

Technical Assistance and Research for Indian Nutrition and Agriculture (TARINA)

The problem of malnutrition in India is not only restricted to availability of food but it is also around the concept of nutrition, awareness around age and gender appropriate diet, year-round availability, access and affordability with far reaching influences of the status of women, sanitation, and health care. Addressing this challenge calls for bold and concerted ways to explicitly link the production of food with its nutritional quality, safety, delivery, last mile availability and affordability, while not ignoring the interplay between various sectors. Considering the intertwined relationship between food production and consumption and its larger implication on malnutrition, the concept of TARINA was drawn from two broad pathways for tackling undernutrition i.e. production and consumption of nutrition dense food items following a diversified food system approach.

‘Food System Approach’ layered with Social Behaviour

Change Communication has been found to be promising in addressing the nutrition vulnerability through production system diversification at households (Kitchen Garden, Crop Diversification, Livestock, etc.) and community (market, price, producer groups through SHGs, etc.); and more importantly in confronting lack of other diverse food items that leads to micronutrient deficiency, which is known as “Hidden Hunger”. To address malnutrition and its multiple dimensions, there is a need to focus on Nutrition Sensitive Agriculture.

In this backdrop, a Tata Cornell University led consortium of organisations, with fund support from the Bill and Melinda Gates Foundation (BMGF), have come together to design and roll out the Technical Assistance and Research for Indian Nutrition and Agriculture (TARINA) initiative in India. TARINA links the evidence-generation capabilities of International Food Policy Research Institute (IFPRI), Tata Institute of Social Sciences (TISS), Emory University and Cornell University strongly with the implementation and technical capacity and experience of organisations – BAIF Development Research Foundation, CARE India Solutions for Sustainable Development (CISSD) and Grameen Development Services (GDS). TARINA aims to promote a more nutrition-sensitive food system in India by enhancing the availability and affordability of nutrient-rich food.

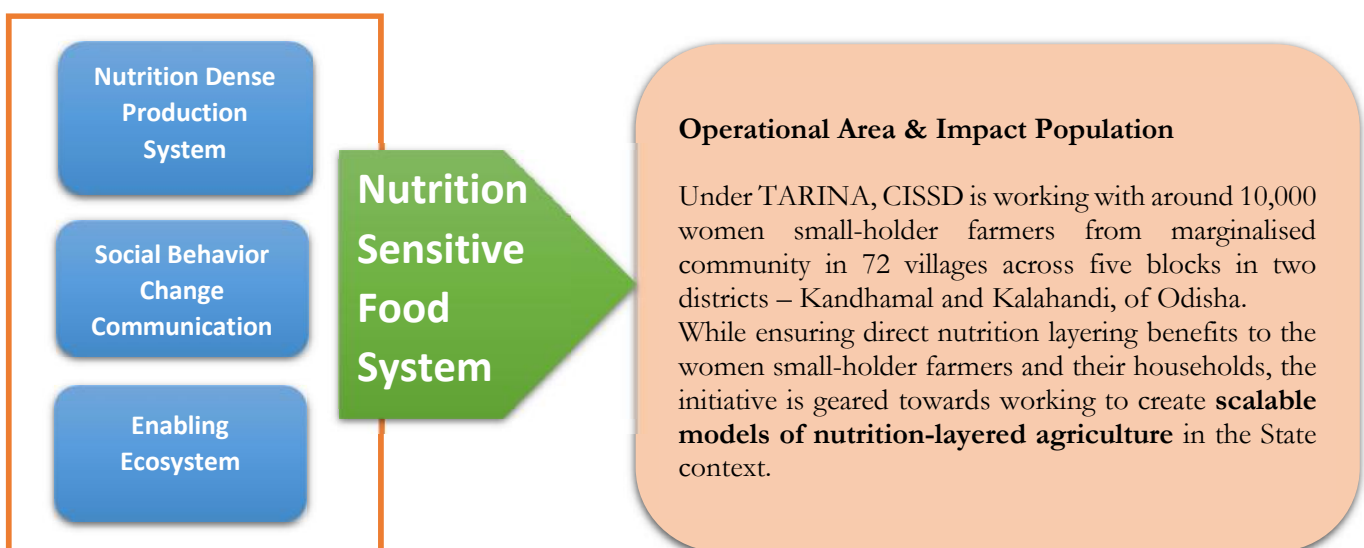
Vision: A more nutritious food system in India

Goal: Improved access, affordability and consumption of quality diets

Objectives:

- Provide technical assistance to make agricultural projects nutrition sensitive
- Provide an evidence driven pathway to policy reforms that promote availability and affordability of a more nutritious food system
- Build capacity and leadership to institutionalize nutrition-sensitive agriculture in India

Project Dimensions and Reach



Key Project Interventions

1. Increased demand for consumption of nutritious food through behavior change

Provides information and stimulating knowledge to set new norms for consumption of locally available nutritious food items. The package of interventions offers the individual and community to reflect on existing knowledge, reconstruct knowledge and elicit gradual shift in food habits.



2. Diversification of staple grains systems by adding vegetable / pulses / legumes

Promotes crop diversification through cultivation of pulses, legumes and vegetables on farmlands using better quality planting materials and best practices through demonstration and Farmer Field School (FFS) sessions, to enhance availability and affordability for consumption of protein-based food for small-holder farmers.

3. Ensuring animal sourced protein on food plates through Promoting small ruminants, poultry and dairy production and value chains

Goat Rearing:

Addresses production and consumption level constraints faced by the marginal and smallholder women farmers and their households. This intervention creates and supports enabling ecosystem that increases availability of goat meat and meat products as source of nutrition.



household.



Dairy Promotion:

Promotes scientific management practices of cattle rearing and capacitates dairy farmers on production and consumption of milk and dairy products as a potential source of animal protein to complement the daily dietary requirements of the



Poultry farming:

Creates awareness and mitigates social disincentives that inhibit consumption of poultry meat and eggs thereby ensuring a supportive

ecosystem to augment availability of poultry meat and eggs for increased consumption by small and marginal women farmers at household level for enhanced nutrition security.



4. Strengthening women's leadership in producer groups and women's access to agricultural services

Enables women farmers to identify and exercise their rights to access markets and better negotiate with market players and enhance knowledge along with utilization of existing agriculture-related government schemes with empowered engagement of women farmers with key stakeholders.

5. Promotion of labor-saving technologies for reducing women's drudgery

Capacitates the entire ecosystem comprising designers and fabricators of tools, Self-Help Groups and women farmers who are engaged to customize, train, repair and maintain low cost women friendly devices to reduce drudgery in farming operations in addition to improved labour efficiency and increased productivity with reduced costs. The target is to reduce farm drudgery of women and ensure time affordability for livelihoods improvement thereby impacting poverty which in turn ensures better nutrition outcomes.



6. Ensuring Diet Diversity through Homestead Kitchen Gardens

Promotes homestead kitchen gardens as potential source for household nutrition supplement year-round through customized package of practices considering seasonality, dietary preferences, regional agro-climatic suitability and nutrition-sensitive agriculture, in consultation with the local horticulture promoting government agencies and community.

7. Reducing post harvest losses for perishables (including better storage technologies)

Strengthens capacity of small and marginal smallholder farmers on post-harvest loss reduction focusing on storage of seeds and grains leading to lower insect damage, higher keeping quality and impacting retention of nutritive values in terms of viability of seeds with higher production potential and preserving essential nutrient contents in grains



INTEGRATED KITCHEN GARDEN – A POTENTIAL SOURCE FOR NUTRITION RICH DIET AT SMALL-HOLDER HOUSEHOLD LEVEL

In the remote village of Jabedi, each day was hard to pass for Prabhati, as she yearned the nights to become longer and the days to get shorter. Nights were though appalling; however, she was happy as her kids and husband would go to sleep and hence she could manage with no food. But days were tough as she would struggle to find enough food on plate. She had a piece of unused backyard of 1200 square ft. apart from a far-flung piece of farm land rainfed and under productive, where she would grow paddy to feed her family for half of the year. Usually her husband and she would find themselves at distress bargain as contract labors to other farm lands.



TARINA as part of its strategic focus approached Prabhati, to start piloting of integrated kitchen garden (KG). Prabhati's inclination to experiment with hard work and sincerity paid off. Her piece of backyard KG stands out with an assured source of low cost gravity-based drum-drip kit, solar driven water pump and a model kitchen garden with season varieties and crops in demarcated plots. She has put in live fence around the garden with fruit plants such as papaya, drum stick and lemon planted on the hedge. She now grows leafy vegetables, cole crops, Solanaceae crops, turmeric and seasonal fruits and is able to feed her family with nutritious food crops on daily basis. Her surplus such as chilly and turmeric, cole crops reach the nearby weekly *Haat*.



One step from TARINA being implemented by CARE India and many more bold strides from Prabhati has made this journey of success possible. She shared that with support of CARE India, she is now able to cultivate vegetables in her backyard year around and get fresh vegetables for daily consumption which not only helps her to save the monthly household expenditure up to Rs.1500 to 2000 on vegetables, but also supplements the family earnings by selling surplus produce. Her rising self-esteem, with evolving decision-making skill and negotiating power are the real achievement.

About CARE India

CARE India Solutions for Sustainable Development (CISSD), largely known as CARE India, is one of the oldest and largest non-government organization that has been working since last 70 years focusing on alleviating poverty and social injustice. CISSD in partnership with various development actors including Governments in India addresses the issues of health, education livelihoods and disaster preparedness and response. Over the last 15 years, CARE has reached over to 80 million people directly through over 145 projects.

CARE India envisions a world of hope, tolerance and social justice, where poverty has been overcome and people live in dignity and security. CARE India's mission is to facilitate the empowerment of women and girls from poor and marginalized communities in the fight to overcome poverty, exclusion and social injustice. We nurture leadership internally and among partners to achieve this mission.

CARE India
Corporate Office & HQ: A-12, Bhilwara Towers
Third Floor, Tower-2, Sector-1,
Noida, Uttar Pradesh - 201301
Phone: 0120 - 4048250
E-mail: contactus@careindia.org
www.careindia.org

TCI-TARINA Headquarters & Centre of
Excellence
E5, Qutab Hotel Campus, Saheed Jeet Singh Marg,
New Delhi, India-110016
Phone: 011-41065138
E-mail: tarina.tci@cornell.edu
www.tarina.tci.cornell.edu

Technical Assistance and Research for Indian Nutrition and Agriculture (TARINA)

TARINA is a four-year action research project under a grant awarded to the Tata- Cornell Institute for Agriculture and Nutrition (TCI) from Bill and Melinda Gates Foundation (BMGF). In partnership with other stakeholders such as IFPRI, Emory University, TISS, BAIF Foundation, GDS and TATA Trusts as part of a consortium approach, CARE India Solutions for Sustainable Development (CISSD) is implementing the TARINA project in two districts of Odisha – Kandhamal and Kalahandi since December 2015 reaching out to around 10,000 women small-holder farmers from marginalized community.

TARINA: Facts and Figures

72 villages reached out through BCC activities 4019 participants from 65 villages imparted Nutrition Gender Tool Kits (NGTK) sessions	Intervention 1: Increased consumption of nutritious food through behaviour change
Intervention 2: Diversify staple grains systems by adding vegetable/pulses/legumes	4,595 farmers diversified into pulses and vegetables, 170 pulses demonstration plots established 3,552 women small holder farmers participated in 169 FFS
10 model goat sheds constructed, 3118 goats dewormed, and 1248 goats vaccinated 2103 women small holder farmers participated in 133 FFS	Intervention 3: Promote Goat Rearing for increased protein-rich household nutrition
Intervention 4: Promote scientific management practices of cattle rearing	21.1 acres fodder cultivated to address the fodder crises in lean period 557 women small holder farmers participated in 32 FFS
10 model poultry houses constructed, 926 poultry bird dewormed, and 2,700 vaccinated 1,569 women small holder farmers participated in 103 FFS	Intervention 5: Poultry Farming for enhanced household nutrition security
Intervention 6: Strengthen women's leadership and access to agricultural services	510 SHG members from 149 SHG groups trained on product and service options 21 SHGs engaged in aggregation of nutrition related outputs
207 technologies provided to minimize the drudgery in agriculture activities 40 technologies demonstrated to reduce the drudgery	Intervention 7: Promote labor-saving technologies for reducing women's drudgery
Intervention 8: Expand homestead horticulture and livestock production	2,300 households established homestead Kitchen gardens 210 FFS sessions organized focusing on seasonal food deficit reduction
Five technologies introduced as safe and improved storage practices 57 FFS sessions organized focusing on PHLR technologies	Intervention 9: Reduce post-harvest losses for perishables

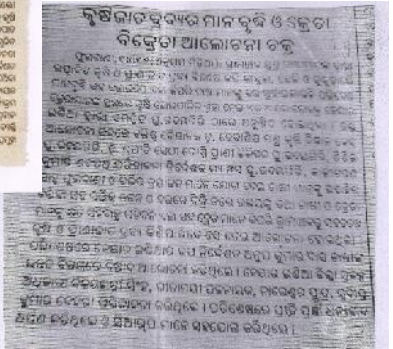
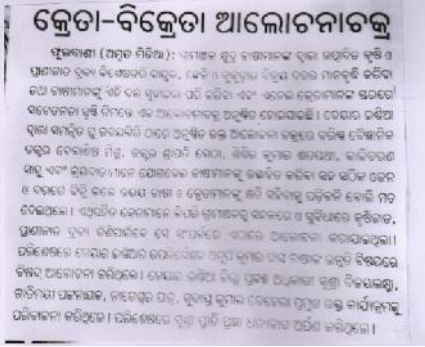
TARINA in the Spotlight

ବାଲିସିଙ୍ଗାରେ ଜାତୀୟ ପୁଷ୍ଟିକର ମାସ ପାଳିତ

ଦିନିକ, ୨ ଖାଣ (ନି.ମି.) ଏହି ଭୂମି ଆମର ପରିସିଦ୍ଧତା ଯାକି କେଉଁଠା ଲୁଚିଛି ତାହା ଜାଣିବା ପୁଷ୍ଟିକର ମାସ ପାଳିତ ହେଉଥିବା ସମୟରେ ଘଣ୍ଟିଆ ଚାଷୀମାନଙ୍କୁ ସମ୍ପର୍କ କରିବା ପାଇଁ ଏହି କାର୍ଯ୍ୟକ୍ରମ ଆରମ୍ଭ ହେଉଛି । ଏହି କାର୍ଯ୍ୟକ୍ରମର ଉଦ୍ଦେଶ୍ୟ ହେଉଛି ଚାଷୀମାନଙ୍କୁ ସମ୍ପର୍କ କରିବା ପାଇଁ ଏହି କାର୍ଯ୍ୟକ୍ରମ ଆରମ୍ଭ ହେଉଛି । ଏହି କାର୍ଯ୍ୟକ୍ରମର ଉଦ୍ଦେଶ୍ୟ ହେଉଛି ଚାଷୀମାନଙ୍କୁ ସମ୍ପର୍କ କରିବା ପାଇଁ ଏହି କାର୍ଯ୍ୟକ୍ରମ ଆରମ୍ଭ ହେଉଛି ।



ସମ୍ପର୍କ କରିବା ପାଇଁ ଏହି କାର୍ଯ୍ୟକ୍ରମ ଆରମ୍ଭ ହେଉଛି ।



TARINA @ International and National Forum

- TARINA research work titled "Cropping Cycle, Food Insecurity and Nutrition Status among Small Holder Farmers: An Evidences of Tribal Dominated Region of India", for oral presentation under the theme: Population, Economics, Environment, Climate Change and Sustainable Development presented in 4th Asian Population Association (APA) conference from July 11-14, 2018 at Shanghai University in partnership with the Asian Demographic Research Institute (ADRI), Shanghai University, China.
- Oral presentation conducted through a conceptual approach paper titled "Nutrition Layering in Agriculture Eco-systems in Tribal Areas of Odisha: A Participatory Action Research at the national conference on Health, Public Policy and Human Development: A way forward to address SDGs (HPPHD, 2017) at National Institute of Technology (NIT), Rourkela

TARINA Presence in the Upcoming Events

- Eleventh International Conference on Climate Change Catholic University of America, Washington, D.C. USA. The research submission from the TARINA project, titled "Climate Vulnerability, Diet Diversity and Household Nutrition Insecurity among Small-holder Farmers of Eastern Region of India" has been accepted for presentation and discussion at the conference to be held at Pryzbyla Center, The Catholic University of America.
- 3rd Agriculture & Climate Change Conference, Budapest, Hungary. The submission has found place under the theme - **Food security in developing countries** – Adapting the agriculture of developing countries to global change, challenges, strategies, success stories and policies. The Conference will focus on the likely impact of climate change on crop production and explore approaches to maintain and increase crop productivity into the future.