Locating the Chronically Food Insecure through IPC [1]

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I. Introduction

In the food security community, there has been a need for common definitions and common scale for classifying various food insecurity situations in terms of severity and implications for action. The Integrated Food Security Phase Classification (IPC) is designed to fill this critical gap in food security analysis, in particular for a group of UN agencies and international NGOs working toward food security.

The IPC is now being used in over 40 countries and in the Philippines, is led by the National Nutrition Council as the institutional home of the IPC. It has evolved into a system which works in multiple contexts for multiple stakeholders.

Among the various innovations and improvements, Version 2.0 of the IPC approach introduces a chronic food insecurity scale in addition to the acute food insecurity scale. This provides evidence on the long-term challenges of food insecurity as well as strategic objectives for interventions.

By using the IPC common scale and 'currency', key stakeholders (involving government, UN, NGOs and civil society) work together to consolidate wide-ranging evidence on food insecure populations and answer the following questions:

1. How severe is the situation?
2. Where are the areas that are food insecure?
3. How many people are food insecure?
4. Who are the food insecure people in terms of socio-economic characteristics?
5. Why are the people food insecure?

The IPC Protocol builds on four (4) functions: (1) **Building Consensus** wherein partners in the IPC process are identified following the themes of food security. This ensures that all stakeholders involved in addressing food security are part of the process. (2) **Classifying Severity and Causes** where specific procedures were developed to allow linkages of evidences are understood through an integrated analytical framework (Figure 1), and transparently, methodically and consensually analyzed against international standards in the reference table. (3) **Communicating for action** includes procedures for transforming analyses into a map showing highlights of the analysis; and (4) **Quality Assurance** which includes two tools, the self-assessment and the peer review (which is only used when necessary), and procedures to ensure the high quality of IPC analyses and conclusions.

[1] Paper presented during the 13th National Convention on Statistics

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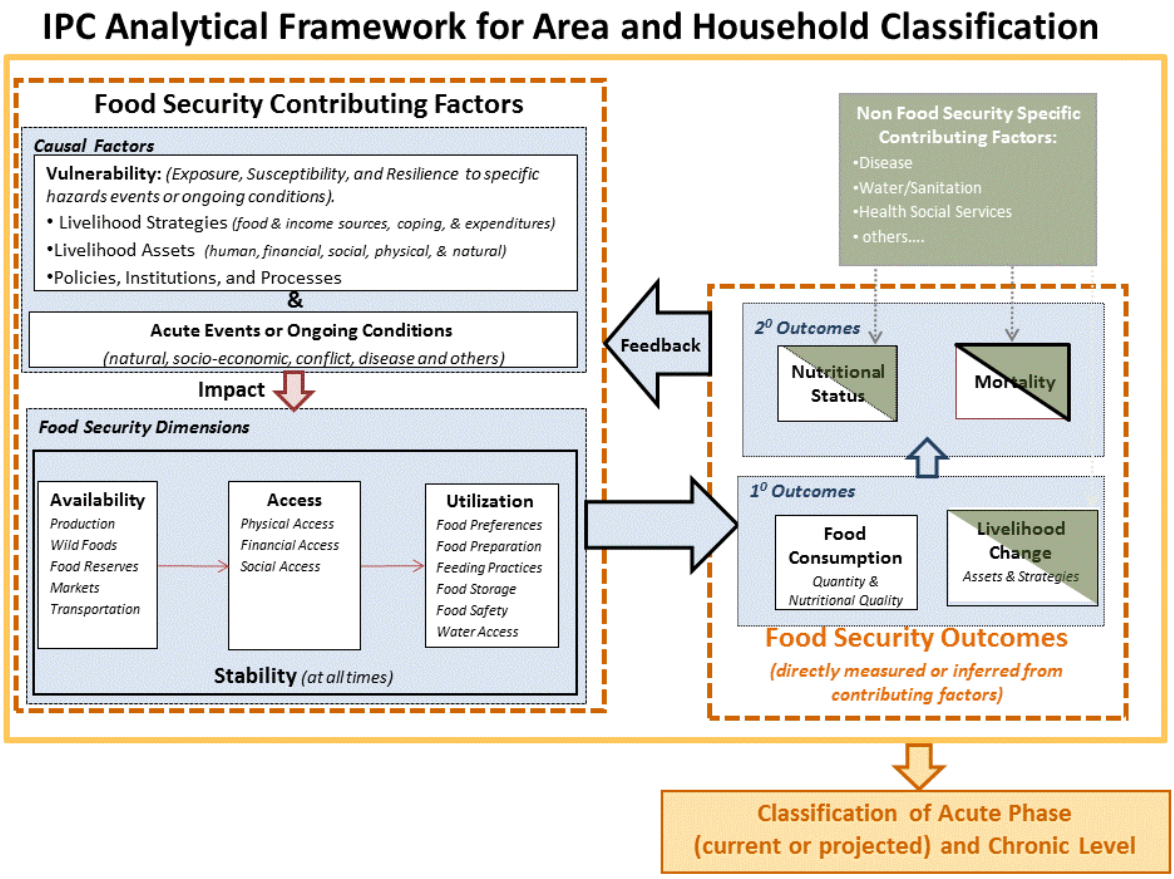
Figure 1. IPC Analytical Framework



The IPC standardized scale categorizes the severity of food insecurity into a five-phase colour scale for acute and four-level colour scale for chronic. Each phase and level has important and distinct implications as to where and what are the priority strategic response objectives.

Since the adoption of IPC acute analysis in 2012, the Philippines has conducted three trainings back-to-back with IPC acute analyses. The first analysis started in November 2012 with 25 of the most at-risk provinces located in Mindanao. This was immediately followed by another analysis in February 2013, as Typhoon Bopha severely hit some of the provinces in Mindanao.

After Typhoon Haiyan hit 3 regions of the country in November 2013, the IPC again provided the platform for objective food security analysis, aiding identification of the most at-risk provinces. The IPC Acute analysis highlighted the mitigating impact of humanitarian aid and response across various geographic areas. The report was also used by the agriculture department and development organizations and donors in the preparation of their disaster assessment reports, helping design responses towards recovery and reconstruction.

In January 2015, after going through the capacity-building of analysts on the chronic food insecurity analysis protocol, the first IPC Chronic Analysis Workshop was held in the Philippines with subsequent rounds of analysis in 2016.

This paper discusses the results of the two (2) rounds of chronic food insecurity analysis conducted in January 2015 and February 2016 using the IPC protocol. Recommendations

based on the results of the analyses as well as operational recommendations to improve subsequent analyses for the remaining provinces of the country are also given.

II. Methodology

The IPC interagency analysis workshop held on 20-24 January 2015 (Round 1) and 22-26 February 2016 (Round 2) were participated by Department of Agriculture (DA), Department of Agrarian Reform (DAR), Food and Agriculture Organization (FAO) of the United Nations, Food and Nutrition Research Institute of Department of Science and Technology (FNRI-DOST), National Economic and Development Authority (NEDA), National Nutrition Council (Region I, II, IV-A, V, IX, X, XI, XII, CAR, ARMM, CARAGA), Office of Civil Defense, UPLB-Institute of Human Nutrition and Food (UPLB-IHNF), UPLB-Interdisciplinary Studies Center on Food Security (UPLB-ISCFS), Philippine Atmospheric, Geophysical & Astronomical Services Administration (PAGASA), Philippine Statistics Authority (PSA), United Nations World Food Programme (WFP).

The two rounds of analysis covered 36 provinces of Luzon and Mindanao. The first round of analysis covered 18 Mindanao provinces while the second round covered the remaining 5 provinces in Mindanao and 10 provinces from Luzon.

The IPC Chronic Food Insecurity utilized the IPC Information Support System (ISS), a web-based application (iss.ipcinfo.org/ph) that facilitates the analysis of identified analysis areas. The ISS creates, stores and disseminates IPC analyses and information by digitizing the IPC tools needed to implement the IPC protocol.

For the two rounds of chronic food insecurity analyses, ten years data (from 2006-2015) with at least 2-3 data points were collected for both the direct and indirect evidences needed for the analysis. For the direct evidences, these were based on the evidences identified by the IPC reference table while for the indirect evidences, these were based on an exhaustive list of recommended evidences to represent the factors as identified in the IPC analytical framework.

Fifty-eight (58) indicators (Table 1) were used for the analysis, 8 direct and 50 indirect, all of which were generated from results of surveys and reports of the departments of agriculture, agrarian reform, education, public works and highways, and social welfare and development; Food and Nutrition Research Institute, Cooperative Development Authority, National Council for Indigenous Peoples, National Disaster Risk Reduction Management Council, and the Philippine Statistics Authority.

Table 1: List of Indicators used for the IPC Chronic Food Insecurity Analysis

Dimensions	Indicators
Food Consumption	**Quality** • **Share of Energy from Macronutrients (Direct)** • **% of Children Eating Minimum Dietary Diversity (Direct)** • **Starchy Staple Ratio (Direct)** • Use of Quality-Related Coping mechanisms • % Participation of Children 12-59 months in Garantisadong Pambata • % Households consuming meat and fish, vegetables

Dimensions	Indicators
	Quantity • **Household Dietary Diversity Score (Direct)** • **Food Consumption Score (Direct)** • Minimum Meal Frequency Among Children, 6-23 months • Use of Quantity-Related Coping mechanisms • % of Food Insecure HHs, Mothers, Children • Annual Per Capita Consumption (various food commodities)
Nutritional Status	• **Stunting among 6-59 months children (Direct)** • Adults with Chronic Energy Deficiency
Limiting Factors	**Food Availability + Stability** • Self-Sufficiency Ratio for Rice, Corn, Camote, Cassava, Pork, Beef, Chicken, Chicken Egg, Milkfish, Tilapia • Volume of production for various root crops, vegetables, fruits, poultry, fish, and livestock **Food Access + Stability** • National Road Length by Surface Type • Retail price of beans and legumes, vegetables, root crops, fish, fruits, meat, poultry • Inflation rate • Purchasing power **Food Utilization + Stability** • % Households Relying on Improved/Non-Improved Water Source • % Households by Main Source of Water Supply for Drinking • % Households Relying on Improved/Non-Improved Water Source • % Exclusively breastfed children 0-5 months old • % children 0-23 months old initiated to breastfeeding
Underlying/ Causal Factors	• **% of households below provincial poverty line (Direct)** • **% of households with salt testing positive to potassium iodate (Direct)** • % population affected by major shocks (NDRRMC Reports) • Coverage of Processes, Institutions and Policies (PIPs) includes number of beneficiaries reached, i.e. 4Ps, Sustainable Livelihood Program, PhilHealth coverage **Livelihood Strategies** • Employed workers 15 yrs and above, by major occupation group

Dimensions	Indicators
	Human Capital • % Literacy of HH Pop 10 yrs old and Over • Elementary & Secondary Completion Rate • Elementary & Secondary Gross Enrollment Rate • Elementary & Secondary Net Enrollment Rate • Human Development Index • Life Expectancy at birth **Physical Capital** • % of households, by kind of fuel for cooking and lighting • % of population with access to conveniences, devices • % of households owning land **Financial Capital** • % unemployed and % underemployed • Amount of Deposits, Loans • No. of banks (commercial, rural) **Social Capital** • No. of DAR-assisted cooperatives, by type • No. of Registered cooperatives, by type • Projected population of indigenous people **Natural Capital** refers to natural assets of the areas

Table 2: Summary of Type and Number of Indicators used in the Chronic Food Insecurity Analysis

Type and Number of Indicators	**Direct**	**Indirect**
Food Consumption – Quality	3	4
Food Consumption – Quantity	2	5
Nutritional Status	1	1
Limiting Factors	0	14
Underlying/Causal factors	2	26
Total	**8**	**50**

Note: Direct Limiting Factor of access to safe water defined by IPC Reference Table as: Water source: improved and water access $\geq$15 liters per person per day is not generated by the Philippine statistical system.

In preparation for the analysis using the ISS, the IPC Secretariat identified, collected, compiled and organized the evidences needed for the analysis; as well as facilitated the identification of impacts of unusual shocks at the national level. Shocks that have impact on the food security situation of the areas were not included so as not to skew the analysis.

Prior to the full blown analysis, 35 IPC analysts were convened to complete 3 of the six steps of ISS. These steps were the context analysis (demographic profile of the provinces to be analysed); area analysis repository (encoding of evidences in the ISS evidence repository); and identification of local shocks (similar to the national level shocks but at the local level that have impact on the food security of the provinces to be analysed).

The rest of the steps: Step 4: Evidence Documentation and Analysis; Step 5: Classification of Severity and Identification of Contributing Factors and Step 6: Conclusion and Justification were accomplished during the actual analysis workshop. This involved 52 IPC analysts representing national and regional data generating and data utilizing agencies including the representatives the department of agriculture (PMS), national defense (OCD), health (NNC), science and technology (FNRI and PAGASA), Philippine Statistics Authority, National Economic and Development Authority (CO and RO); the academe (UPLB) and UN development partners (WFP and FAO). The analyses were facilitated by the members of the IPC regional support unit based in FAO Regional Office in Bangkok, Thailand.

After the analyses, the IPC Core Group conducted a review of the results of the analysis for quality and completeness of analysis.

III. Limitations

The limited number of evidences that meet the suggested indicators in the IPC reference table is one of the limitations of IPC. Thus, some of the indicators generated by the Philippine Statistical System were re-computed to meet the suggested indicators of the IPC reference table, such as poverty incidence, stunting, access to safe water, food consumption data such as share of energy from macronutrients and children eating minimum dietary diversity. Representativeness of the data at the provincial level is also a limitation for indicators such as proportion of food insecure households, mothers and children; and prevalence of exclusive breastfeeding and initiation to breastfeeding, where only regional estimates are available. Some provinces also have indicators with large coefficient of variation.

The IPC has set criteria for the number of reliable evidences an area of analysis should meet for the assignment of confidence level of analysis. An area should be assigned at least an “acceptable” confidence level for the analysis to be accepted.

Based on the number of evidences, 3 provinces (Apayao, Basilan and Tawi-tawi) of the 36 provinces analysed were not assigned confidence levels due to the limited number of reliable evidences. Thus, only 33 provinces were successfully classified.

IV. Results and Discussion

A. By Level of Severity

Of the 33 provinces classified, 2 provinces were classified as Level 4 or severe chronic food insecurity (Lanao del Sur and Sulu), 25 provinces were classified as Level 3 or moderate chronic food insecurity (Ilocos Sur, Isabela, Abra, Quezon, Masbate, Zamboanga del Norte, Zamboanga Sibugay, Bukidnon, Camiguin, Lanao del Norte, Misamis Occidental, Misamis Oriental, Compostela Valley, Davao del Norte, Davao del Sur, Davao Oriental, South Cotabato, Sultan Kudarat, Cotabato, Sarangani, Agusan del Sur, Agusan del Norte, Surigao del Norte, Surigao del Sur, and Maguindanao); and 6 provinces were classified as Level 2 or mild chronic food insecurity.

Table 3: Summary of Provinces Classified, by severity of chronic food insecurity (CFI)

Level 2: Mild CFI	Level 3: Moderate CFI		Level 4: Severe CFI
Ilocos Norte	Ilocos Sur	Davao del Norte	Lanao del Sur
Pangasinan	Isabela	Davao del Sur	Sulu
Cagayan	Abra	Davao Oriental	
Nueva Vizcaya	Quezon	South Cotabato	
Benguet	Masbate	Sultan Kudarat	
Zamboanga del Sur	Zamboanga del Norte	Cotabato	
	Zamboanga Sibugay	Sarangani	
	Bukidnon	Agusan del Sur	
	Camiguin	Agusan del Norte	
	Lanao del Norte	Surigao del Norte	
	Misamis Occidental	Surigao del Sur	
	Misamis Oriental	Maguindanao	
	Compostela Valley		

The provinces of Apayao, Basilan and Tawi-tawi were not classified due to inadequate number of required reliable direct evidences needed for the analysis.

Table 4: Population Table, by proportion and magnitude of severity of chronic food insecurity (CFI)

Level of Severity	Proportion	Magnitude
Level 4: Severe CFI		
Lanao del Sur	22	226,000
Sulu	22	174,000
Total		***400,000***
Level 3: Moderate CFI		
Ilocos Sur	22	157,000
Isabela	24	404,000
Abra	32	76,000
Quezon	21	459,000
Masbate	50	459,000
Zamboanga del Norte	44	509,000
Zamboanga Sibugay	39	253,000
Bukidnon	39	575,000
Camiguin	27	25,000
Lanao del Norte	35	361,000
Misamis Occidental	22	136,000
Misamis Oriental	30	485,000
Davao del Norte	30	320,000
Davao del Sur	22	504,000
Davao Oriental	27	153,000
Compostela Valley	26	194,000
South Cotabato	35	290,000
Sultan Kudarat	42	408,000
North Cotabato	35	486,000
Sarangani	40	219,000
Agusan del Sur	30	213,000
Agusan del Norte	40	146,000
Surigao del Norte	25	122,000
Surigao del Sur	27	163,000
Maguindanao	42	436,000

Level of Severity	Proportion	Magnitude
Total		***7,553,000***
Level 2: Mild CFI		
Ilocos Norte	17	105,000
Pangasinan	17	525,000
Cagayan	15	181,000
Nueva Vizcaya	19	87,000
Benguet	13	111,000
Zamboanga del Sur	12	255,000
Total		***1,264,000***

Of the 33 provinces, Lanao del Sur and Sulu have the most proportion of population (15-30%) suffering from severe chronic food insecurity, while Pangasinan, Zamboanga del Norte Bukidnon and Davao del Sur with more than half a million population suffering from moderate to severe chronic food insecurity.

Causes of Food Insecurity

The operant factors that drive the provinces to moderate and chronic food insecurity (L3 and L4) are low quality of food consumption. This is due to: a) increasing prices of food commodities over the five-year period analysed CY2010-2014; b) high poverty incidence ranging from 30% to 55%; c) high prevalence of stunting of children under five years ranging from 35% to 45%; d) high percentage of children that do not meet the minimum dietary diversity; e) substantial proportion of population that still rely on non-improved water source; and f) poor child care practices as evidenced by low initiation rate of breastfeeding and low prevalence of practice of exclusive breastfeeding.

B. By Food Security Dimension

Food access is the way different people obtain available food including physical (distance, infrastructure), economic (purchasing power), and social (ethnicity, religion, political affiliation) aspects.

For the provinces of Lanao del Sur, Sulu, Maguindanao, Zamboanga del Norte and Lanao del Norte, food access both in terms of economic and physical, are a major limiting factor. This is mainly due to low purchasing power which can be attributed to limited livelihood and employment opportunities, coupled with high rates of underemployment. Inadequate road networks and transport also constrained access to food by the population.

For the provinces of Abra, Isabela, Quezon, Masbate, South Cotabato and Sultan Kudarat although local food production and improvement in the national roads conditions were observed, food access in the provinces is largely hampered by increases in the retail prices of major commodities over a five-year span with concurrent high poverty rates.

Food availability dimension addresses whether or not food is actually or potentially physically present including aspects of production, availability of wild foods, food reserves, markets and food transport.

This dimension is not a limiting factor except in the provinces of Agusan del Norte, Misamis Oriental and Sulu due to low self-sufficiency in rice and corn. Food is generally adequate in the other analysed provinces based on self-sufficiency ratio for rice and corn and at least

50% sufficient for meat, fish, poultry and vegetables. Alternative crops and fish products of the provinces are also available and are consumed.

Food utilization dimension refers to the physical utilization of food at the household level. This dimension includes food preference, manner of food preparation, feeding practices, storage and access to improved water source.

Food utilization is a major limiting factor in 16 provinces due to a) poor access to improved water source (11 to 34%), b) lighting (10 to 61%) which are associated to consumption of unsafe food, and c) use of non-improved cooking fuel (61 to 96%) such as charcoal and wood that contribute to sub-optimal use of food. Poor child care practices as evidenced by low prevalence of exclusive breastfeeding coverage among children 0-5 months old was also noted in half of the analysed provinces classified as L2, L3 and L4.

C. By Underlying Factors

In terms of factors that affect food security dimensions, the provinces of Masbate, Sarangani, Lanao del Sur, Maguindanao, Sulu have about 30% illiteracy rate and landless poor households ranging from 40-70%. These factors negatively affect sustainable livelihood strategies, financial capital and care practices. Lack of employment and contract farming for unskilled laborers in particular in the provinces of Sulu, Lanao del Sur, Maguindanao, Bukidnon and Sarangani affects their access to food, where 40% are tenants and agricultural wage earners. Lack of access to agriculture land and other natural resources particularly in Camiguin, Surigao del Norte and Lanao del Norte also affect food security.

The long history of human-induced disasters in southern Philippines largely affects the peace and order situation of the communities. This also contributes to limited investments and program interventions, as indicated in conflict-affected parts of Sulu and Maguindanao. In terms of human capital, the work force classified as the vulnerable groups are the unskilled workers and those involved in hard labor.

The geographical settings easily expose the provinces to disaster risks and often result to damages in infrastructure, housing and agriculture.

V. Conclusion and Recommendations

In conclusion, based on the analysis, about 9 million people in 33 provinces of the country suffer from moderately to severe chronic food insecurity. This is due to consumption of poor quality food and poor quality of livelihoods. The key contributing factors include increasing prices of food commodities, seasonal employment and high poverty incidence. Provinces classified as Level 3 (moderate chronic food insecurity) suffer from high prevalence of stunting which may be due to poor child care practices as evidenced by low prevalence of breastfeeding initiation and poor practice of exclusive breastfeeding.

The high levels of chronic food insecurity are driven by poor diet diversity, high levels of stunting and limited financial access. Based on these, the following are recommendations for consideration in the planning of provincial, regional and national governments as well as non-government organizations:

1. Strengthen social protection programs by expanding coverage and efficient identification of poor families with priority given to children, women and older persons and their families.

2. Integrate employment diversification and sustainable economic empowerment programs with local agricultural production processes for the poor and vulnerable.

3. Increase investments in rural off-farm and non-farm employment generating activities such as agribusiness enterprises to address seasonal agricultural activities.

4. Identify and develop local farm-to-market roads to augment existing facilities for transport of basic commodities and access to government services.

5. Scale-up investments on nutrition, particularly on the components of First 1000 Days (from pregnancy, birth to 6 months, and 6 months to 2 years) as a proven solution to prevent child malnutrition.

6. Improve the advocacy and implementation of backyard vegetable gardening to help improve household food security and diet diversity

VI. Next steps

Analysis of the remaining 45 provinces is planned for the rest of 2016. This will complete the analysis for the majority of the 81 provinces excluding those provinces which will not be analysed due to insufficient reliable data for a complete picture of the country's chronic food insecurity situation.