



**RRDEN and ViCARP
CY 2023**



Agency In-House RDE Reviews
(Agriculture and Fisheries, Environment and Natural Resources)

ANNUAL REPORT

I. Basic Information

1. **Title of the Project:**
Assessment of the Management and Disposal of Single-Use Absorbent Hygienic Products in Baybay City and its Impact on Water Resources
2. **Proponents (s)**
 - 2.1 Name: Merry Jean Caparas, Ma. Grace Sumaria, Celestial Manigo
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3. **Implementing Agency**
 - 3.1 Lead Agency: Institute for Strategic Research and Development Studies (ISRDS), VSU
 - 3.2 Collaborating Agency (s): SilveryNanos Innovation LLP, India
4. Project Duration: 2023-2024
5. Project Location: The City of Baybay
6. Total Budget Requirement:
Budget Requested: 500,000
Agency Counterpart
Other Sources

II. Technical Information

1. Brief Project Description:
2. **Brief rationale**

Single-use menstrual pads, diapers, and wet wipes result in serious environmental impacts throughout their lifecycle, from the production phase until the end of life. These products are mainly made up of large volumes of wood pulp, cotton, or viscose rayon for the production of super absorbent polymer (SAP), and other components such as polyester, polyethylene, polypropylene, adhesives, fragrances, and dyes. While significant amounts of water and energy are used for its production, the recycling of such materials is technically difficult and expensive (Cabrera and Garcia, 2019). Likewise, proper disposal of these products remains a concern in the Philippines.

For the menstrual waste, the lack of clarity and consensus over how menstrual waste is classified (for instance, as solid waste, hazardous waste, or bio-medical waste), makes it difficult to offer clear guidance on how best to discard used products, leading to inappropriate and unsafe disposal practices (Elledge et al., 2018). Similarly, the data released by the Environmental group Global Alliance for Incinerator Alternatives (GAIA) detailed that around 3 million diapers are discarded in the Philippines daily, or an estimated 1.1 billion diapers annually (GAIA, 2019). Additionally, one of the contemporary concerns in the waste management industry in the country is the rising use of wet wipes. The Philippine Star in 2022 reported that 11.4 million baby wipes were sold in the first hour of the 11.11 Lazada sale.

Due to a lack of efficient disposal mechanisms at the community and institutions (schools, colleges, workplaces, and hospitals), these products are indiscriminately disposed of in landfills along with other domestic and office wastes or in environmentally critical sites, such as waterways (UNDP, 2021).

Improper disposal of these wastes can negatively impact the water bodies because of their non-biodegradable components (Jahan et al., 2020). When these products disintegrate with the water it releases a substantial amount of microplastics (Cabrera and Garcia, 2019) which are carcinogenic (Park et al., 2019). Also, the toxic chemicals and additives that can be found in some of these products may leach while degrading or when in water. The decomposition of the organic matter may likewise cause groundwater due to the leaching of organic components. The situation can, in reality, be much worse if these products are not discarded properly, and end up in rivers and natural areas (Cabrera and Garcia, 2019).

This research generally aims to assess the disposal and management strategies of single-used sanitary pads, diapers, and wet wipes and how such approaches can potentially impact water resources. It will focus on the City of Baybay where an unpredicted number of university students from different parts of the country are coming in annually, coupled with the existing population in the City. This study targets to contribute to the attainment of SDG3 (health and psycho-social well-being), SDG4 (quality education), SDG5 (gender empowerment and equality), SDG6 (water and sanitation), and SDG12 (responsible consumption and production for the environment).

Specifically, the study aims to:

1. To assess the waste generation rate of single used hygienic products (diapers, sanitary pads, wet wipes) in Baybay City.
2. To assess the disposal methods of single used hygienic products in Baybay City.
3. To determine the water bodies that could potentially be affected by the disposal practices of single used hygienic products in Baybay City
4. To identify the chemical components of menstrual pads, diapers and wet wipes and its associated impact to water.
5. To provide recommendations on proper disposal of menstrual pads, diapers and wet wipes.

Methodology:

For objectives 1 & 2:

1. Coordination with Baybay City LGU and other stakeholders
2. Identify interview respondents.
3. Preparation of online survey questionnaire.
4. Conduct interview with selected respondents and video shooting for the promotion of the research and introduced technology
5. Analyze the interview results

For objective 3:

1. Locating the disposal sites and neighboring water bodies

For objective 4:

1. Review of related literature

For objective 5:

1. Review of policies and issues related to the disposal of single use hygienic products.
2. Conduct community validation, presentation and dissemination of printed results to LGU Baybay and other concerned stakeholders.
3. Writing technical report

3. Highlights of Accomplishment (brief description of the previous year accomp.)

1. Within the City of Baybay the project has identified a total number of 35, 263 menstruating women ages from 12- 50 years old, and a total number of 5,508 households with children ages from 0-3 years old. Cochran's formula was used in calculating the sample size with 95% level of significance, which resulted to an overall sample population of 380 from menstruating women, and 359 from household with children ages from 0-3 years old.
 2. Conceptualize digital (Kobo Toolbox) survey questionnaire which consist of questions from Socio-demographic profile, Diapers, Wet wipes and Sanitary pads information, Waste Management and Disposal, and Water Risk Assessment.
 3. Analyze the collected data from 749 respondents.
 4. Conducted Key Informant Interview from respective LGU Personnel.
 5. Conducted desktop research/review of related literature on the possible chemicals present in single use hygienic products, and its possible impacts to water source.
4. Problems met and recommendations
- The approval of the proposal took time which resulted in delayed implementation of the project, and hindering the accomplishment of some targets.

III. Logical framework

Objectives	Outputs	Indicators	Means of Verification	Assumptions	Note
1.To assess the waste generation rate of single-used menstrual pads, diapers, and wet wipes in Baybay	Coordinate with Baybay City LGU and other stakeholders	Number of stakeholders coordinated	Letters Attendance Photos Documentation	Baybay LGU and other concern stakeholders are cooperative	
	Identification of survey respondents	Lists of survey respondents		Socio-demographic information of Baybay City residents are available	
	Preparation of online survey questionnaire	online survey questionnaire	No. of interviewed individuals	online survey questionnaire, such as Kobo Collect is more efficient and generate quick analysis	
	Waste Generation Rate	Average number of menstrual days	Survey Results	Every month women used	

		<p>Average number of menstrual pads, diapers, and wet wipes used per day</p> <p>Average number of sanitary pads, diapers, and wet wipes disposed everyday</p>	Technical Report	<p>menstrual pads</p> <p>Every day mothers with small babies are using wet wipes and diapers.</p> <p>Family(ies) taking care of older family member is/are using diapers</p> <p>menstrual pads, diapers, and wet wipes are disposed in bins which will be collected and transport to landfill</p> <p>Residents in the City of Baybay and students of VSU are willing to be interviewed</p>	
2 To assess the disposal methods of single-used menstrual pads, diapers, and wet wipes in Baybay City	Identification of disposal sites, disposal method/practice of single-used sanitary pads, diapers, and wet wipes in Baybay City	<p>Map of the disposal sites in Baybay City</p> <p>List of disposal method/practice of menstrual pads</p>			To be conducted on the phase II of the project
3. To determine the water bodies that could potentially be affected with the disposal practices of single-used menstrual pads, diapers, and wet wipes in Baybay City		<p>Map of the water bodies within the 5km radius of the disposal site</p> <p>List of water uses for each water bodies</p>		<p>There are water bodies near the disposal sites/landfills</p>	To be conducted on the phase II of the project
4. To identify chemical components of menstrual pads, diapers, and wet wipes and its associated impact to water	Identification of chemical components found in menstrual pads, diapers, and wet wipes and its associated impact to water	List of chemical components found in menstrual pads, diapers, and wet wipes and its associated impact to water	<p>Literature review</p> <p>Technical Report</p>	There are existing studies that identified the chemical components of menstrual pads and its associated impact to water	
5. To provide recommendations on proper disposal of menstrual pads, diapers, and wet wipes	Identification of proper disposal methods for menstrual pads, diapers, and wet wipes	List of recommendations	<p>Literature review</p> <p>Technical Report</p>	There are existing studies that identified proper disposal of menstrual pads and its	To be conducted on the phase II of the project

				associated impact to water	
	Conduct community validation, presentation and dissemination of printed results to LGU Baybay and other concern stakeholders	Validation results	IEC materials and presentations produced Photo documentatio n	Baybay City LGU is open for the presentation of the study result	To be conducted on the phase II of the project