WORK PLAN & METHODOLOGY

1. Exhaustive literature search related to drug profile, excipients profile, plant profile and formulation development.

2. Pure drugs viz; Diclofenac sodium, Metformin HCl, Ibuprofen and Paracetamol etc., will be procured from Pharmaceutical industry/authorized distributor.

3. Characterisation and identification of pure drugs will be carried out by
   a) Differential Scanning Calorimetry
   b) I.R. Spectroscopy
   c) HPLC
   d) Solubility & Other parameter as per mentioned in I.P.

4. Procurement of the selected Borassus Flabellifer fruits from local market of udupi district, Karnataka, India.

5. Authentication of the selected Borassus Flabellifer fruit will be done by the botanist, Science Centre, Pilikula Nisargadhama, Vamanjoor, Mangalore.

6. Herbarium of the selected plant part will be prepared and preserved for future reference.

7. Extraction of Mucilage from the Borassus Flabellifer fruits will be carried out by the standard procedure.

8. Physicochemical characterisation of the isolated mucilage will be carried out as per the reported and standard procedure.

9. Phytochemical characterization of the isolated mucilage will be carried out as per the reported and standard procedure.

10. Micromeritic Properties of the isolated mucilage will be carried out as per the reported and standard procedure.
11. Acute and short term toxicity studies of the isolated mucilage will be carried out as per the reported and standard procedure.

12. Possible pharmaceutical applications of the isolated mucilage will be explored which may be as follows
   a) Disintegration property
   b) Binding property
   c) Suspending property
   d) Emulsifying property
   e) Gelling property
   f) Matrix forming property
   g) Film forming property
   h) Polymer for colon drug delivery
   i) Polymer for floating drug delivery

13. Depending on the pharmaceutical applications of the mucilage different formulations will be prepared viz; conventional tablets, gel, suspension, dispersible tablet, emulsion, matrix tablet, transdermal patches etc, and it will be evaluated as per the standard procedure to select the optimum formulation and optimum concentration of mucilage to be used in the formulations.

14. Based on the result the optimized batch will be selected and it will be subjected for stability studies as per ICH guidelines.