

IMPACT STUDY OF KERALA FLOODS ON PDS ORGANIC SPICES

Around 2000 small scale organic spices farmers are associated with PDS Organic Spices. These farmers are located in 5 ICS units under PDS Organic spices, in Idukki district namely, Kumily, Peermade, Karunapuram, Kannampady and Kanjikkuzhy. The total area certified under these 2000 farmers is 2100 ha. Major crops cultivating in this organic certified farm lands are Pepper, Ginger, Turmeric, Clove, Nutmeg, cardamom, Zedoria, Cinnamon etc.

The recent floods and landslides have taken its toll in 13 out of 14 districts in Kerala. Idukki district was one of the worst hit.

*After conducting an extensive onsite survey, we assessed the following **general damages and consequences**:*

- Extensive damages to the land, houses, agriculture and infrastructure.
- Live stocks like cow, chicken, goats, etc were lost due to the flood and the diseases outbreak. .
- Farmers lost their farm equipments and infrastructure like spades, baskets, sickles, polythene sheets, pumps, stone bunds, etc. in this region.
- The domestic water sources in the areas like wells, ponds, and rainwater harvesting ponds are either damaged or polluted due to the flood.
- After the flood, there is a heavy outbreak of diseases to the crops especially to spices plants. Which includes Quick wilt and Soft rot diseases for ginger and turmeric, die back for nutmeg and clove, pod rot for cocoa, leaf rot and steam rot for coffee and yellowing and root rot for pepper.
- **Impact on soil eco system:** The entire fertile top soils from the farmer's fields were washed off resulting in soil compaction and cementing effect. All the surviving plants show symptoms of nutrient deficiency. All soils are devoid of soil organic matter. Naturally it will have its impact on soil micro-flora. It is widely reported that, after the flood, earth worms like *Amyntas*, *Metaphire*, *Protoscolex*

etc died in large numbers in various areas of Idukki district. Also due to the heavy soil erosion happened during the flood, the farm lands lost its fertility, and water absorption capacity. There is very low moisture retention in the soil, which is reflected in wilting of the plants during sunny days, and drastic lowering of water levels in wells, ponds and streams and it is anticipated that if the North Eastern rainfall and summer rains are not optimal and well distributed, the plants will suffer the worst drought in history.

Loss estimation of PDS Organic Spices farmers

It is concluded that, around 700 farmers have been affected directly by the flood and landslides the remaining 1300 farmers were affected indirectly due to heavy rains. Around 1050 ha of agriculture land has been severely or partially damaged.

14 Houses damaged either fully or extensively – 10 numbers in Peermade ICS and 4 numbers in Kanjikkuzhy ICS

25 Hectares of agricultural land wiped out in land slide- Around 10 hectares in Peermade ICS and 15 hectares in Kanjikkuzhy ICS.

Loss of Live stocks- Almost 200 farmers have lost their livestock like cow, chicken, goats, fish etc.

Farm equipments and other farm infrastructure loss were very huge in Peermade and Kanjikkuzhy area and we have identified that at least 500 farmers need assistance in this aspect.

The gestation period of the perennial crops is 3-4 years, so it will take min 3 -4 years for an agricultural rehabilitation. So the impact of the crop loss will be prolonged at least for next 3 years in case of perennial crops.

Action plan of PDS for Short term/ Long term Assistance to the farmers

- ☐ As the plant diseases have started, organic inputs needs to be supplied to the farmers on urgent basis, especially Bordeaux mixture, Dolomites, Various bio-agent and other inputs.

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- ☐ Action plan for short term and long term building up of organic matter in the soil and improvement of soil fertility. Supply of organic inputs at subsidized rate has to be a mandatory soil building support to be provided to the farmers.
- ☐ Supply of seedlings and seeds. For short term crops financial support needs to be done. Climate resilient local cultivars need to be identified and promoted in a big way.
- ☐ Replacement of damaged plants with good quality planting materials.
- ☐ Financial support for rejuvenation and replanting for next 5-7 years depending on crop.
- ☐ Support for rebuilding and maintenance houses
- ☐ Support for buying farm equipment and repairing of electric equipment.
- ☐ Topography assessment of areas to identify the real issues.
- ☐ Geo textiles/vetiver/other fodder grasses/ other live plant soil erosion barriers to be implemented in the fields
- ☐ Soil preventing herbs like Vetiver to be supplied so that income can be generated within short duration.
- ☐ Development of climate resilient variety suiting to the local conditions to be identified, planting materials to be developed and distributed on a war footing.
- ☐ Focused assessment of bio-diversity and an action plan for improving the “biodiversity hot spot of the western Ghat”.
- ☐ Conscious action plan for improving pollinators including honey, butterflies and other native pollinators
- ☐ Develop action plan for crop rejuvenation based on ecology with emphasis on ecosystem rejuvenation like promotion of organic farming, biodiversity enriched cropping pattern design and promotion of agri-preneurship based on local capabilities.

Intended cost of rehabilitation of PDS Organic Spices farmers
(For a span of 2 years)

Particulars	Estimation	Cost (INR)
Rebuilding of damaged houses	14 houses @ Rs.5 lakhs per house	70,00000.00
Live stock supply	200 farmers @ Rs. 15,000	30,00000.00
Supplying of Bordeaux mixture to prevent the diseases	2100 ha land @ Rs. 300 per kg @ 30 kg per hectare	1,90,00000.00
Supplying farm equipments		20,00000.00
Rebuilding of farm infrastructure like stone bunds, rainwater ponds, wells etc		25,00000.00
Supplying of planting materials	1260 ha. @ 500 nos per hectare @ Rs. 25 per plant	1,57,50,000.00
Supply of Organic Manures	2100 ha. Land @ 250 kg per ha. @ Rs. 25	1,31,25,000.00
Labor loss	700 farmers X 7 days @ Rs. 500 per labor	24,50,000.00
Total		6,48,25000.00

Some Photos from the field













