



THE SUSTAINABLE CASTOR INITIATIVE

PRAGATI

Update April 2019



**DID YOU KNOW?
MORE THAN**

80%

Of the world's supply of castor seed produced annually in India representing approximately 1.2 million tons

INTRODUCTION

The Pragati Initiative

WHAT?

Enabling Sustainable castor crop production by:

-  Using best agricultural practices to increase yield and farmer income
-  Efficiently using water resources and Maintaining soil fertility
-  Driving adoption of good waste management practices
-  Enabling better health and safety practices, and respecting human rights



WHO?

4 Members of the Pragati Initiative

-  Arkema, a global leader in specialty chemicals and advanced materials
-  BASF, the world's leading chemical company
-  Jayant Agro-Organics Ltd., a pioneer in castor oil based chemicals in India
-  Solidaridad, an international civil society organization

WHERE?



The Pragati initiative is focused in Gujarat, where most of the castor crop is grown.

WHEN?

The Pragati Initiative was launched in 2016



CASTOR OIL

Facts & figures



TOP 4

Uses for Castor oil



POLYMERS

LUBRICANTS

COATINGS

PHARMACEUTICALS

700,000



The number of castor bean farmers in India

800,000



The number of hectares of land dedicated to castor farming in India

45%

Of the weight of castor bean is captured as castor oil. The remainder is generally repurposed as a fertilizer



5

Farmers typically harvest castor pods **at least 5 times** per year 120 to 210 days after planting

TOP 2

Perceived sustainability advantages of castor beans

- ❖ Naturally drought resistant
- ❖ Does not compete with food chain for humans or animals

Products derived from castor oil are often celebrated for their bio-based origin and their low carbon footprint

CASTOR OIL & DERIVATIVES END-USE MARKETS

COSMETICS & PERSONAL CARE



- ❖ Perfume
- ❖ Lipstick
- ❖ Shampoos
- ❖ Emulsifiers
- ❖ Deodorants

PLASTICS & RUBBER



- ❖ Plastic films
- ❖ Adhesives
- ❖ Plasticizers
- ❖ Surfactants
- ❖ Coupling agents

PHARMACEUTICALS



- ❖ Antifungals
- ❖ Bactericides
- ❖ Emollients
- ❖ Emulsifiers
- ❖ Encapsulants
- ❖ Laxatives

INKS, PAINTS & ADHESIVES



- ❖ Inks
- ❖ Plasticizers for coatings
- ❖ Varnishes
- ❖ Adhesive removers
- ❖ Lacquers
- ❖ Solvents

BIO-POLYMERS



- ❖ Polyamide 11
- ❖ Polyamide 610,1010,1012
- ❖ Polyols for urethanes
- ❖ Automotive ; Electronics
Apparel markets

GREASES & LUBRICANTS



- ❖ High performance lubricants
(aircraft & racing cars lubricants)
- ❖ Hydraulic fluids
- ❖ Fuel additives
- ❖ Corrosion inhibitors

TEXTILE & PAPER



- ❖ Textile finishing materials
- ❖ Dyeing aids
- ❖ Synthetic fibers
- ❖ Synthetic detergents
- ❖ Flypapers
- ❖ Defoamer

OTHER



- ❖ Food packaging
- ❖ Flavorings
- ❖ Surfactants (food)
- ❖ Organic fertilizers
- ❖ Bio-fuels



❖ MOST CASTOR OIL IS EXPORTED
❖ THE MARKET IS TRULY GLOBAL

A CODE WITH 76 AUDITABLE CRITERIA BASED UPON 11 PRINCIPLES



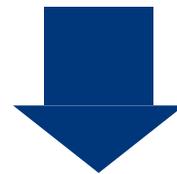
SUCCESS™

Sustainable Castor Caring for
Environmental & Social Standards

www.castorsuccess.org



- 1 Governance & Management System
- 2 Seed & Planting Materials
- 3 Soil & Water Management
- 4 Nutrition Management
- 5 Ecological Balance & Integrated Pest Management (IPM)
- 6 Safe Use of Crop Protection Products
- 7 Workers Welfare & Safety
- 8 Waste & Pollution Management
- 9 Bio-Diversity Management
- 10 Energy Management
- 11 Post Harvest Management Practices



**TO DRIVE
& ENABLE**

- ❖ Improved Living Standards
- ❖ Increased Farmer Income
- ❖ No Child Labor or Forced Labor
- ❖ Respect for the Environment and Natural Resources
- ❖ Gender Equality
- ❖ Improved Safety

PRAGATI

Sustainable Castor Initiative



**5,000 tons of certified castor beans
have now been successfully cultivated**

** Statistics as of April 2019*

Agricultural experts have facilitated distribution of sampling for soil conservation in more than 5 villages

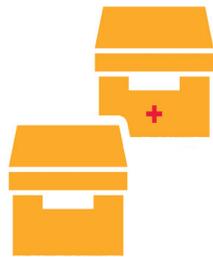
5

41 Soil and water quality testing has been performed in 41 villages

5 Demonstration plots set up in the program to showcase the benefits of implementing good agricultural practices

**More than
3,000
Safety kits &
Over 3,000**

Pesticide storage boxes have been distributed to help farmers with improved waste management



Yield increase by the farmers certified in the first year compared to the 2016 baseline study

3 Certification bodies have been empanelled as external certification agencies

**Over 2,700 Farmers
Certified by the program so far**

- More than 2,000 hectares of castor farming are now in accordance with the project framework
- More than 1,000 hours of classroom training
- All certified farmers have adopted improved farm waste management practices

H₂O Water consumption has been lowered by approximately 25% in the demo plots where water utilization is monitored



PRAGATI

For more information on the sustainable castor initiative
please contact info@castorsuccess.org

 www.castorsuccess.org

ARKEMA
INNOVATIVE CHEMISTRY

BASF
We create chemistry



JAYANT AGRO-ORGANICS LTD.
Leadership through Innovation

Solidaridad