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MSME IDEA HACKATHON 4.0

Reference No. :- INC24DWB056604

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4. HI/BI State	WEST BENGAL
5. HI/BI Name	Haldia Institute of Technology
6. Problem Statements	Sustainable Development
7. Idea Sector	Healthcare & Life sciences, Medical Devices, Pharmaceuticals, Biotech, AYUSH and any related sub-sector
8. Title of proposed idea/innovation	NATURAL SWEETNER EXTRACTION FROM STEVIA LEAVES
9. Briefly explain newness/uniqueness of the innovation	In this proposal the aim is to extract the sweetening components from the stevia leaves by the process which requires less number of steps and also will be economically feasible and easy to handle. It is proposed to use pure solvents in the first phase of crude extraction instead of hot water which eliminates few steps in the conventional process. Also instead of powder final product, the crystal form enhances the life span of product. So specific solvent will be selected so that the components will be easily crystallized. Also low cost adsorbents produced particularly from plant residues can make the process more economically viable.
10. Concept & Objective	Stevia leaves a non-caloric natural source that can be used as a sweetener which can replace the use of sucrose, medication and a lot of products will be used as eatable and pharmaceutical items. These are used in different forms like green stevia drops, stevia leaves, stevia powder, stevia liquid extract, etc.. The objective of the present study is to find out a suitable process for the extraction of sweetening components (glycosides) in crystal form from stevia leaves in economic way.
11. Specify the potential areas of application in industry/market in brief	As research shows that stevia has a higher sweetening effect than sugar, so in some industries in need of sweetener have been using it in place of sugar. As stevia can be used in different forms and in different industries are using it for different purposes like sweetener directly adding the leaves to the food which people want to consume, stevia liquid extract, As research shows that stevia has a higher sweetening effect than sugar, so in some industries in need of sweetener have been using it in place of sugar. As stevia can be used in different forms and in different industries are using it for different purposes like sweetener directly adding the leaves to the food which people want to consume, stevia liquid extract, dry industry. Stevia has various applications including its use as an alternative sugar for food, as an ingredient for pharmaceuticals, and as solubilizing agents (Nguyen et al., 2018). Stevia is widely known for its sweetness and low calorific content of foliar diterpenoid steviol glycoside. Stevia is mainly used in food, beverages, drugs and pharmaceutical industries. Particularly in beverage division because of its rising demand of low calorie drinks.

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12. Briefly provide the market potential of idea/innovation

Stevia contains the sweetening components like stevioside and rebaudioside which gives the stevia leaves 250-300 times sweeter than sugar. This can be used as a potential replacement of sucrose and also the artificial sweeteners, saccharine etc.. are available in the market. This sweetener is most likely to be safe and can be used in food, beverages, etc.. as sweetening components. So economic viability of the process to produce sweetener from stevia can fulfil the demand of the market which requires a replacement of high calorie sugar.

13. Uploaded Proposal

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