



## A Novel Approach to Malnutrition in Kolkata, India: Landscaping Research, Mobile Teaching Kitchens for Community Public Health Education and Microenterprise Development

Luke Buckner<sup>1</sup>, Maria Korre<sup>1,2</sup>, Minha Rajput-Ray<sup>1</sup>, Sanchita Banerjee<sup>1</sup>, Debashis Chakraborty<sup>1</sup>, Sumantra Ray<sup>1</sup>

1. Need for Nutrition Education/Innovation Programme (NNEdPro) – Global Centre for Nutrition and Health in Cambridge, UK

2. Harvard T.H.Chan School of Public Health

**Acknowledgements to Remedy clinic study group and the Inner Wheel Club of Great Calcutta.**

### Background

India's nutrition landscape predominates with undernourishment and the challenges of obesity at concerning levels. Poor diet and education clearly contribute to this; hence, NNEdPro enables a pilot effort in the application of a novel and innovative intervention in line with the United Nations SDGs to better tackle these interlinking mechanisms.

### Landscaping research

In 2015, following response to NNEdPro's contribution to the 14<sup>th</sup> World Congress of Public Health in Kolkata, a capacity building exercise was launched for doctors, medical students, dietitians and dietetic students. 12-months later, 10 'NELICO Champions' designed and implemented 2 main projects of action research.

The NELICO Champions were able to raise nutrition related 'Knowledge, Attitudes and Practices (KAP)' in Kolkata medical colleges, and also reached out to displaced migrant worker communities resident in two distinctive Kolkata slums. 127 children were able to participate. 34.7% and 42.0% respectively had a BMI and height lower than recommended by WHO, with clinical signs of micronutrient deficiency widely observed. The STAMP tool further revealed 5% of the children having a high-risk of malnutrition and 23% medium-risk.

Utilising the SODOTO "See one, Do one, Teach one" model of education, community dietitians and voluntary social workers taught 12 slum-dwelling mothers how to prepare and cook nutritionally balanced, affordable and tasty template menus using local ingredients. Nutritional KAP's ( $p < 0.05$ ), specifically for 'understanding healthy nutrition for children,' 'sources of protein' with an overall improvement in nutritional status for the community. A Mobile Teaching Kitchen (MTK) van further allowed the mothers (trained MTK champions) in being able to showcase their skills by serving city workers healthy food and education messages with overwhelmingly positive feedback.

### Conclusions

The Mobile Teaching Kitchen (MTK) initiative combines education, empowerment and interdisciplinary capacity in nutrition education by challenging social assumptions and empowering some of the most marginalized members of society.