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# THE CHANGING NATURE OF INDIA'S NUTRITION CHALLENGE

DIKSHA PANDEY

DISCUSSION PAPER

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## | TABLE OF CONTENTS

1. ABSTRACT	1
2. WHAT IS NUTRITION TRANSITION?	1
3. WHAT IS CAUSING NUTRITION TRANSITION	2
4. POLICY RESPONSES TO NUTRITION TRANSITION: CAN YOU CHANGE WHAT PEOPLE EAT?	4
5. THE BURDEN OF OBESITY RELATED DISEASES AND THE WAY FORWARD	8
6. WORKS CITED	9

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## | ABSTRACT

India, like most low and middle-income developing countries, is witnessing the phenomenon of nutrition transition. Economic development, rising incomes and rapid urbanization have altered lifestyles, in particular, the dietary patterns, of its population. As a result, today, an emerging problem of obesity and obesity-related diseases coexists along with high levels of undernutrition. The paper explores India's policy preparedness to address this malnutrition<sup>1</sup> double whammy and deal with the risks of transition<sup>2</sup>.

## | WHAT IS NUTRITION TRANSITION?

Globally, patterns of dietary intakes have significantly altered, as and when the processes of modernisation have advanced. Economic development has been known to directly trigger changes in eating behaviours of a population. In developing countries, when people transition from low and middle-income status to high-income status, the food they consume becomes increasingly rich in processed sugar, fat and salt (Misra 2008: 20). Nutrient density of food consumed, measured in terms of fibre and micronutrient content, is seen to decline with rising income. Improvements in the socio-economic status of a population, indicated by the education and income levels, is therefore, emerging as a predictor of increased cases of overweight<sup>3</sup>, obesity<sup>4</sup> and associated non-communicable diseases. This correlation is almost entirely unique to developing countries as, in developed countries, obesity is seen as an indicator of poverty and low educational status (Siddiqui and Donato 2016: 587).

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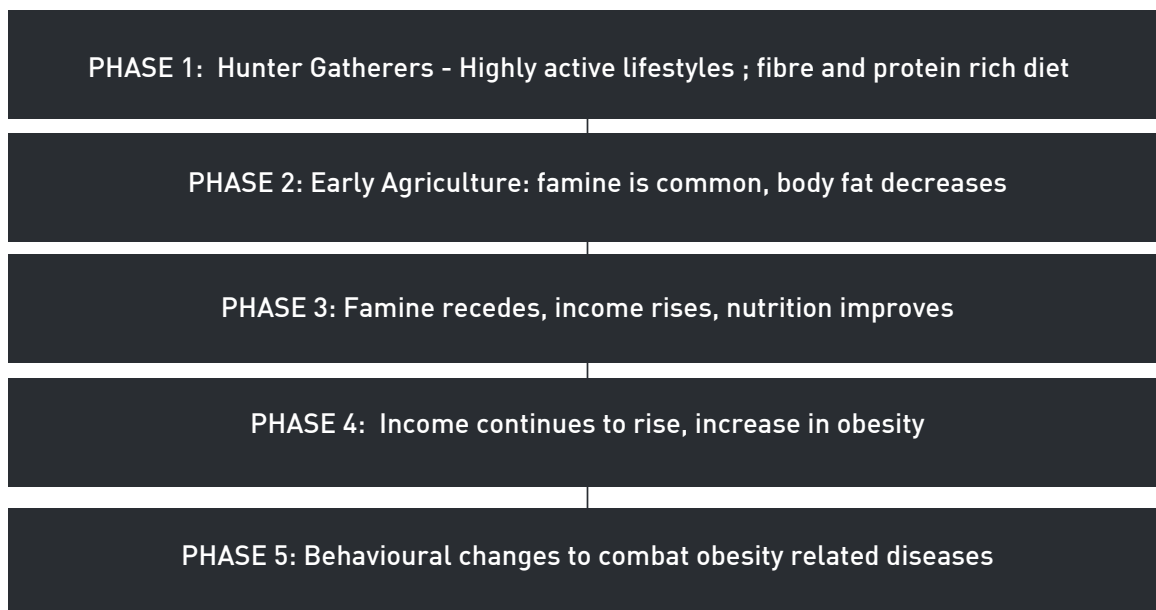
1 Malnutrition refers to, not only, undernutrition and nutrient deficiencies but to overnutrition as well.

2 The term 'transition risk' was introduced by The World Health Report of 2002 to describe nutrition changes that promote the development of non-communicable diseases (NCDs).

3 A person is said to be 'overweight' if he or she has a Body Mass Index (weight in kilograms divided by height in meters, squared) of between 25 and 30. Source: World Health Organization (WHO)

4 A person is said to be 'obese' if he or she has a Body Mass Index (weight in kilograms divided by height in meters, squared) of 30 or more. Source: WHO

## PHASES OF NUTRITION TRANSITION<sup>1</sup>?



## | WHAT IS CAUSING NUTRITION TRANSITION<sup>2</sup>?

At the core of the shift towards overnutrition, there is a decreased spending of energy by the populations of developing countries. This decrease can be attributed to a steep reduction in the levels of physical activity (Deaton and Drèze 2009: 43), partly due to the increasing mechanization, automation as well as dependence on labour and energy-saving devices.

Reduced physical activity, as a lifestyle change, has also been brought about by the largely obesogenic nature of infrastructure growth in India (Siddiqui and Donato 2016: 588). The design of household as well as workplace infrastructure being built across the country is such that it stimulates sedentary behaviour and is more conducive to weight gain than weight loss.

Patterns of crop production and their relative prices also impact dietary trends. For example, even though India's horticultural outputs remain high at a global level, it does not reflect in the consumption level of fruits and vegetables by the local population. This is explained by the dominance of export-led production and the consequent flow of important micronutrients out of the country (Shetty 2002: 181).

At a macroeconomic level, income growth alters the patterns of consumer behaviour in many ways. An increase in the amount of disposable wealth with each individual, coupled with the rise of the transnational fast food industry, has multiplied the frequency at which people dine out and has stimulated overeating (Popkin 2012: 15).

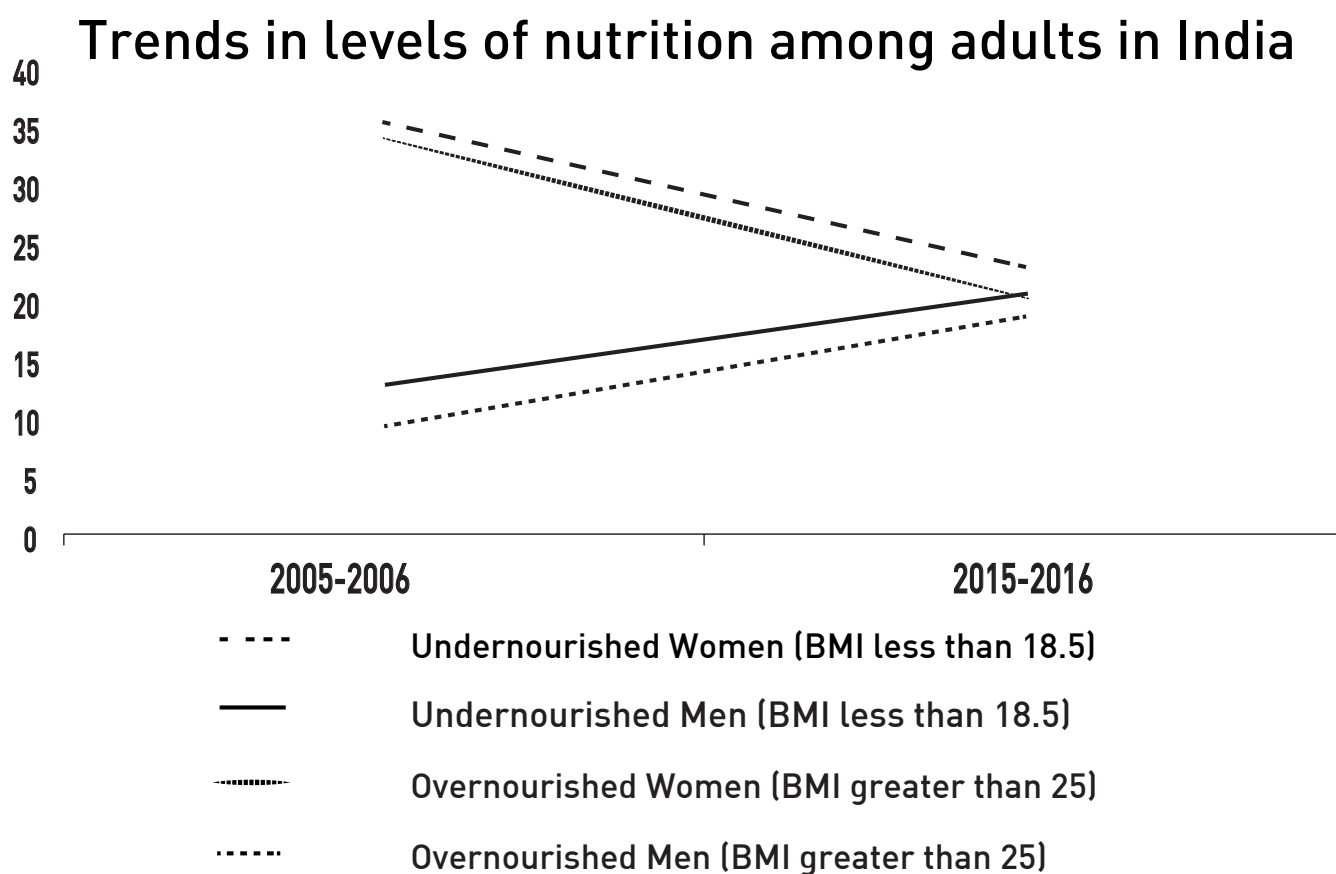
<sup>1</sup> The concept of Nutrition Transition, and its phases, has been developed by Barry M. Popkin. India, currently, is rapidly transitioning from Phase 3 to Phase 4.

<sup>2</sup> By virtue of the phenomenon of nutrition transition being recent and, therefore, under researched, there is limited empirical evidence to support the various explanations for it. There is also lack of data regarding overnutrition from developing countries.

These explanations might suggest that overnutrition is uniquely associated with wealthier, urban households. However, rural prevalence of overnutrition is increasing simultaneously. The nature of incidence in rural areas is such that overnourished adults and undernourished children are often seen to exist within the same household (Ramachandran 2006: 125).

A link has also come up between state-run nutritional intervention programs for undernourished children and its role in rising obesity. Free meals and sponsored feeding programs, aimed at nutritional rehabilitation, have the scope to push children with only marginal undernutrition towards childhood obesity. Inadequate nutrition *in utero* or before birth may embed hormonal and physiological changes in a child to help him survive in a resource deficient as well as nutrient deficient environment. However, in postnatal stages<sup>3</sup>, if adequate nutrition is made available to the child, he or she may grow susceptible to obesity. Moreover, childhood obesity translates easily to obesity in adulthood.

Thus, a predictable escalation of overnutrition is taking place in India even as the affliction of undernutrition – in forms of low birth weight, stunting and wasting<sup>4</sup> – continues to prevail and dominate all nutrition led research and governmental interventions, creating a *double jeopardy*.



<sup>3</sup> The postnatal or postpartum period begins immediately after the birth of a child and commonly refers to the first six weeks following childbirth. Source: WHO

<sup>4</sup> Stunting refers to having a low height for age; wasting refers to having a low weight for height. Source: WHO

## | POLICY RESPONSES TO NUTRITION TRANSITION: CAN YOU CHANGE WHAT PEOPLE EAT?

The nature of India's nutrition challenge would have been relatively simpler had the concerns of overweight, obesity and related NCDs emerged after the levels of under-nutrition and micronutrient deficiencies were no longer a public health issue. Dealing with a simultaneous burden of existing undernutrition and rising overnutrition is much more complex, requiring innovation and imaginative interventions, that take into consideration not only the socio-economic disparities across the country, but also the diversity of food consumption patterns linked to geography, culture<sup>1</sup> and religion.

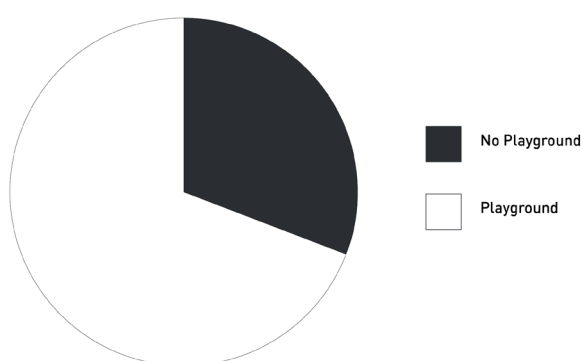
### India's Existing (Direct and Indirect) Policy Initiatives to Address Overweight-Obesity and related NCDs



<sup>1</sup> Cultural perceptions of body image, size and weight vary significantly across India. Often, an overweight child is considered a 'healthy child' and parents are seen to have a positive attitude towards childhood obesity. (Gulati 2013: 279).

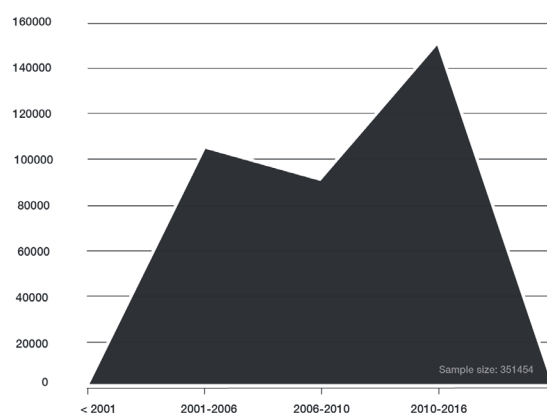
To tackle obesity as a systemic problem, policy planners will need to alter the design of what is called the “built environment”<sup>1</sup>. The layout of the neighbourhood, its aesthetic appearance, as well as the level of safety, all contribute towards determining both purposeful and recreational movement, impacting the level of energy expenditure. (Black 2008: 11) Zoning of retail establishments also has benefits for a community’s health. Efforts can be made to locate fast-food outlets away from residential areas and schools alongside controlling the density of outlets. In a scenario, where a quarter of children and adolescents between 10 and 16 years studying in affluent schools may be overweight, the characteristics of outdoor school environment also come under scrutiny. Interventions are required beyond mandatory playground areas and sports courts, within or outside campus, to include infrastructure such as cycling tracks, safe pedestrian crossings around school premises, school warning traffic signs etc., all of which support physical activity.

Schools with basic infrastructure of playgrounds as of 07.03.2018



Source: Ministry of Youth Affairs and Sports

Overweight and obesity in children between 1 to 18 years of age

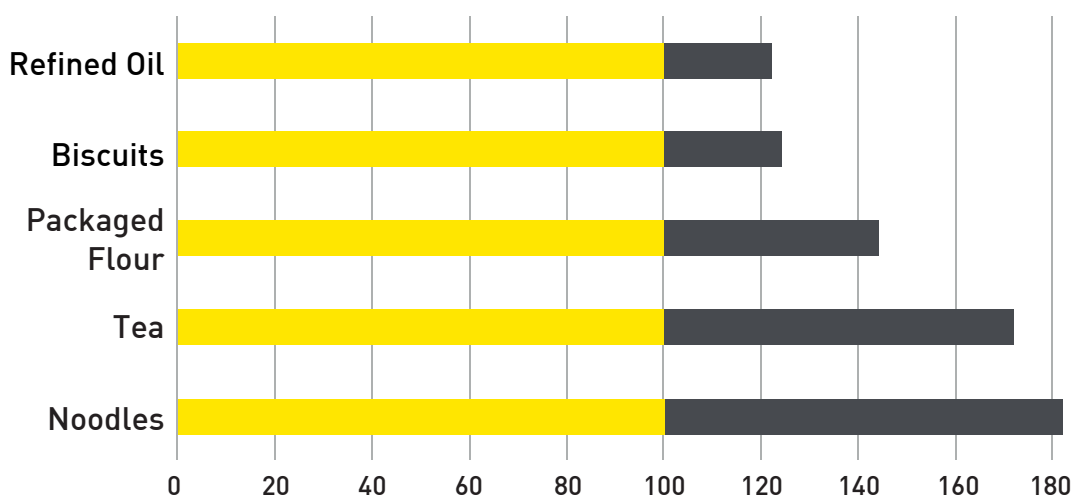


Source: Ranjani 2016

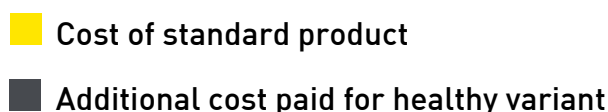
<sup>1</sup> All man-made components of the environment around us, including buildings, sidewalks, streets, trails, bicycle lanes, parks, playgrounds form the built environment.

Alongside attempting to increase energy expenditure, the scope of policy interventions extends to modifying dietary patterns. To influence diet choices, ensuring a more equitable distribution of healthy food items and regulating their prices to make them more affordable can prove to be effective. Nutrition security comes under threat when the levels of purchasing power among Indians push them towards consumption of highly processed foods.

## How much do Indians pay as 'Health Premium'?



Note: Cost of a standard product assumed to be INR 100 for ease of representation



Source - Tandon 2016

Creative interventions can also aim to indirectly influence consumer conduct, to address the demand side of the obesity equation and trigger changes in behaviour. For example, to avert consumers from consuming tobacco, self-service displays in stores are regulated and tobacco products are placed in a location accessible to billing counter representatives only. Thus, the means of displaying products and their placement in a store may communicate a message in public interest. This same strategy can also be applied to display healthier food options, including fresh fruits and vegetables, at the front of the store and processed, non-healthy items towards the back aisles. The checkout counter can also be made junk food-free to discourage last minute, impulsive buys.

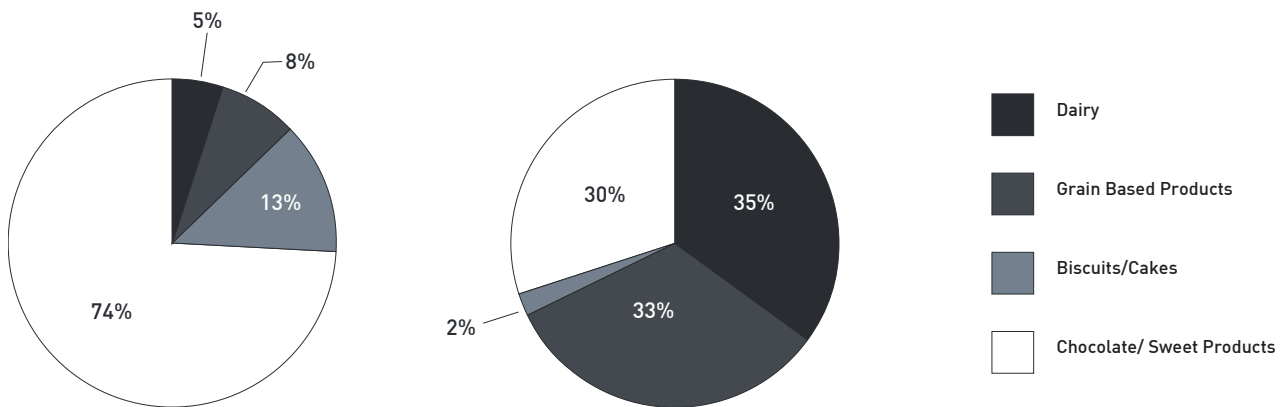
In the current socio-cultural environment, regulating marketing and advertisement practices, particularly those targeted at children, is a fundamental step to induce behavioural changes. This includes controlling the spread of false nutritional claims by commercial food brands. At an institutional level, implementing stringent labelling and quality monitoring practices, by leveraging the capacity and resources of the private sector, can also help keep a check on exaggerated nutritive assertions.

Macro-economic measures such as taxation and trade controls to push food companies towards manufacturing healthier items have also been explored by many governments. Taxing particular



ingredients, as opposed to an entire product, also has the scope to indirectly interfere in the decisions made by manufacturers and retailers. In response to higher taxes, they can either transfer the added cost to the buyers, or they can limit the amount of the ingredient used in their products. Thus, taxing sugar, for example, is a good alternative to regulating permissible levels of sugar in processed foods and beverages, which is tougher to monitor and ensure compliance.

Percentage of Duration of Advertisements in Seconds



Source: Vijayapushpam 2014, Data from Cartoon Network and Disney Channel

Thus, policy interventions will need get creative with their aim of inducing long term behavioural changes and high levels of “community buying” to ensure, both, compliance as well as “bottom up” participation and mobilization.

Creative policy interventions to address overnutrition -  
The Eat Right India Campaign by the Food Safety and Standards Authority of India (FSSAI)

“Engage, Excite, Enable”

- **'Aaj se thoda kam'**  
An awareness campaign led by Bollywood celebrities
- **Eat Right awards**  
To recognize food companies/individuals that promote and ensure availability of healthier food options
- **What is your Eat Right quotient?**  
Interactive quiz to track diet choices

Engagement (as measured by visitor count on website): 114196

## | THE BURDEN OF OBESITY-RELATED DISEASES AND WAY FORWARD

The transition to overnutrition, as a direct natural consequence, increases the risk of several chronic non-communicable diseases, including heart and lung diseases, lifestyle-related cancers and diabetes. The risk of NCDs is growing alongside the persistent incidence of infectious diseases, creating a second double jeopardy.

The socio-economic costs are immense, in terms of both, an individual's out-of-pocket expenditure as well as the burden on the public exchequer. The economic drain from NCDs during the most productive years is also reflected in growing absenteeism and decreasing levels of energy and focus among the country's workforce. Early detection based on a robust monitoring and surveillance operations network at the national level, then, is crucial to reverse these losses.

The nature of governmental interventions should aim to enable the individuals in making healthier choices, rather than placing blame on them and giving corrective commands. The traditional approach towards regulation uses control mechanism and instructs businesses on what to do. A new and innovative approach to involve businesses in promoting public health could be to give them outcome targets as holding business legally liable for the consequences of their products and services is a lot trickier. Therefore, the government also needs to encourage experimentation by and competition between private players and reposition its public health strategy to increase reliance on varied stakeholders and induce them into taking up an active leadership role in changing behaviours.

Strategizing policy responses to nutrition transition and its consequences can be challenging without reliable measurement of the extent of transition. Thus, the capacity of agri-health research in India needs to be significantly expanded. Regular dietary surveys at household level will be critical to better understand changing food patterns along with locally contextualized assessments of what people are eating and where it is sourced from. Advances in technological tools for Monitoring & Evaluation, if utilized, can generate high-quality data for efficient nutrition planning at the national level.

Narratives around overnutrition across the globe are being shaped by the fact that the number of people who are overweight or obese is already two and a half times more than those who are undernourished. The global economic cost of obesity is over 2 trillion US dollars, an impact which is similar to that of armed violence, war and terrorism. (McKinsey Global Institute 2014: 2) As the conversation around nutrition transition advances, India needs to respond to obesity as a development issue, rather than merely an emerging health crisis.

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