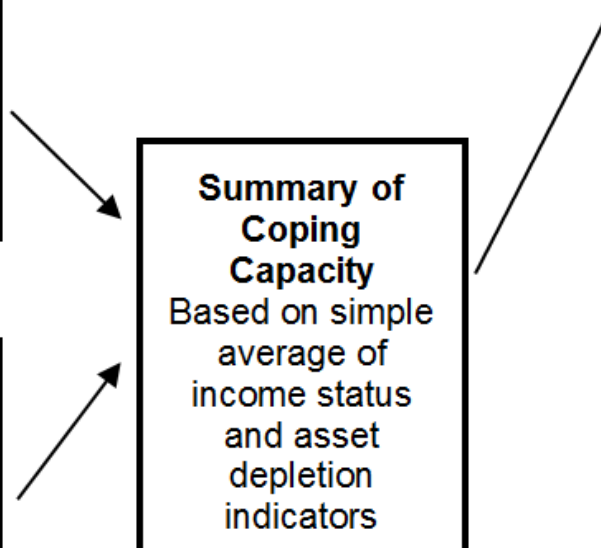
A proposed algorithm for classifying households

Household Coping Capacity
Based on income status and asset depletion indicators, each placed on a 4-point scale and combined with a simple average.

Income Status Indicator
From full-income measure of household poverty, if available, or from food expenditure share

Asset Depletion Indicator
Based on livelihood coping strategies (e.g. sale of non-productive assets, sale of productive assets, decreasing human capital, etc.)

Summary of Coping Capacity
Based on simple average of income status and asset depletion indicators



Converting Indicators to a 4-point scale

Coping Capacity Thresholds

Indicator	Food Secure (1)	Mild Insecurity (2)	Moderate Insecurity (3)	Severe Insecurity (4)
Poverty	None	Total exp \leq 100% of poverty line	Total exp \leq 100% of fd poverty line	
High Food Exp Share	< 65%	$\geq 65\%$, < 75%	$\geq 75\%$, < 90%	$\geq 90\%$
Livelihood coping ind	None	Stress strategies (sell non-prod assets)	Crisis strategies (sell prod assets)	Emergency strategies (sell major prod assets)

A proposed algorithm for classifying households

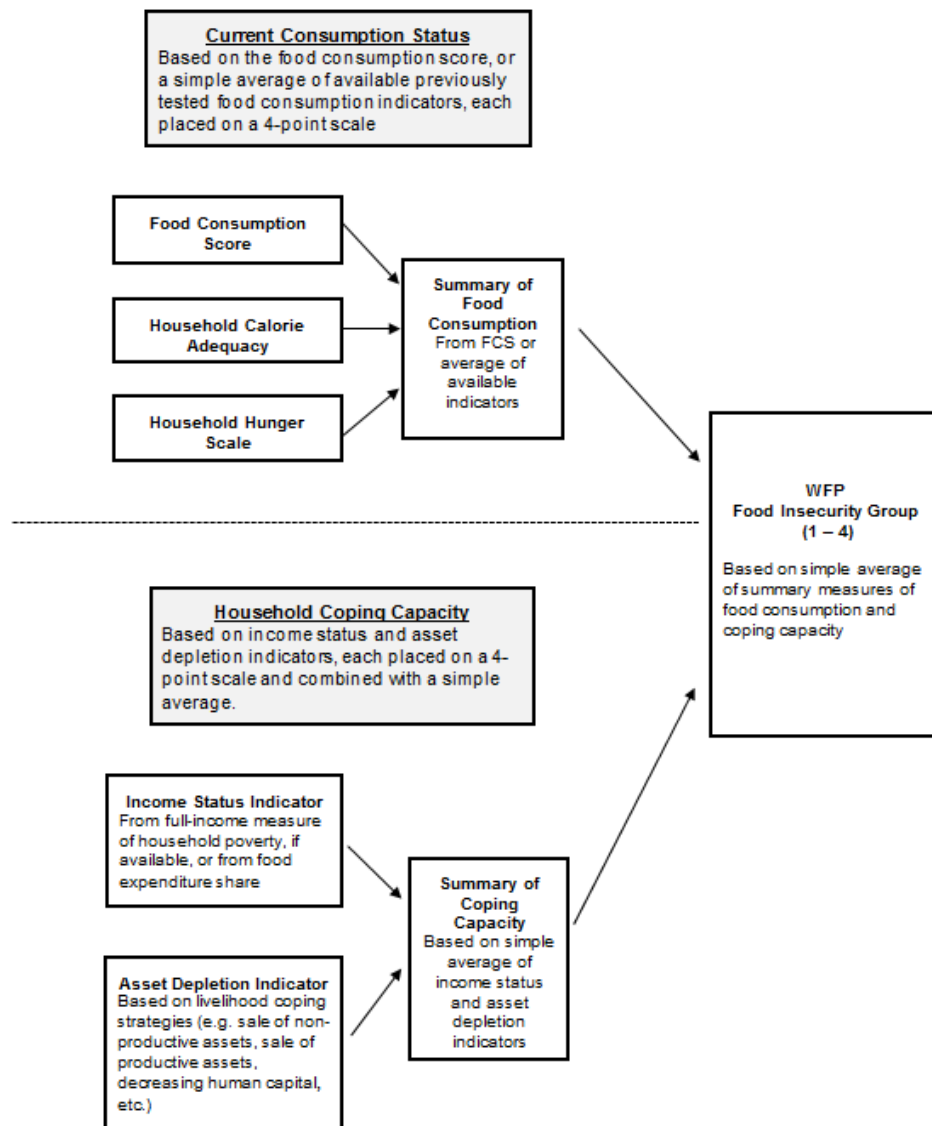


Table 3. Tajikistan Household Food Security Console

	Domain	Key Concern	Tool	Food Insecurity Rates (%)			
				None (1)	Mild (2)	Mod (3)	Sev (4)
Current status	Nutritional Status	Child malnutrition	Wasting				
			Stunting				
	Food Consumption	Inadequate quantity, quality food	Food Consumption Score	65%		22%	13%
			Food energy shortfall				
	Hunger experience	Household Hunger Scale					
Coping Capacity	Income Status	High food share	High, very high share of total expend on food	50%	20%	25%	5%
		Poverty	Total expend < poverty threshold				
	Asset Depletion	Livelihood coping strategies which deplete assets, decrease production, reduce human capital	Indicator based on stress, crisis, emergency strategies	30%	16%	54%	
Summary Indicators	Overall WFP Food Insecurity Group	Each household assigned to a FI group based on a simple average of the FCS and a coping capacity indicator. The latter is formed from a simple average of the food share and asset depletion indicators		20%	50%	28%	3%
	Current FSMS indicators	Current FSMS indicator (<u>Foodfsclass</u>)		72%		16%	12%
		Current Pessimistic FSMS Indicator (Foodfsclass2)		45%		42%	12%