



*To make lives  
healthy and the  
planet happier*

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## Orish J Bioworks Pvt. Ltd.

Showcase

UN ESCAP

02 12 2022 09:45 h

# Problem

## Disease Prevention: Chronic Non-Communicable Diseases



WHO, 2005

### Estimate

- if the major chronic disease risk factors eliminated, then
  1.  $\geq 80\%$  of all Heart disease, Stroke & Type 2 diabetes
  2.  $\geq 40\%$  of Cancer cases would be prevented

### Diet

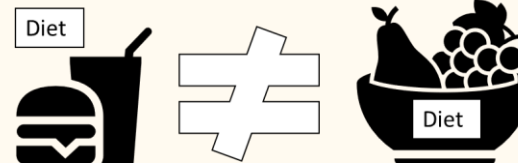
- Poor Nutrition

### Substance Abuse

- Tobacco
- Alcohol

### Sedentary Lifestyle

- Obesity
- Hypertension
- Cardiovascular

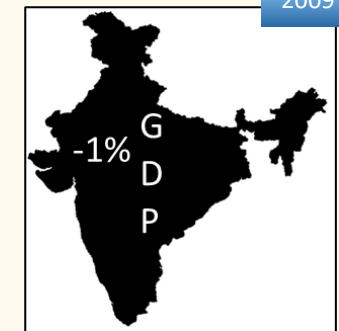


Proportionate NCDs Mortality, India, WHO, 2014

2022  
**icmr**  
2.67 Cr.,  
India's Cancer  
Burden, 2021



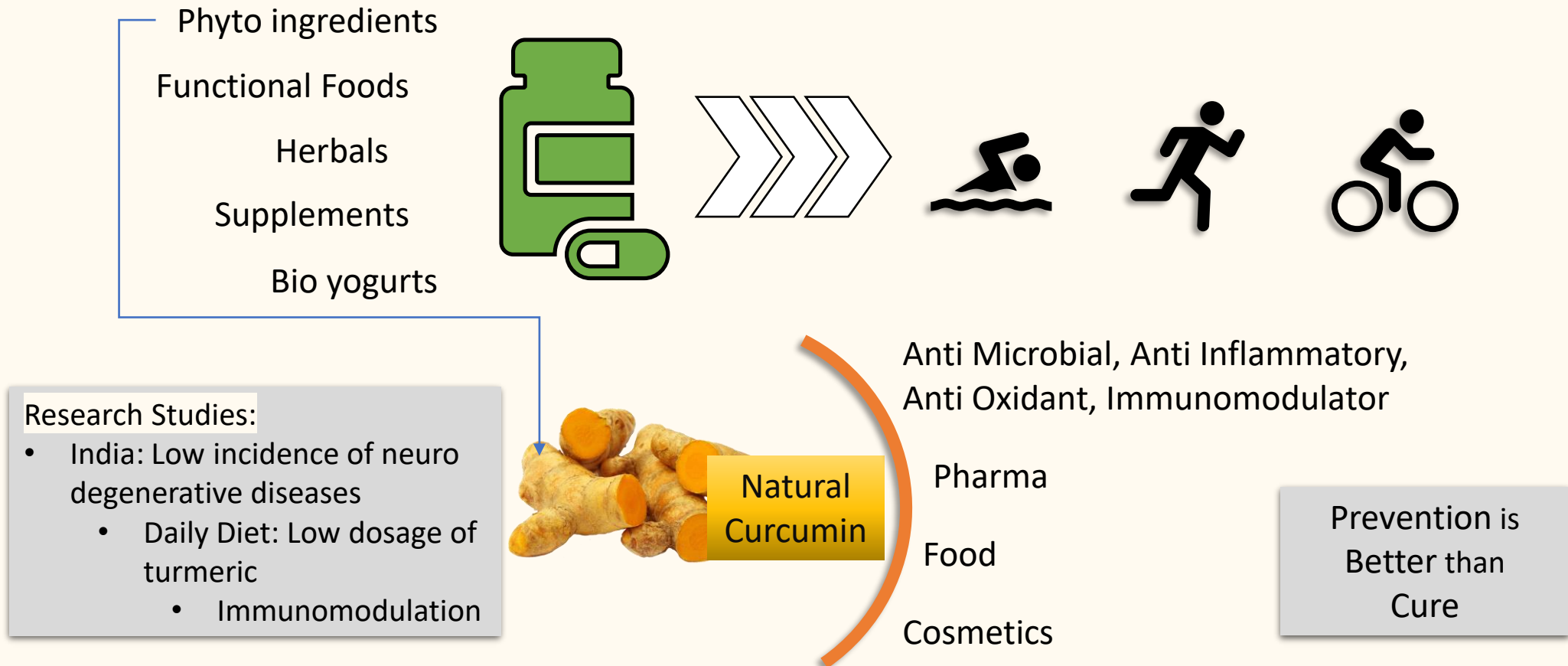
2015  
**ASSOCHAM**  
Ideate · Innovate · Impact  
42.5 % corporate  
employees suffer  
depression



# Solution

## Nutraceuticals: Nutritional Deficiency

*'Disease Prevention and Health Promotion requires a multidimensional approach on a sustained basis. Addressing nutritional deficiency is an important pillar of preventive healthcare.'*



# Product

## Nanocurcumin: The Innovation (Patent No. 298432)

### Limitation

Natural Curcumin = 1 -2 micron

Poor bioavailability

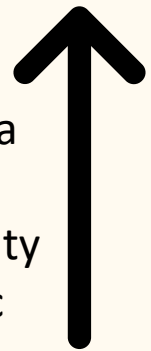
Limited therapeutic effect

Body removes 75%

### Innovation

Nanocurcumin  $\leq 200$  nm

Surface Area  
Absorption  
Bioavailability  
Therapeutic



Has Taste

No Taste

Has Smell

No Smell



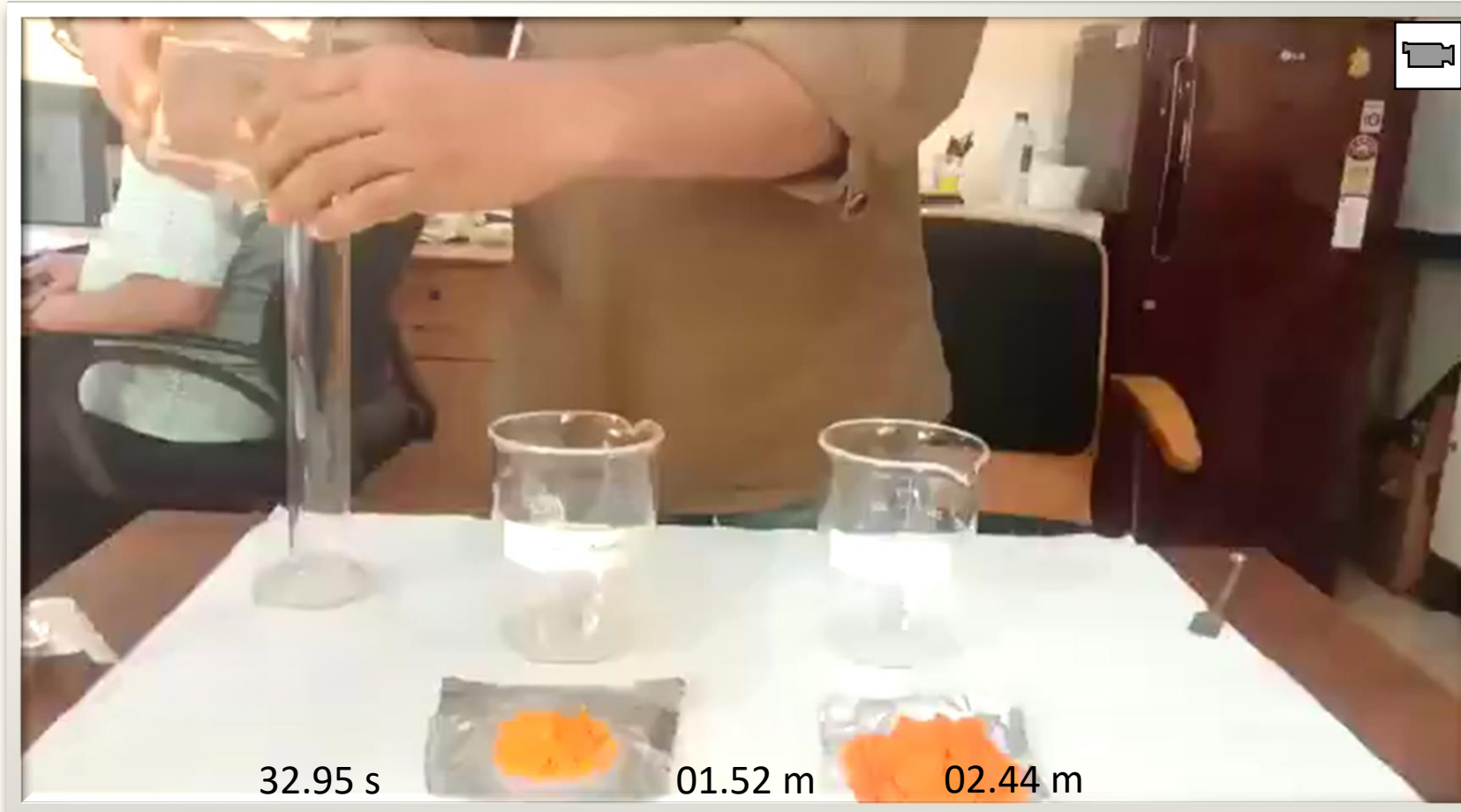
### Nano Technology

- Process
- Product
- Application

# Product

## Nanocurcumin: Water Dispersion

Nanocurcumin: Higher dispersibility in water



# Product

## Nanocurcumin Unique Selling Propositions

Never Before Solution      100% Natural: no chemical modifications

1.  $\geq 90\%$  purity

2. Nanotized without carrier particles      90% Purity: high therapeutic potency

Nanotized: no carrier particles

5x Bioavailability (mice model): better therapeutic properties

Peer Review: 9 leading international journals

Human Observatory Study: 100 stage 4 cancer patients

‘Nanotized curcumin in 100% natural form, with 90% purity, 5x bioavailability, and pre-clinical studies, fit for human and animal nutrition, and protected by intellectual property.’

*Value Proposition*

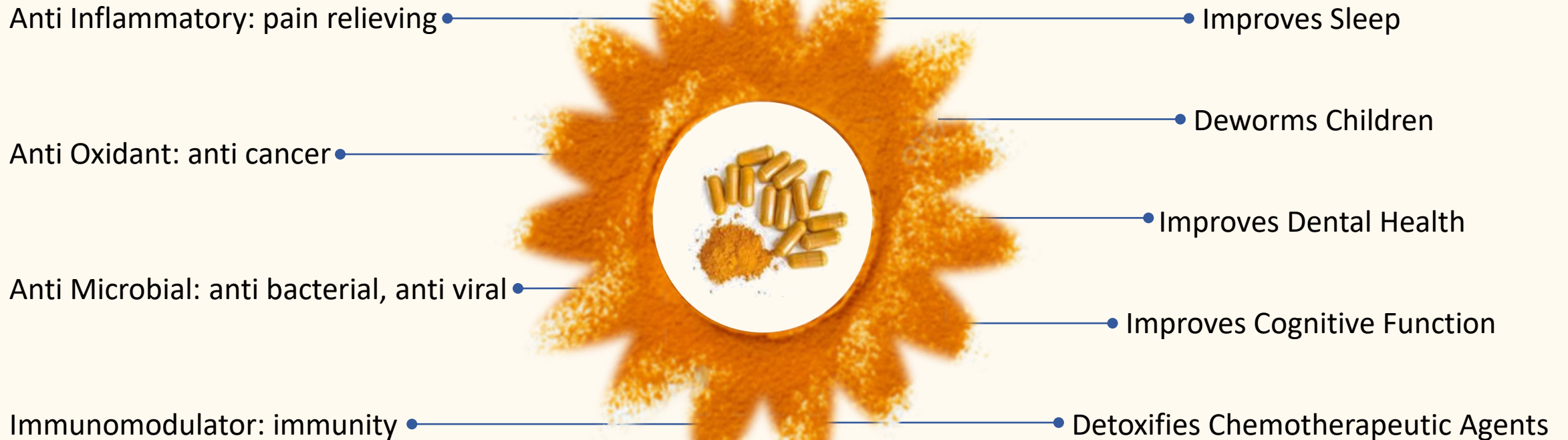
5x: vis-à-vis Natural Curcumin

- $C_{\max} \gg \gg 5$  times (concentration)
- $T_{1/2} \gg \gg 8h$  (blood circulation)



# Product

## Nanocurcumin: Use Cases



### Pre-clinicals:

- Bio-availability:  $C_{\max}$
- Blood Circulation:  $T_{1/2}$

### Efficacy

### Pre-clinicals:

- 14 days acute Toxicity
- 90 days multiple dose chronic Toxicity
- Reproductive Toxicity
- Anecdotal: 100 Stage 4 human cancer patients

### Safety



# Showcase

## Publications

#	Publication	Topic
1	Oral delivery of curcumin bound to chitosan nanoparticles cured Plasmodium yoelii infected mice	Malaria
2	MEK inhibition prevents tumour-shed transforming growth factor- $\beta$ -induced T-regulatory cell augmentation in tumour milieu	Tumour/ Cancer
3	Nanoparticle-Formulated Curcumin prevents Post therapeutic Disease reactivation and reinfection with Mycobacterium tuberculosis following Isoniazid therapy	Tuberculosis
4	Chronic hypobaric hypoxia induces right ventricular hypertrophy and apoptosis in rats: therapeutic potential of nanocurcumin in improving adaptation	Hypoxia/ Respiratory Distress
5	Curcumin Nanoparticles Enhance BCG Vaccine Efficacy by Modulating Host Immune Responses	Tuberculosis/ BCG Vaccine
6	Nanocurcumin protects cardiomyoblasts H9c2 from hypoxia-induced hypertrophy and apoptosis by improving oxidative balance	Hypoxia/ Respiratory Distress
7	Nanocurcumin Prevents Hypoxia Induced Stress in Primary Human Ventricular Cardiomyocytes by Maintaining Mitochondrial Homeostasis	Hypoxia/ Respiratory Distress

## Publications



8	Nanocurcumin accords protection against acute hypobaric hypoxia induced lung injury in rats	Hypoxia/ Respiratory Distress
9	Nanocurcumin-pyrroloquinoline formulation prevents hypertrophy-induced pathological damage by relieving mitochondrial stress in cardiomyocytes under hypoxic conditions	Hypoxia/ Respiratory Distress
10	Oral Therapy Using a Combination of Nanotized Antimalarials and Immunomodulatory Molecules Reduces Inflammation and Prevents Parasite Induced Pathology in the Brain ...	Malaria
11	Comparison of the effectiveness of Curcumin and Benzydamine mouthwash on oral mucositis in head and neck cancer patients scheduled for radiotherapy – A Double Blinded Randomised Controlled Clinical Trial	Oral Mucositis



# Showcase

## Prescriptions: Oncology, AIIMS, Bhubaneswar

**Madhabananda Kar**  
FACS, FIAGES, FICS, FIICC (Geneva)  
Medical Oncology (AIIMS)  
Fellow to M.D. Anderson Cancer Centre, Houston, USA.  
Fellow to Memorial Sloan Kettering Cancer Centre, New York, USA.  
Fellow to Samsung Medical Centre, Seoul, South Korea.  
Senior Consultant Surgical Oncology, Apollo Hospital,  
Associate Prof. KIMS, KIIT University.

By: [Signature] Date: 29/5/15

Age: 82 Sex: (M/F) No.

Follow up case of Ca (L) buccal Mucosa.

non-healing ulceration  
with squamous at the anterior  
(L) upper buccal Mucosa.

Adv

1. **Noncurtumin**
2. **Lozenges Cloral**  $\leq 2$  days  
or cloral
3. **Beclomethasone** mouthwash
4. Follow up after 1 gm.

THERE IS AN ANSWER FOR CANCER  
Behind BPCL petrol Pump, Infront of Corporation Bank, Chandrasekharpur, Bhubaneswar-751016  
E-mail: madhabananda@gmail.com, Cell No.: +91-9437077377, +91-8093060122, Reception: +91-9937527567

**ALL INDIA INSTITUTE OF MEDICAL SCIENCES**  
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AIIMS, Bhubaneswar-751019  
Rajd. No. 11455, Orissa (India)

Dr. Madhabananda Kar  
Professor & Head

OPD CONTINUOUS SHEET

Name: [Redacted] Age: 82 Sex: M OPD Regd. No.: 130 879

\* NO H/O any co-morbidities (except HT on Rx)

Diagnosis: (L) buccal mucosa

Adv

1. **Noncurtumin** 14
2. **Lozenges Cloral**  $\leq 2$  days
3. **Tab. Cloral**  $\leq 15$  days
4. **Tab. Beclomethasone**  $\leq 5$  days
5. **Amix ofr** 3 mths

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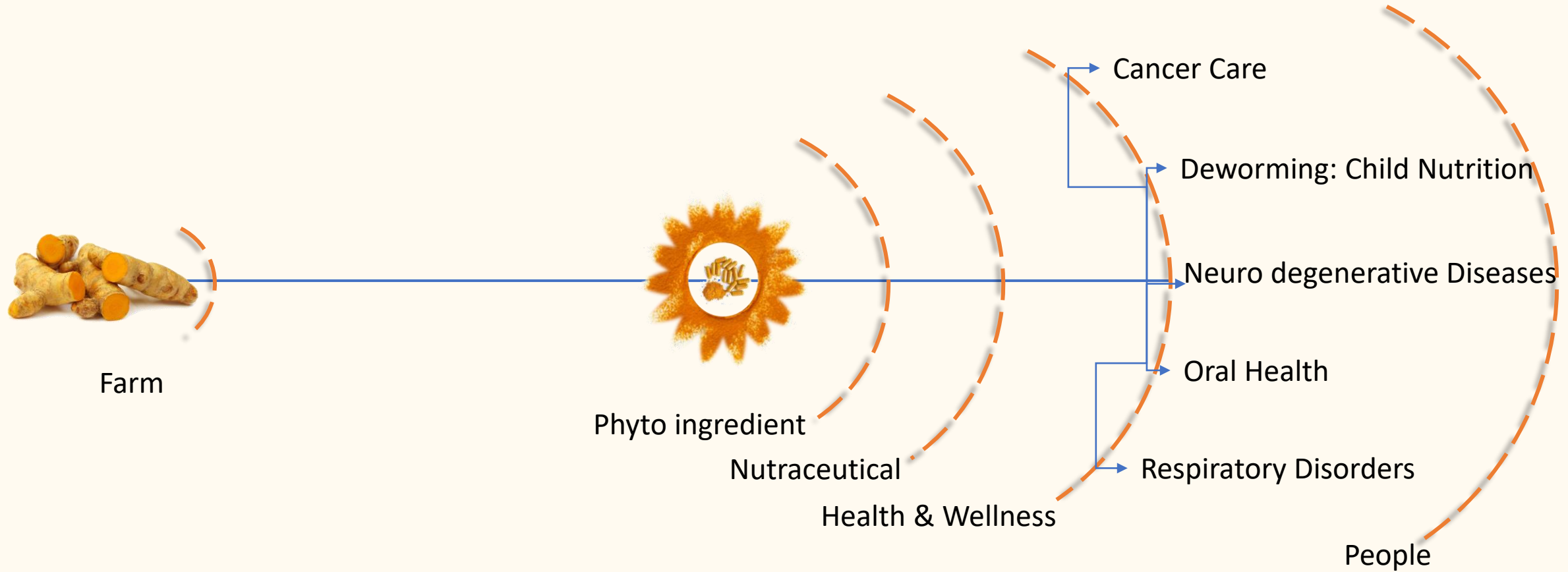
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# Impact

## Value chain







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