

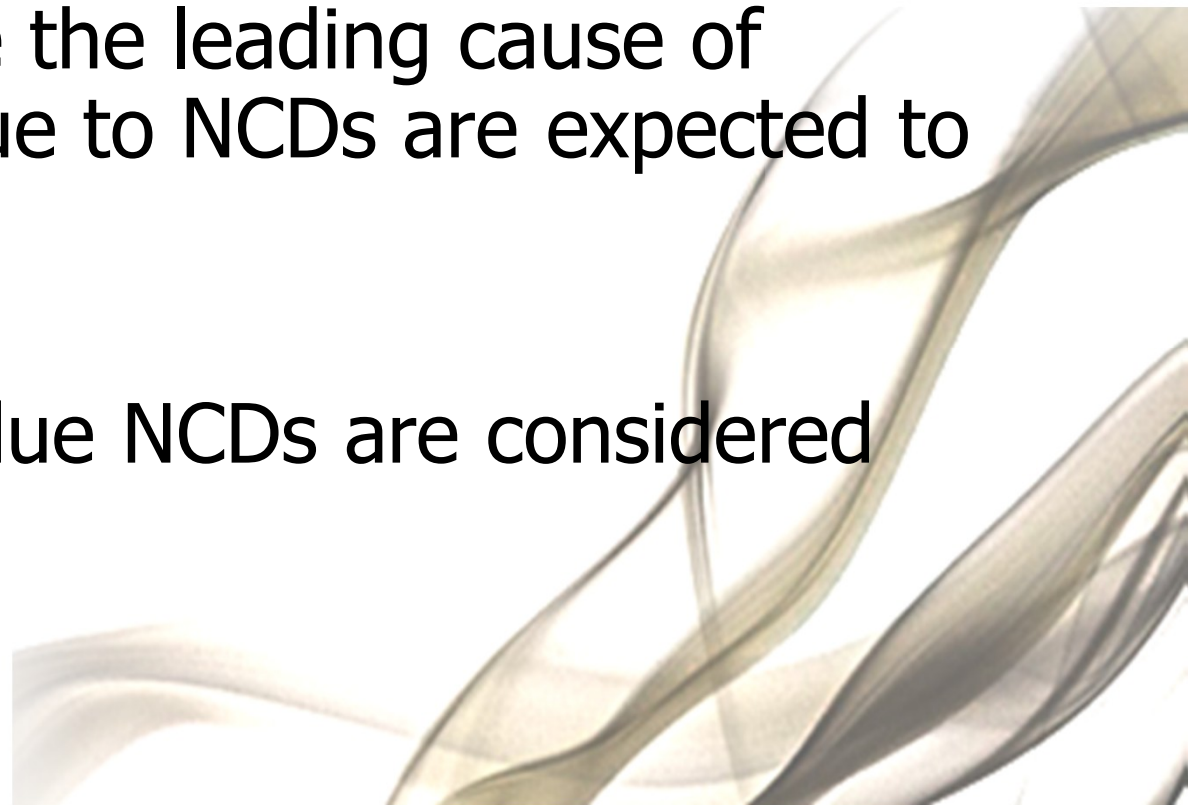


# **Inequalities in Non-communicable Diseases**

V. Ulep; M. Aldeon; D. Ortiz; N. dela Cruz

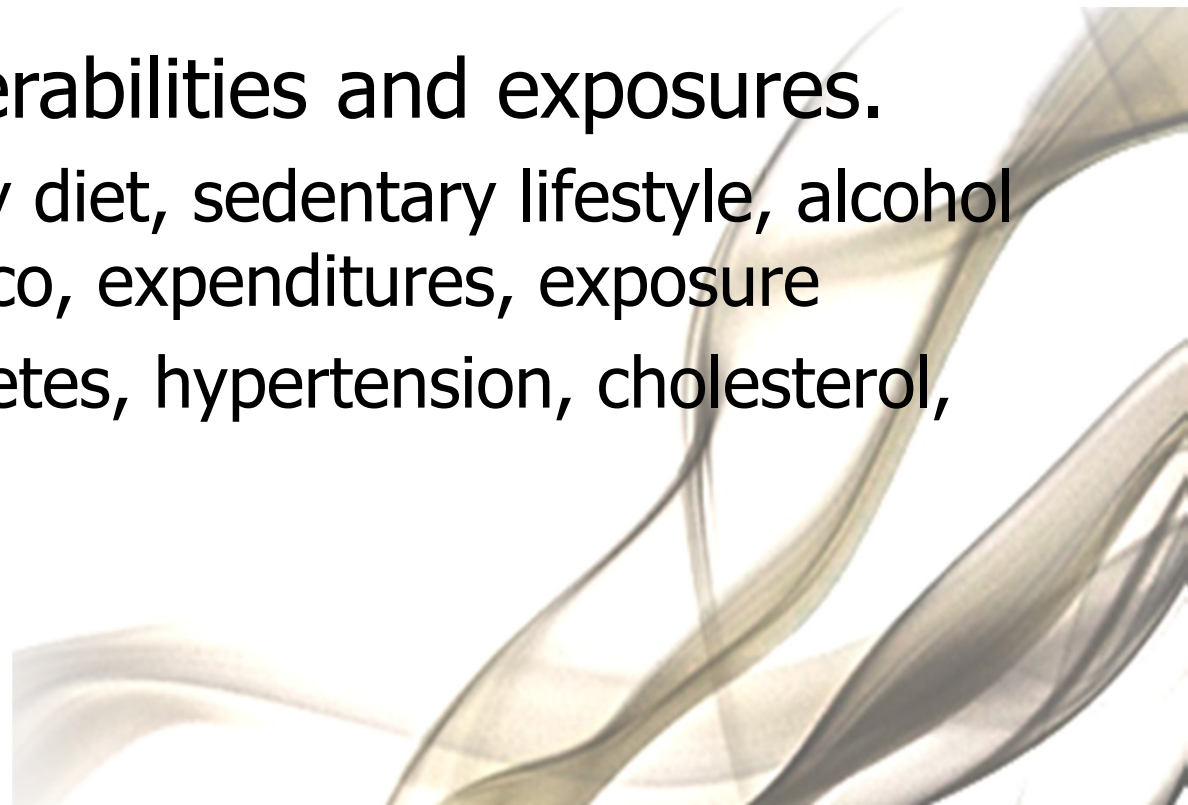
# Introduction

- Philippines depicts the convergence of disease patterns of both developed and developing countries --> "hybrid".
- NCDs remains to be the leading cause of mortality. Deaths due to NCDs are expected to increase.
- 30-50% of deaths due NCDs are considered premature.

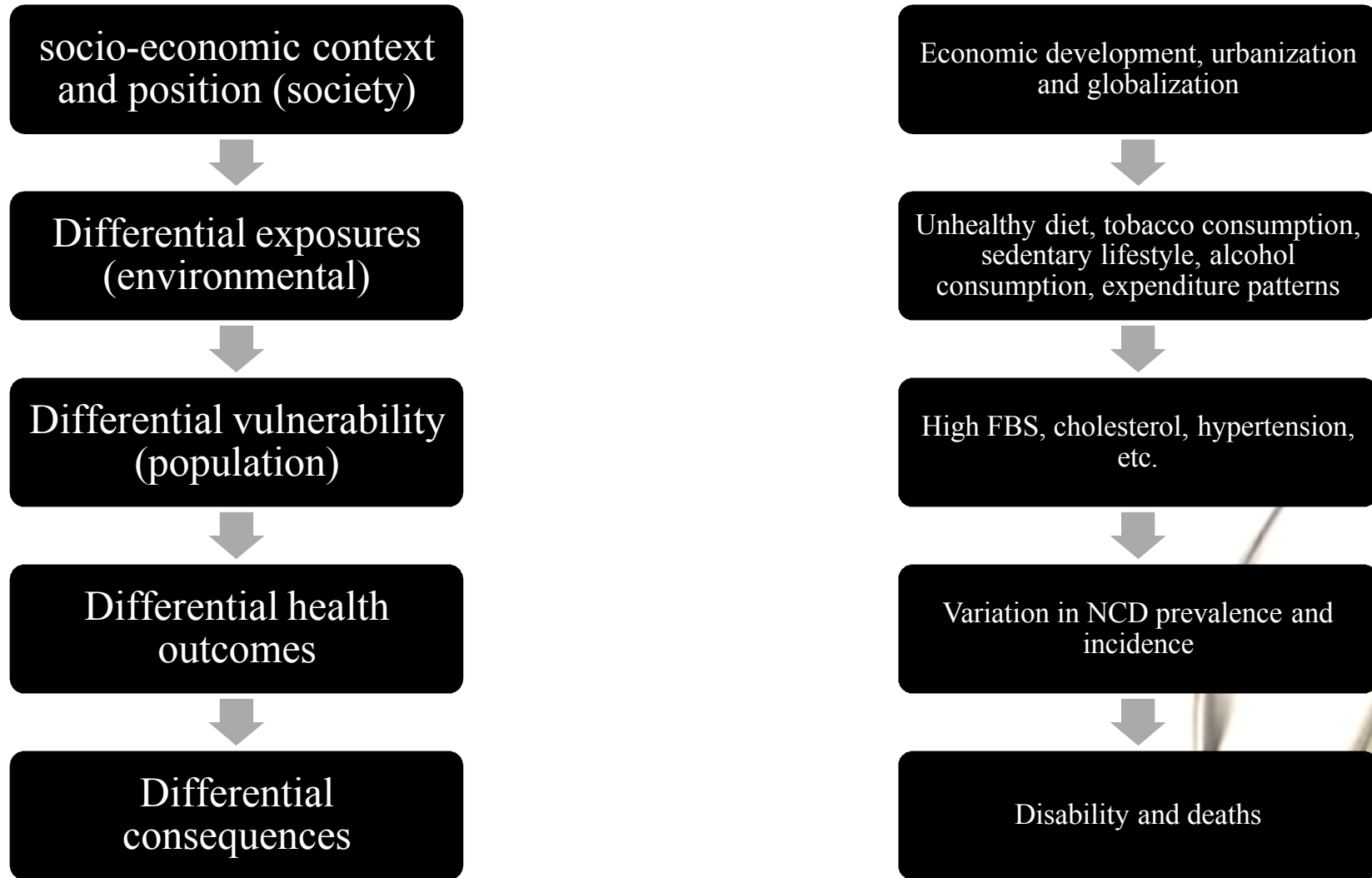


# Coverage of research

- Macro-social factors that drives the emergence of NCDs in emerging economies like the Philippines.
- Inequalities in vulnerabilities and exposures.
  - Exposure: unhealthy diet, sedentary lifestyle, alcohol consumption, tobacco, expenditures, exposure
  - Vulnerabilities: diabetes, hypertension, cholesterol, obesity

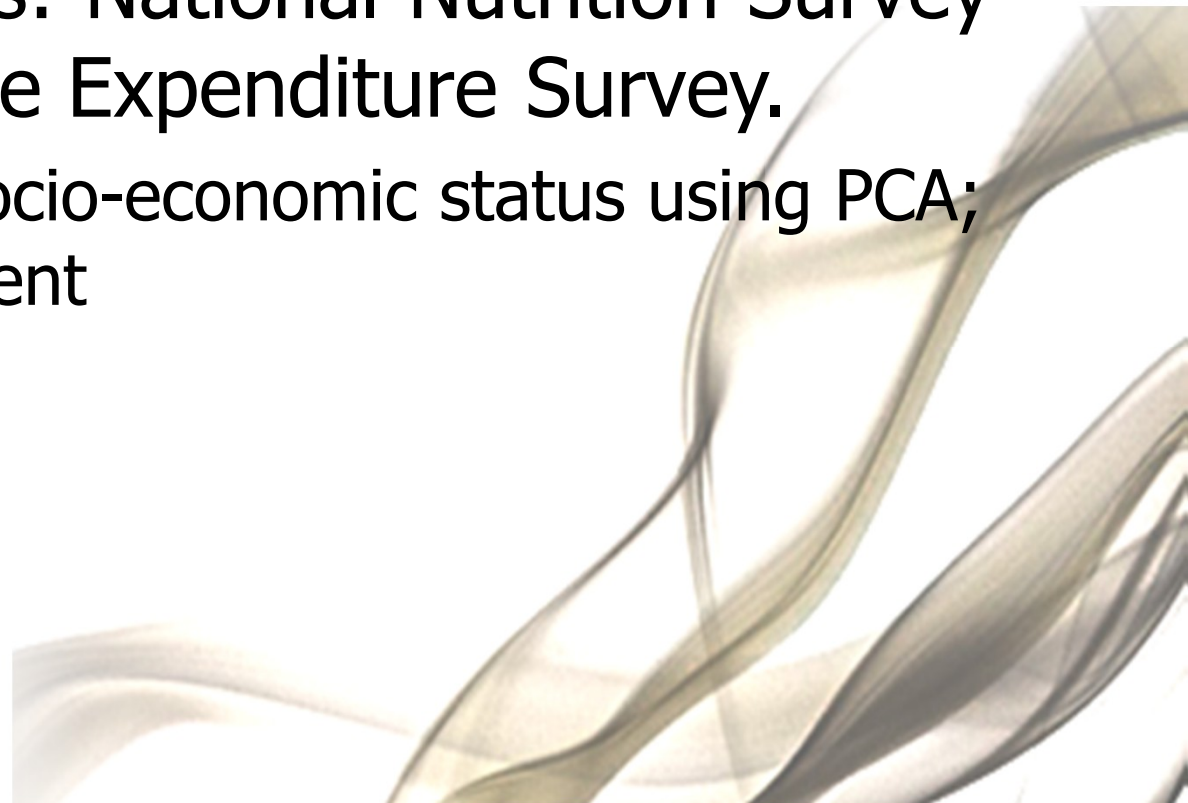


# Conceptual Framework

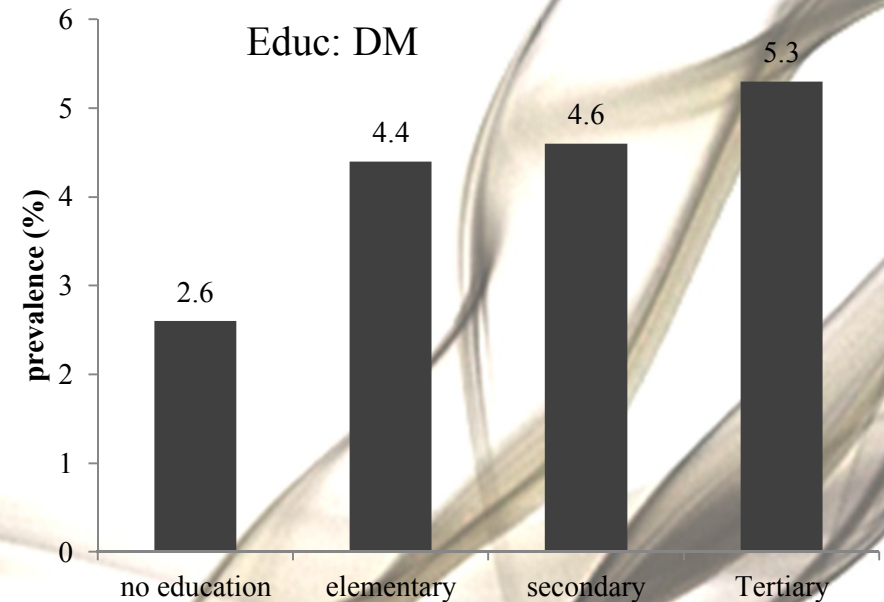
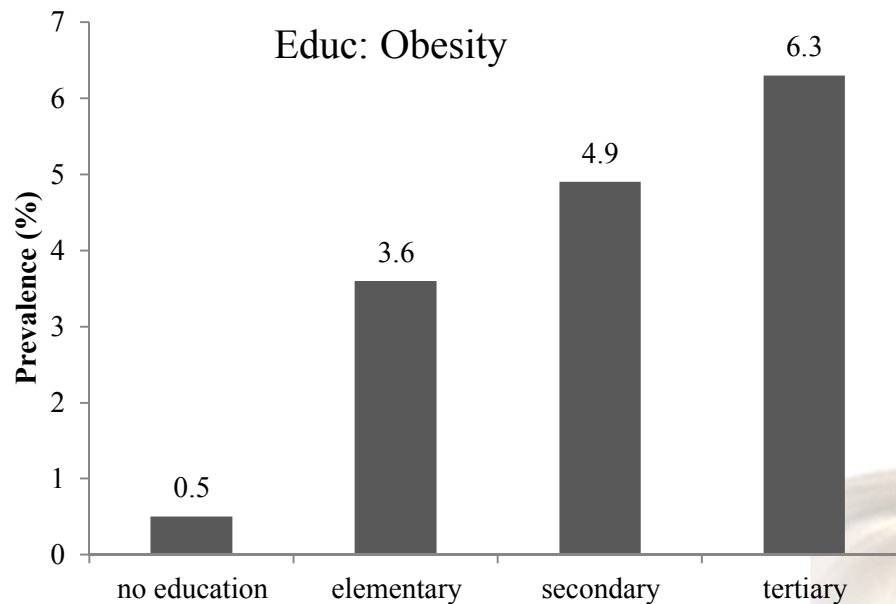
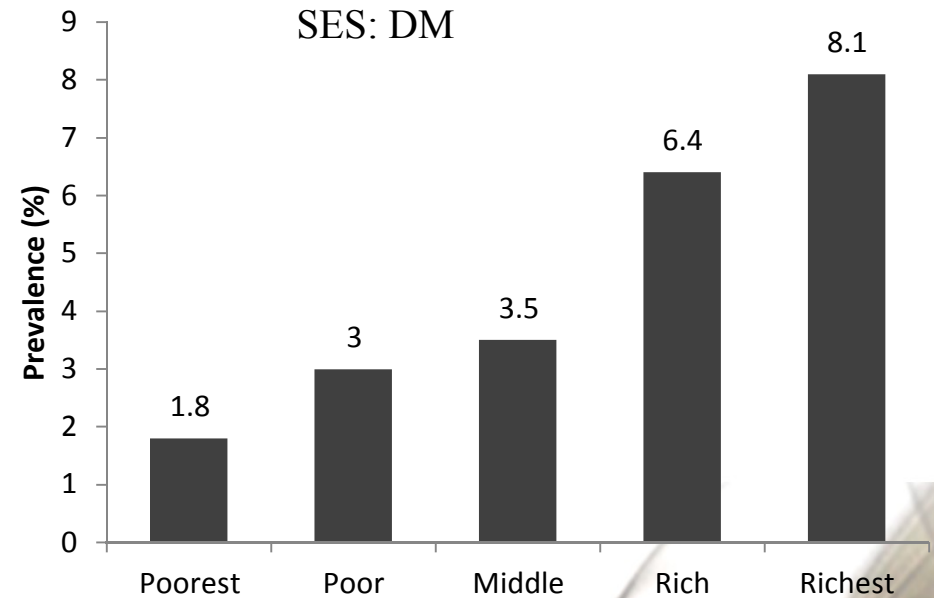
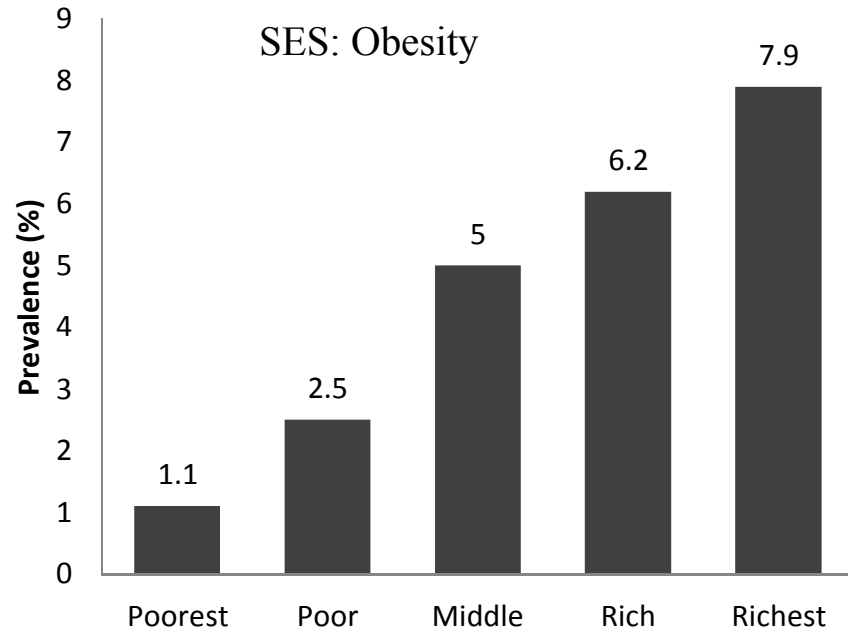


# Methodology

- Review of global literature and analysis of readily data from FAO, World Bank, WHO, etc.
- To check inequalities: National Nutrition Survey 2008; Family Income Expenditure Survey.
  - Ranking variable: Socio-economic status using PCA; educational attainment

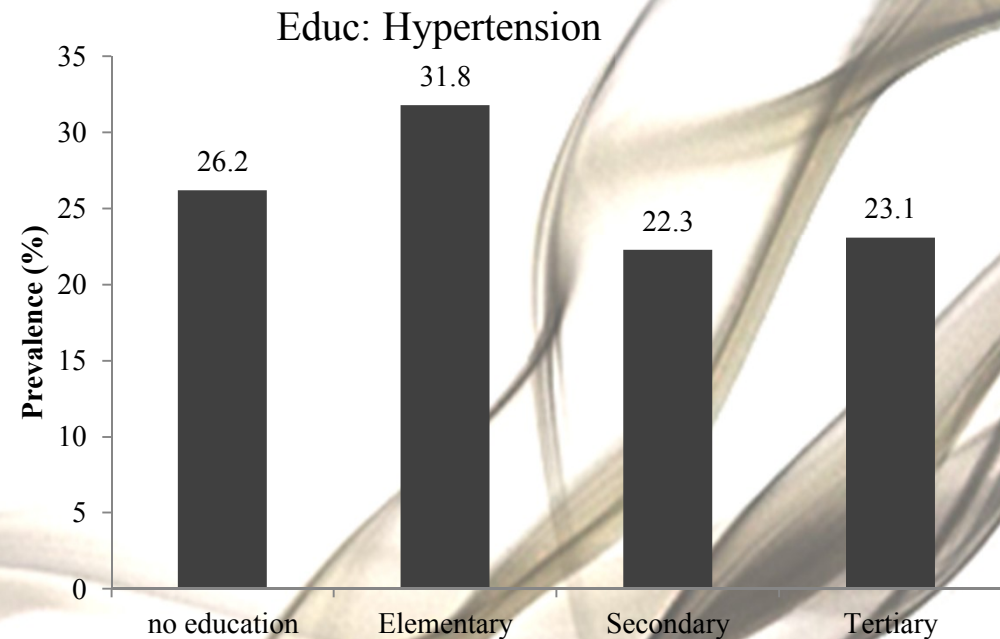
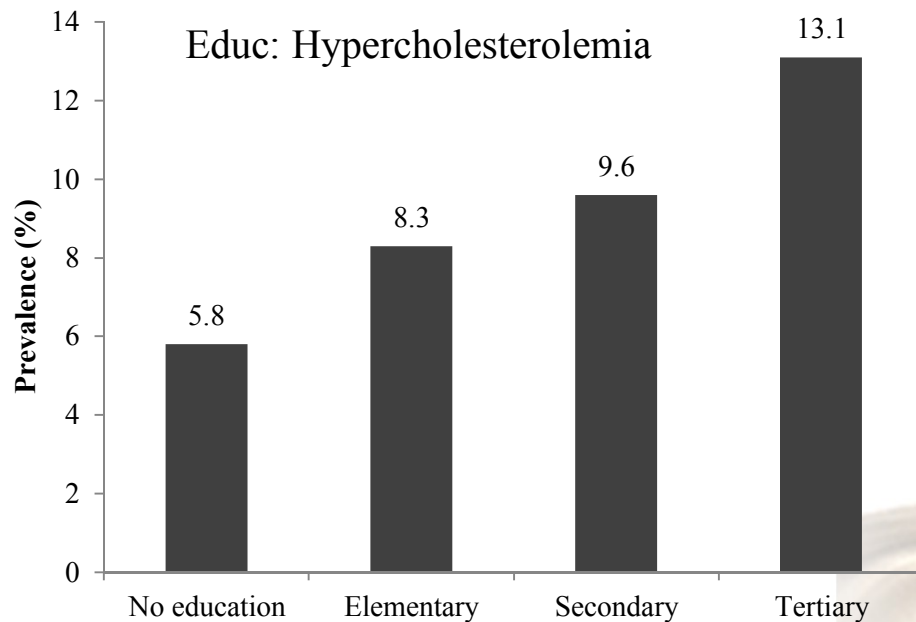
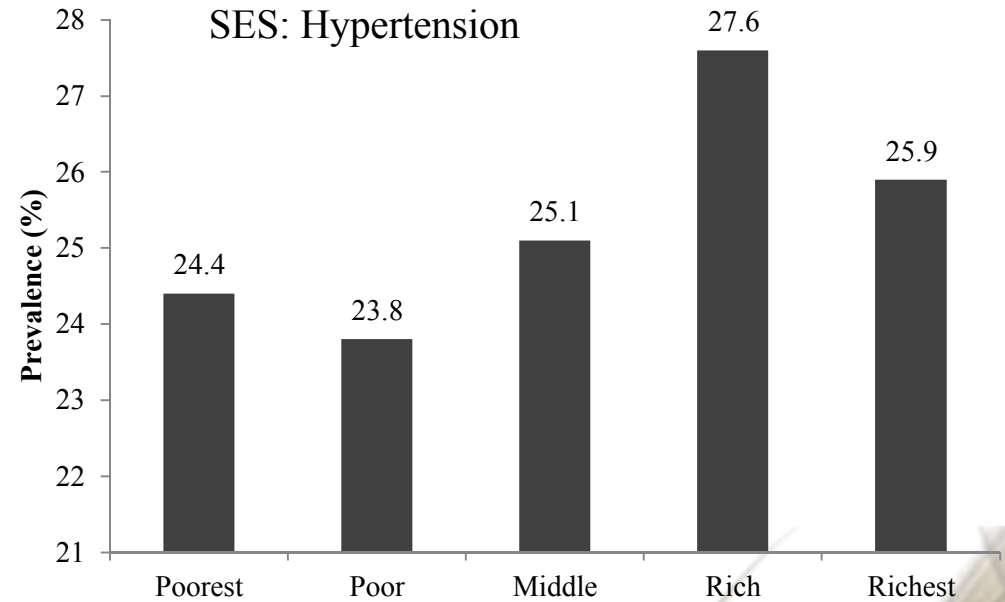
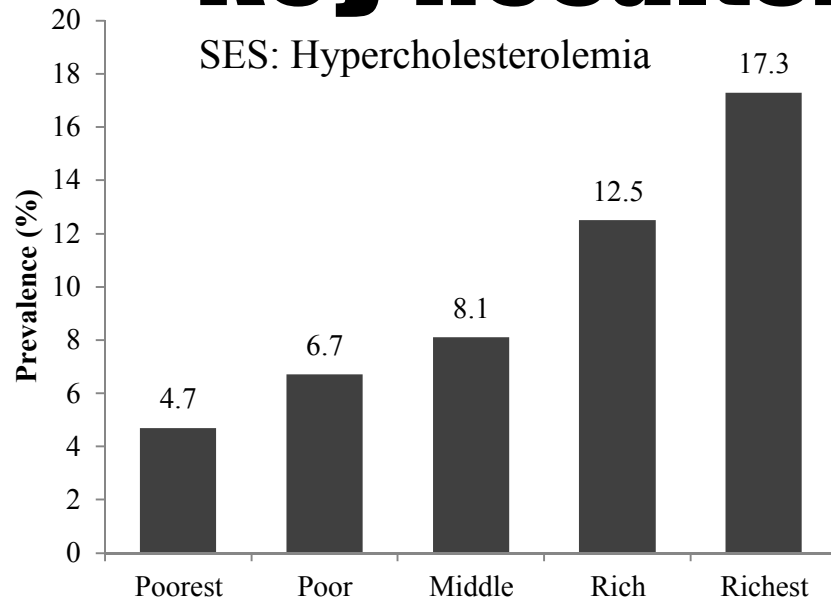


# Key Results: Vulnerabilities





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Multivariate Regression: SES

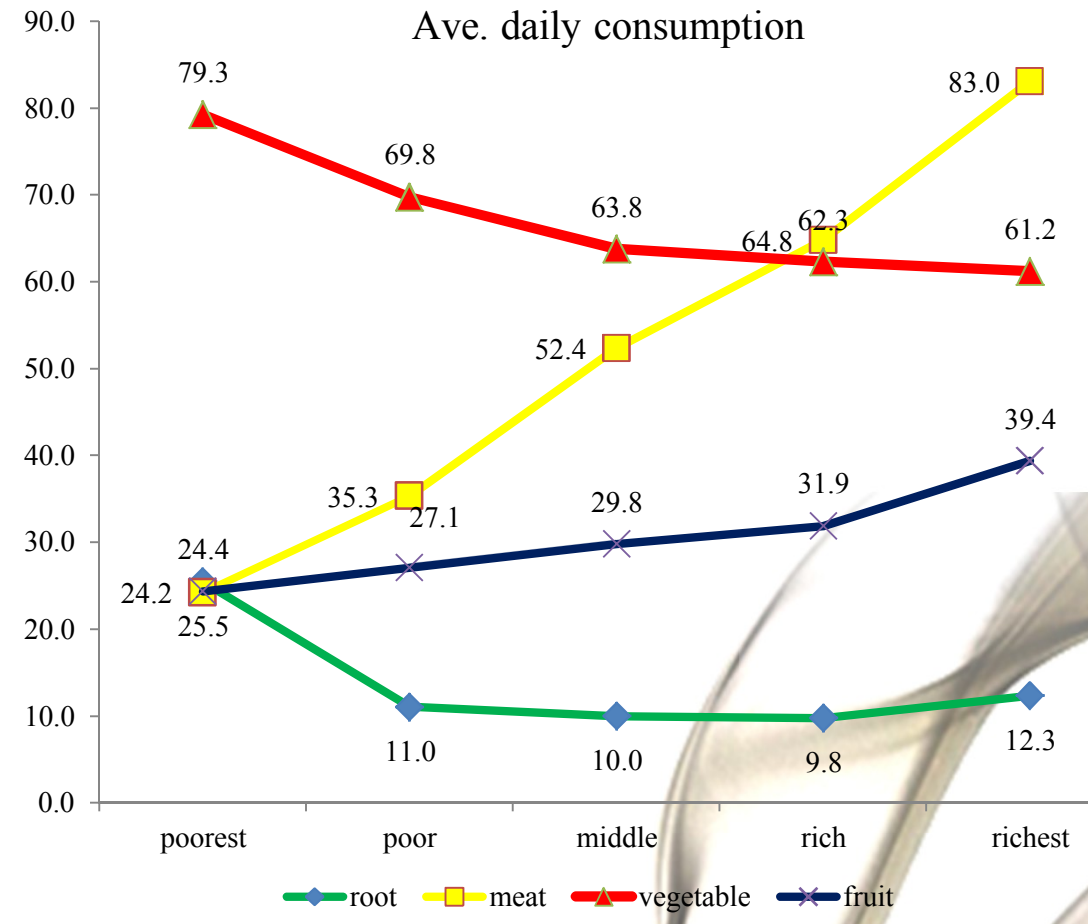
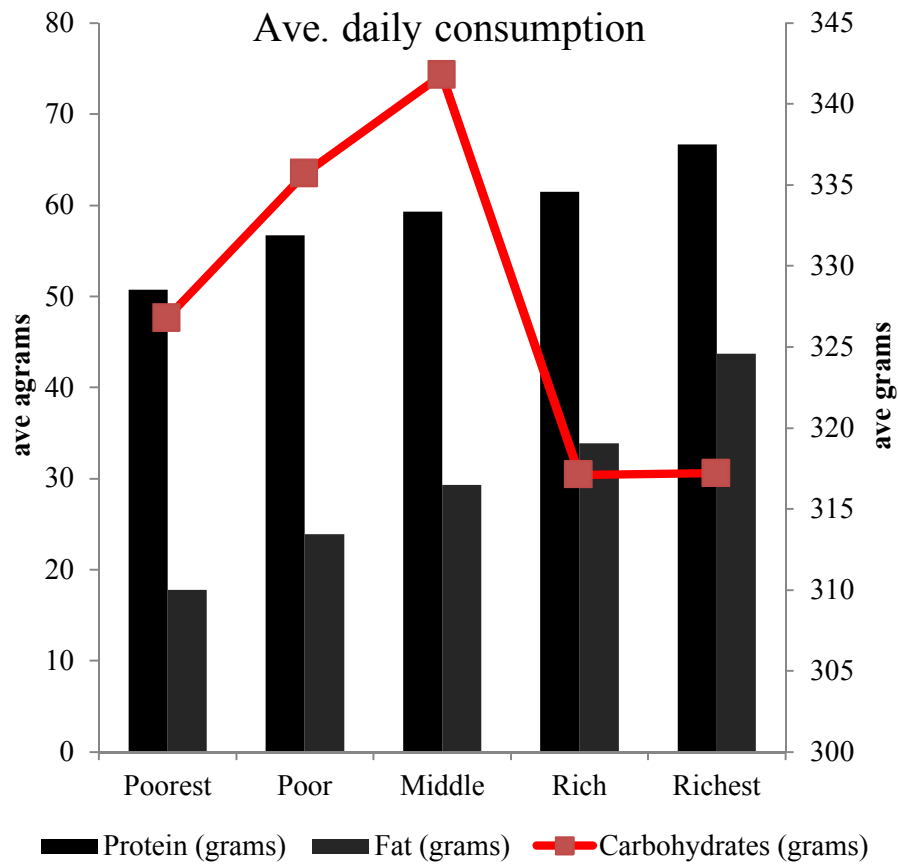
Variables	Coefficient	p value	Lower limit	Upper limit
Body Mass Index	0.34**	0.000	0.263	0.41
Total cholesterol	1.21**	0.00	0.62	1.80
Hypertension	Not Significant			

\*\*significant

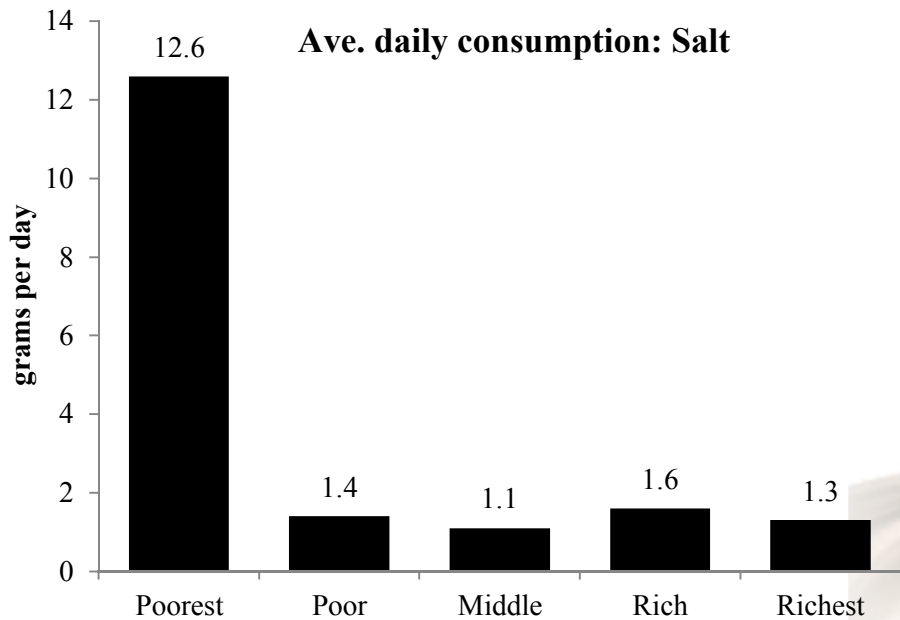
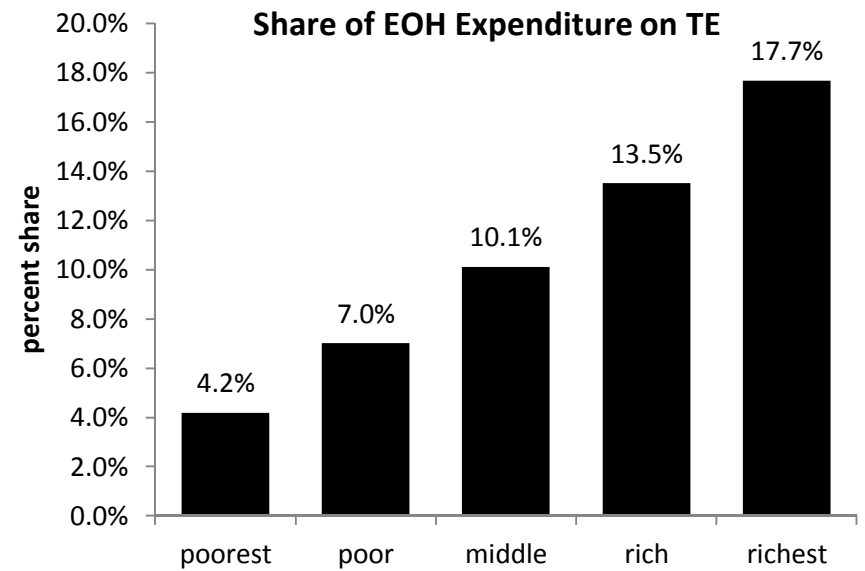
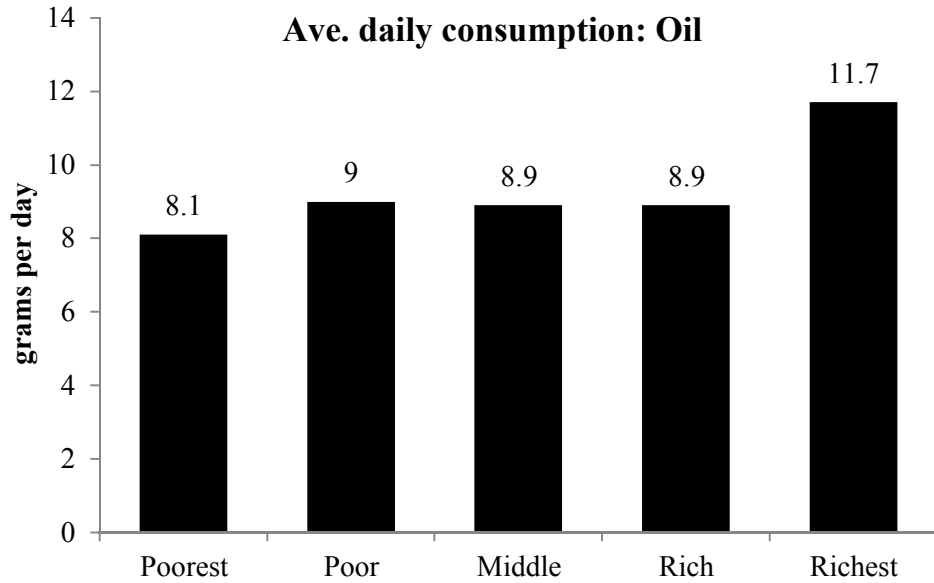




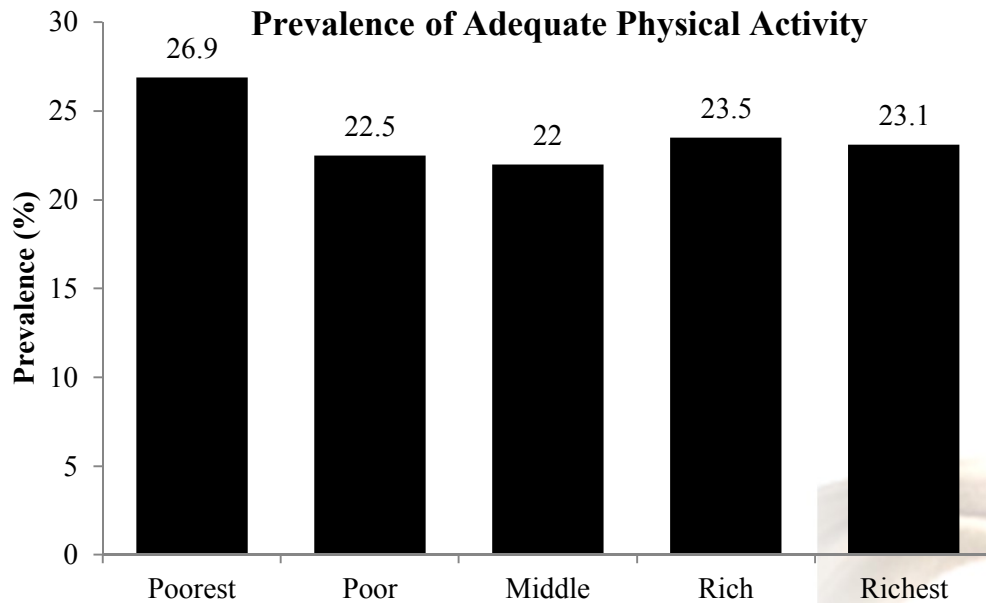
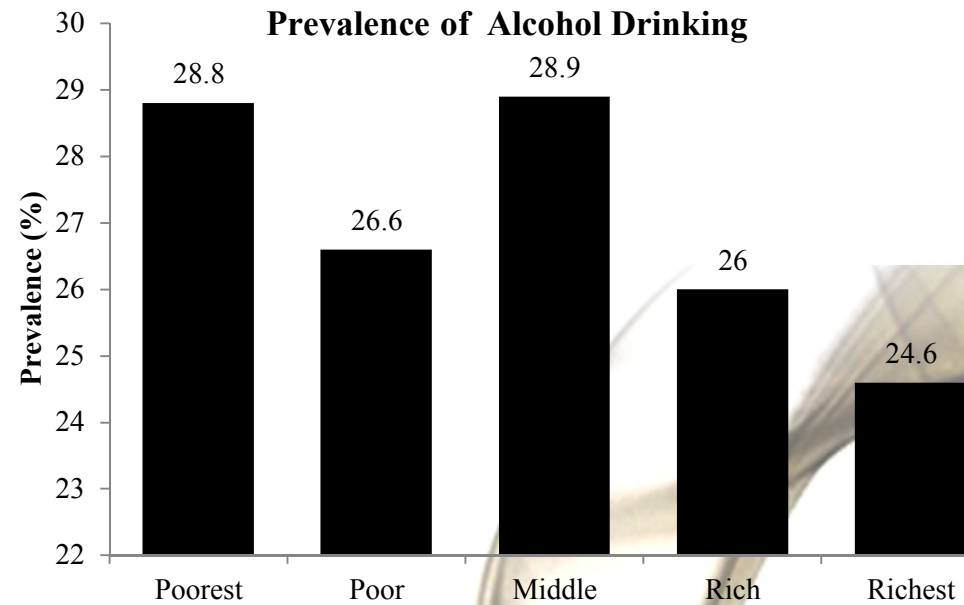
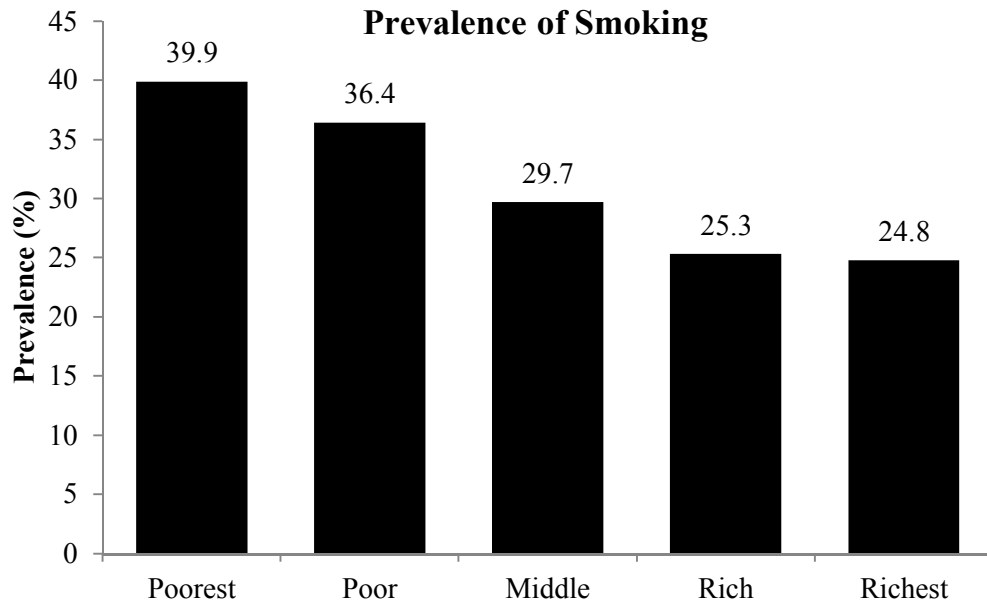
# Key Results: Exposures



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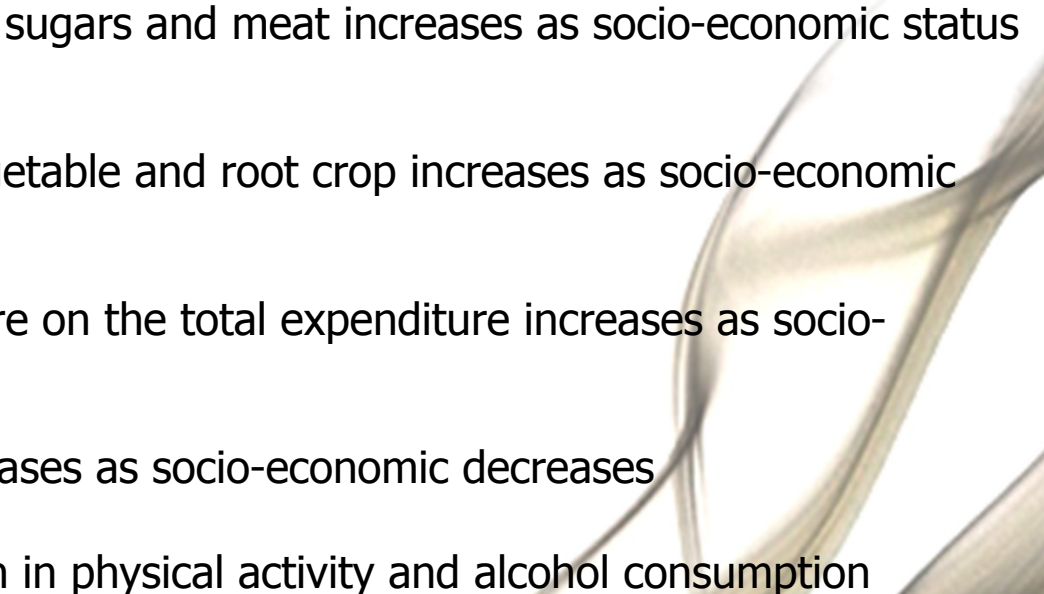


# Recap

- **Vulnerabilities under study**

- The prevalence of obesity, hypercholesterolemia and diabetes increases as socio-economic status increases.
- There is no observable pattern in the prevalence of hypertension.

- **Exposures under study**

- The average consumption of oil, sugars and meat increases as socio-economic status increases
  - The average consumption of vegetable and root crop increases as socio-economic status decreases
  - The share of food OH expenditure on the total expenditure increases as socio-economic status increases
  - The prevalence of smoking increases as socio-economic decreases
  - There is no observable pattern in in physical activity and alcohol consumption
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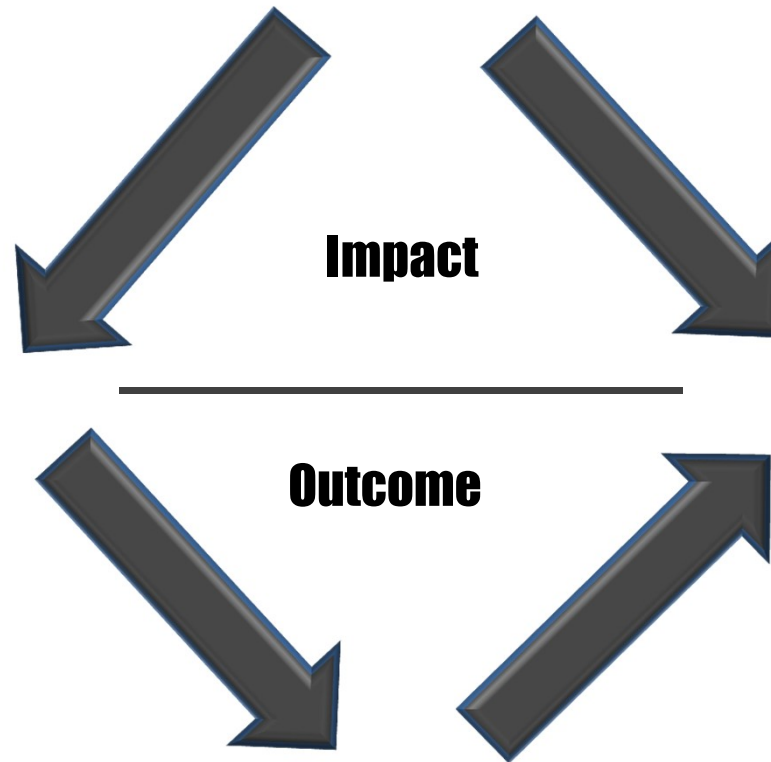
# Macro-social Factors

- Economic Drivers**
- Urbanization
  - Market liberalization
  - Domestic food production
  - Increase income/purchasing power

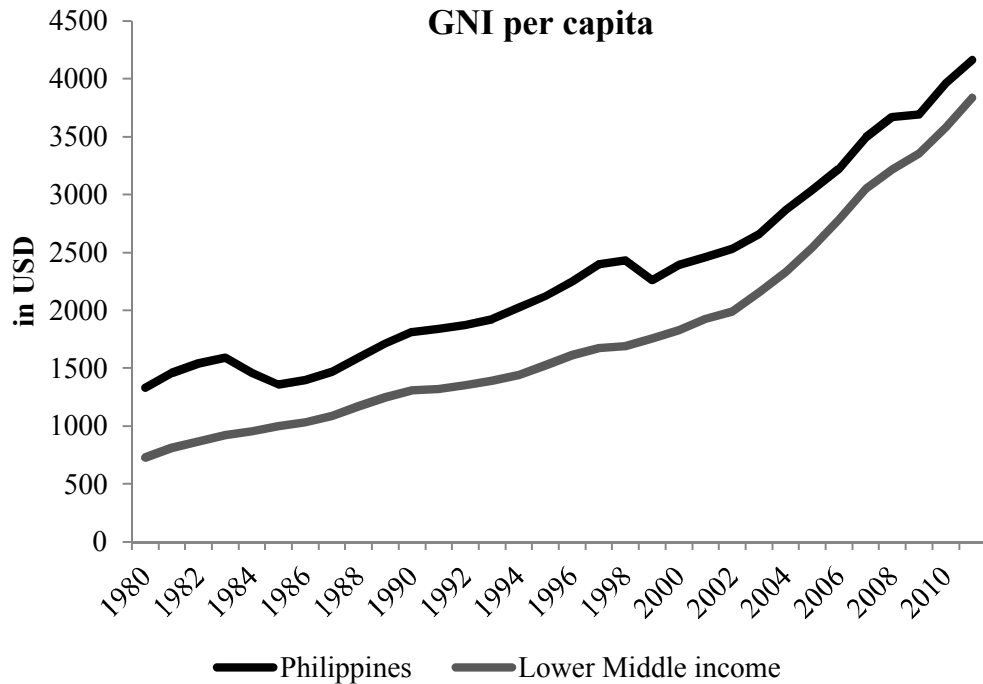
- Social Drivers**
- Urban migration
  - Employment dynamics
  - Sedentary lifestyle

**Food Supply**

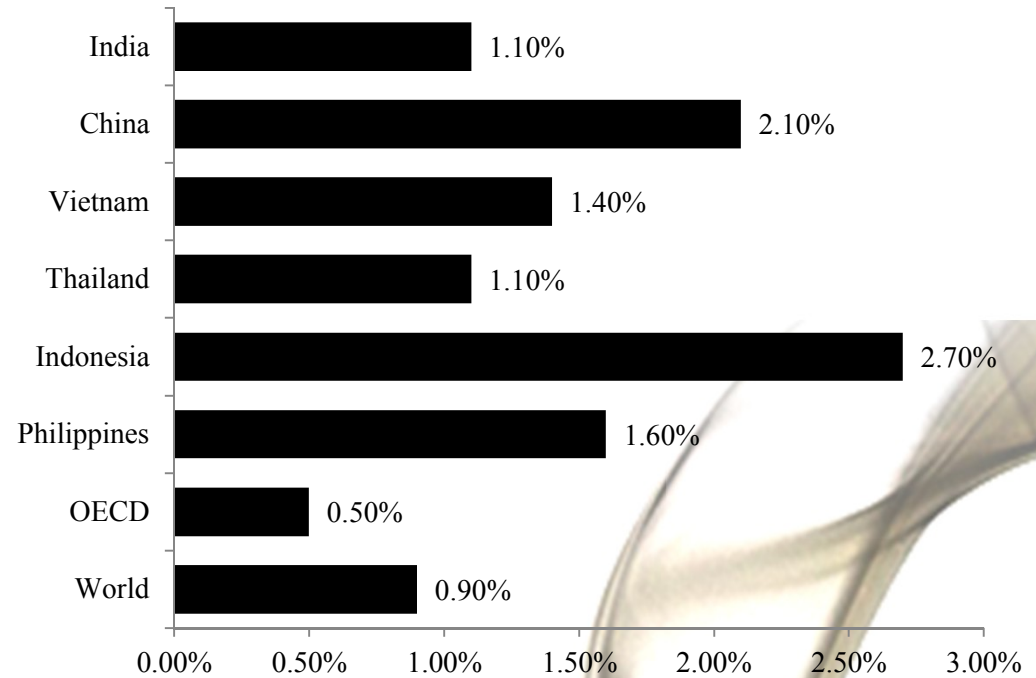
**Diets**



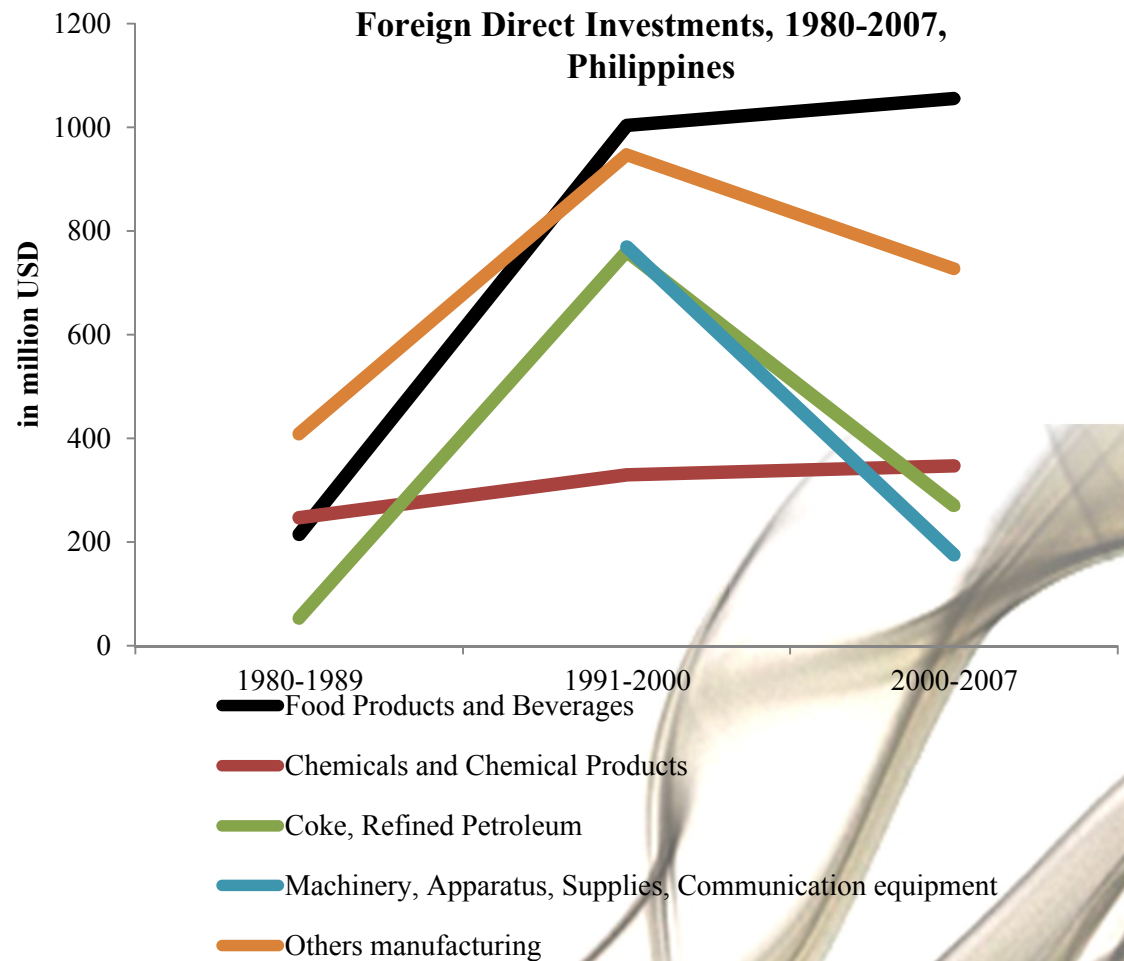
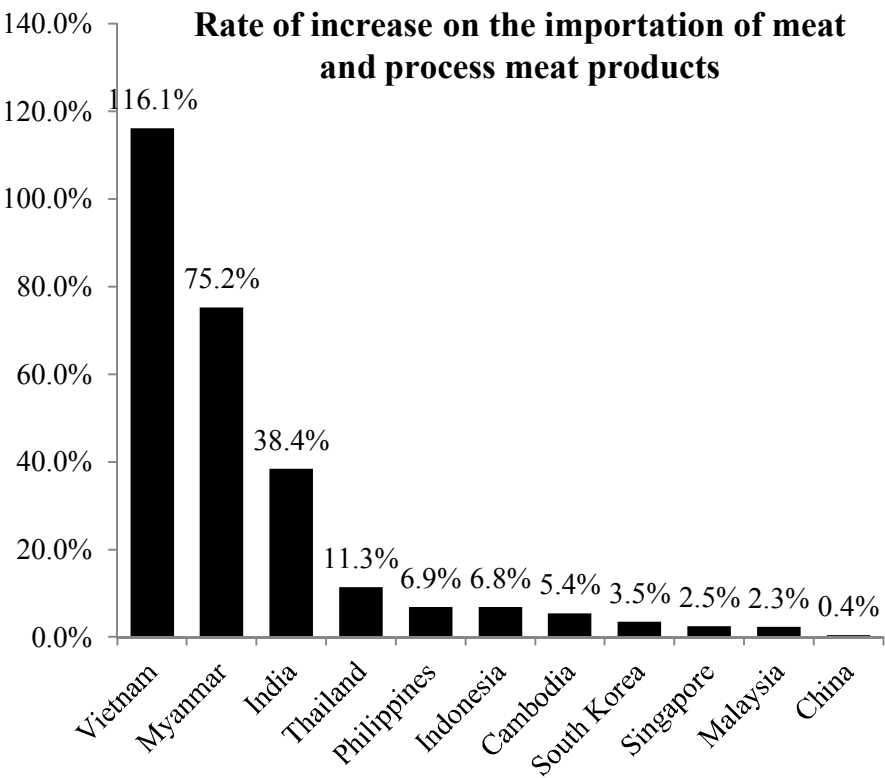
# Economic Factors



### Annual increase in urbanization, 1970-2010



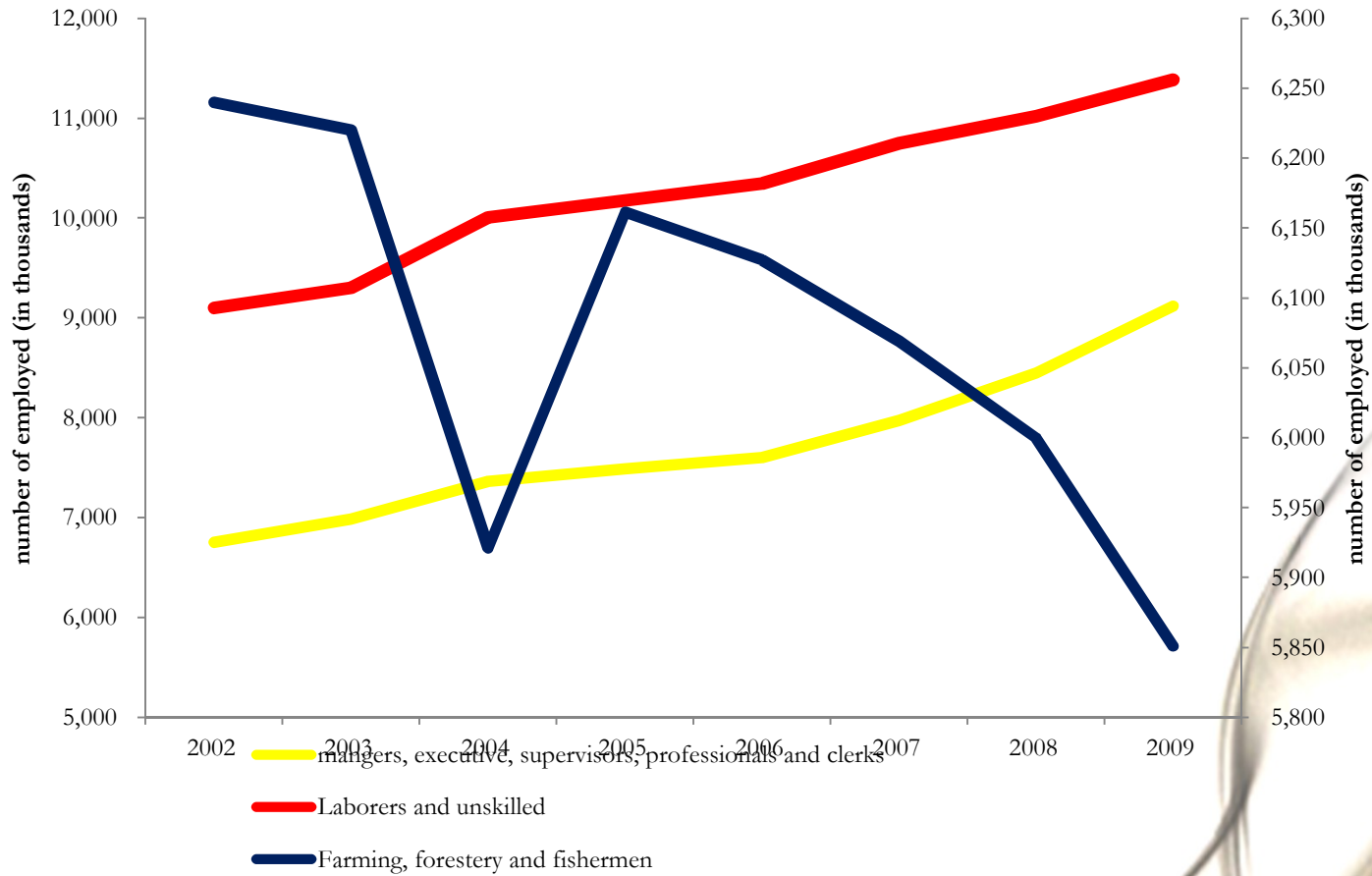
# Economic Factors



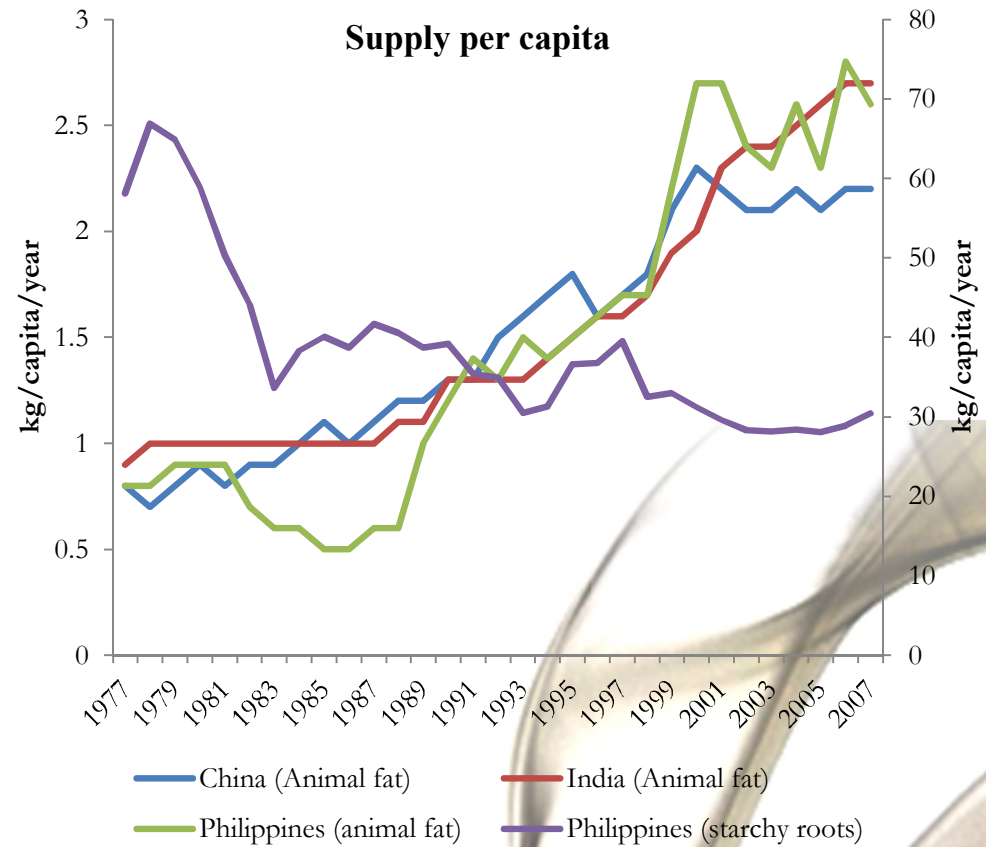
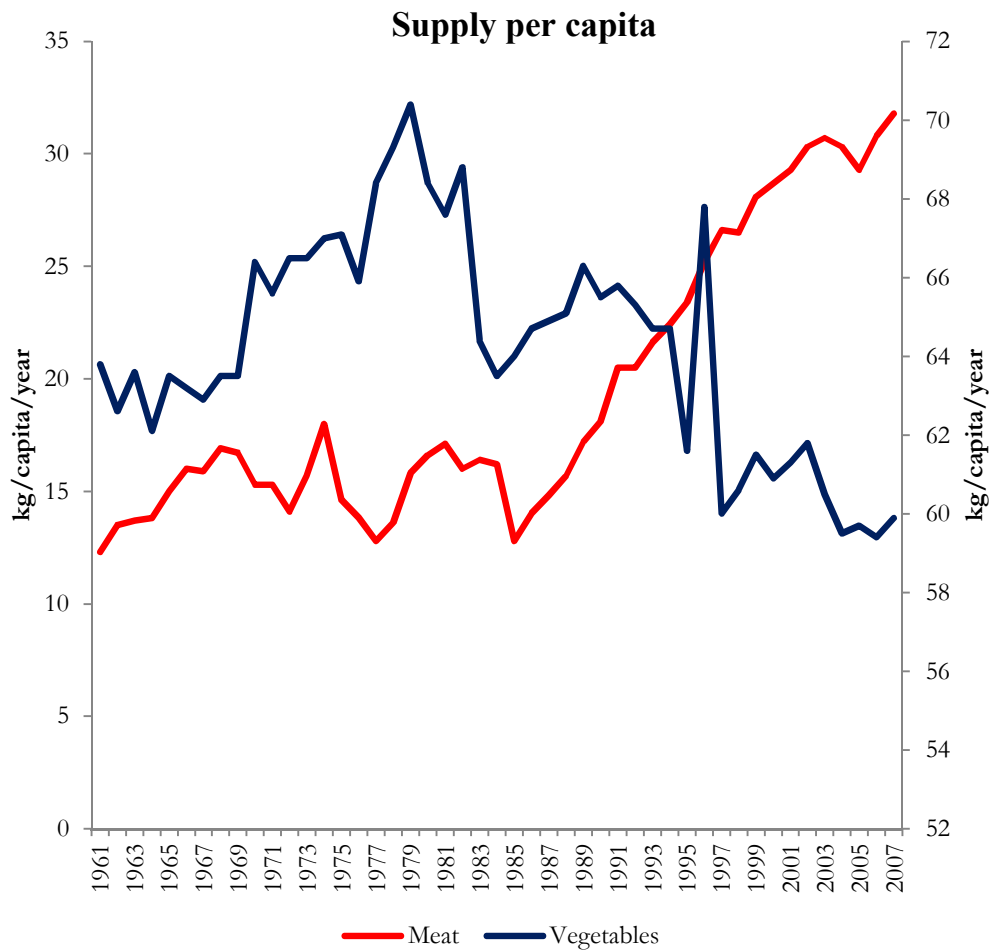


# Social Factors

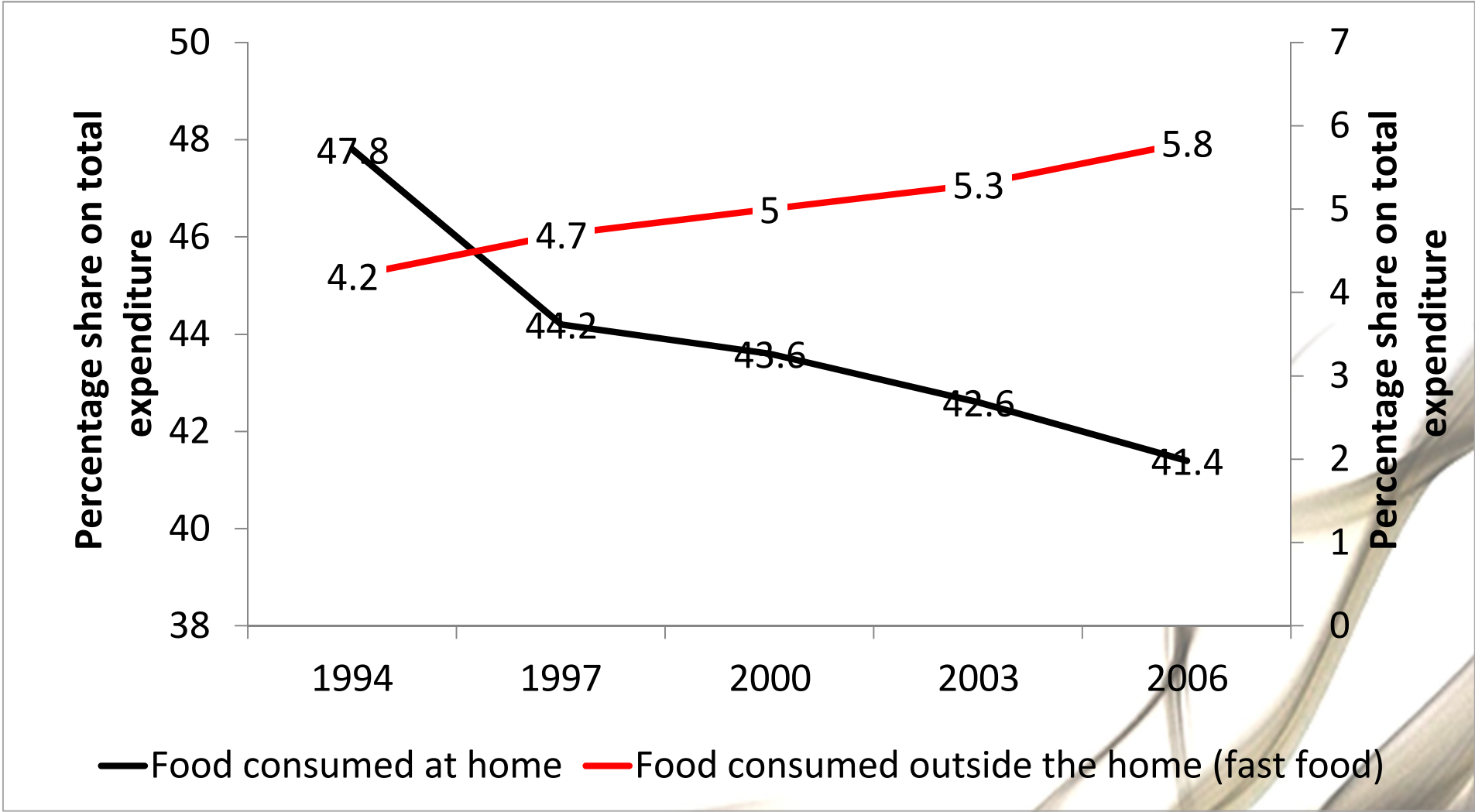
Number of employed person by major occupation group, Philippines, 2002-2010.



# Food supply/expenditure patterns



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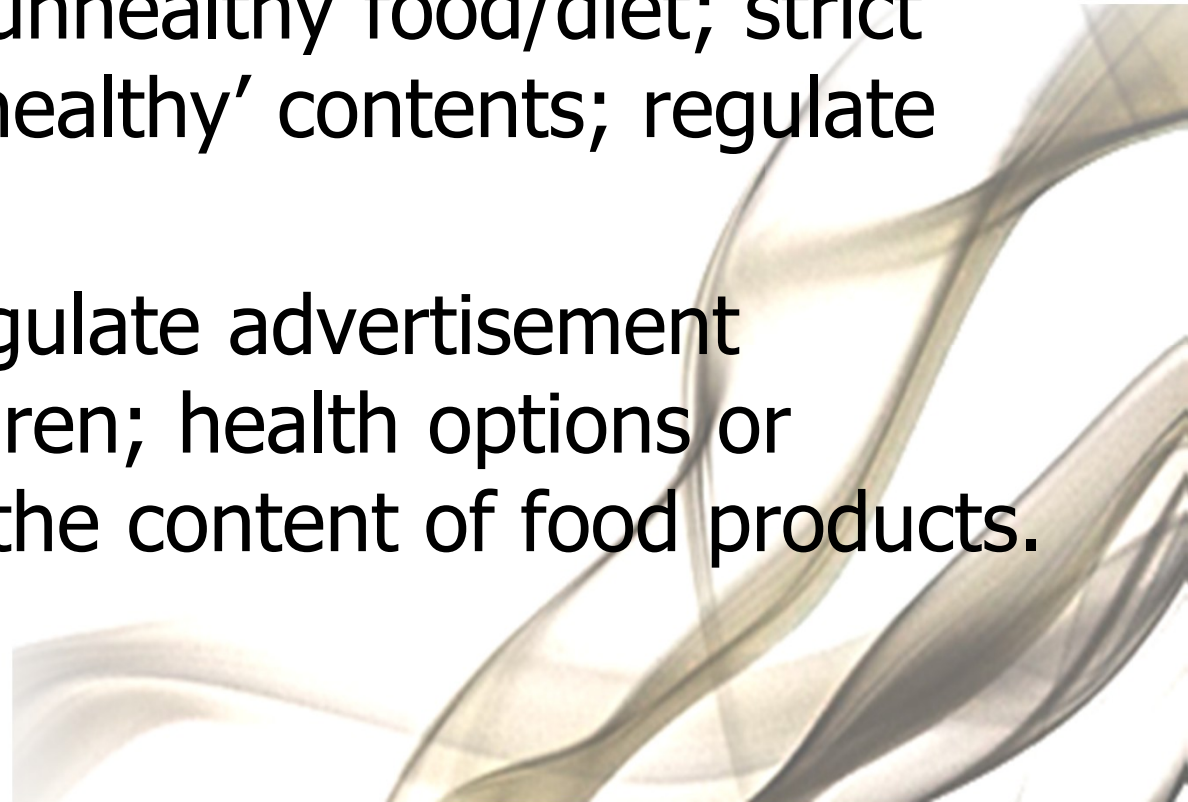
# Policy recommendation

- Coalesce government agencies and develop multi-sector body that advocates, facilitates and monitors NCDs prevention programs.
  - Instill awareness to other sectors.
  - Synchronize national programs on NCDs.
  - Develop the accountabilities of other sectors outside health.

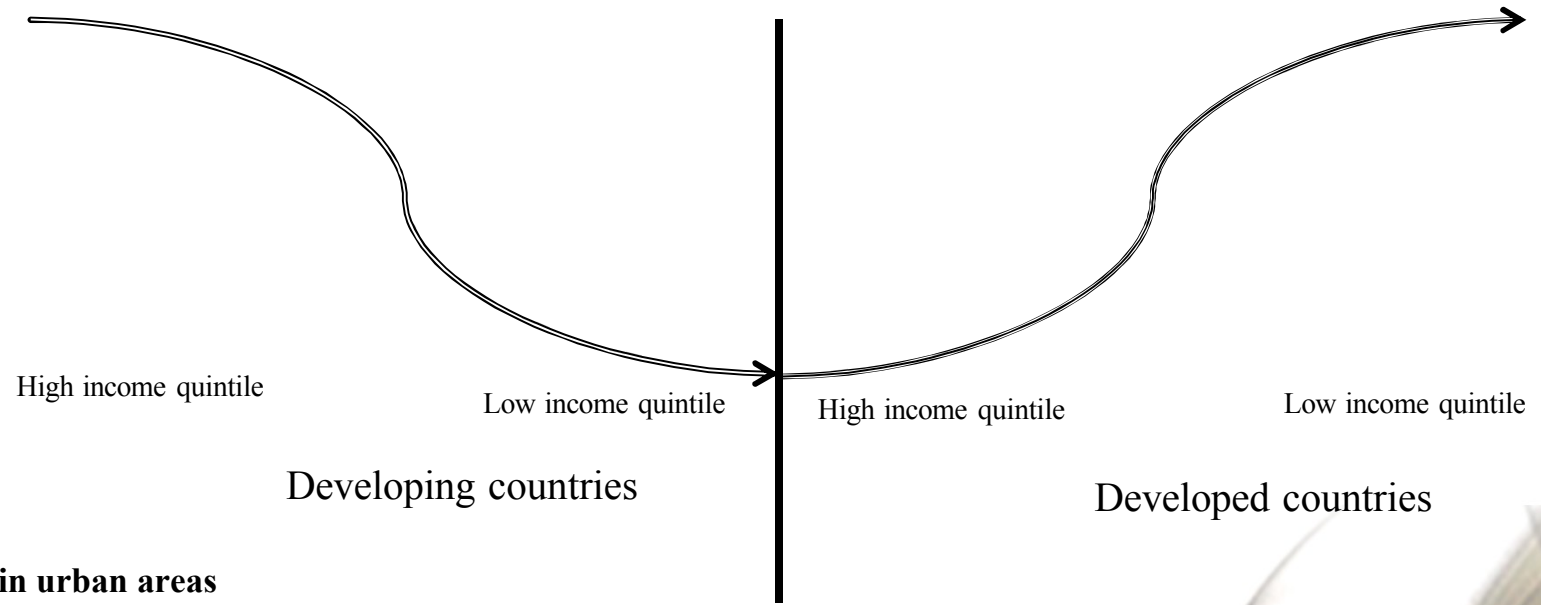


# Policy recommendations

- The Department of Health should push for wide-range of policy/legislative instruments.
  - Supply-side: tax unhealthy food/diet; strict regulation of 'unhealthy' contents; regulate retail practices.
  - Demand-side: regulate advertisement especially in children; health options or transparency on the content of food products.



# Policy recommendation



**Poverty incidence in urban areas**



# Research recommendations

- Economic study to determine the optimal level of tax for unhealthy diet.
- Macroeconomic studies on non-communicable diseases
- Studies on alcohol consumption and expenditures
- Evaluate existing NCD programs

