

Sanitary Napkin's Disposal System

Rutuja Kulkarni¹, Rajnandini Lohar², Neha Wani³

^{1,2,3} Dept of Electronics and Telecommunication

^{1,2,3} JESTIMR, Nashik.

Abstract- *The problem of improper disposal of menstrual waste is measure road block to our achieving “Swachha Bharat” missions goal to create a clean India. This waste is problematic for several reasons. Heaps of sanitary napkins with a large amount of disease causing bacteria on them pose a significant threat to the hygiene in the surrounding area. Young girls and even certain older women's are not aware of the hygiene problems cause by improper disposal of Napkins. This system is one of the best way to dispose menstrual waste is to burner is napkin using electrical fire based burner without allowing smoke generate in the process to escape into the atmosphere. This steps must be taken to solve the problems that improper disposal of napkins causes to the environment and to the public health.*

I. INTRODUCTION

Human activities create waste, and it is the way these wastes are handled, stored, collected and disposed of, which can pose risks to the environment and to public health. The management of solid waste is an important concern in developing and emergency conditions, e.g. those of a refugee camp, where solid waste management infrastructure and services are far from achieving basic standards in terms of hygiene, efficient collection and disposal (Collivignarelli, 2004). These situations are characterized by: difficulties in evaluating and choosing the most appropriate solution with respect to the specific operating conditions, inadequate service coverage, operational inefficiencies of services, limited utilization of recycling activities, inadequate management of non industrial hazardous waste, and inadequate landfill disposal. Moreover, developing and emergency conditions are characterized by difficulties in evaluating and choosing the most appropriate solution with respect to the specific operating conditions. This paper analyzes several problems related with solid waste disposal and it describes an appropriate solution for Saharawi refugees camps, South Algeria. Sanitary napkins typically used by women .Particularly an issue where solid waste collection and disposal systems do not operate effectively. Long-lasting, comfortable, stain-free and affordable are the thoughts that come to every women's mind when she picks up a disposable sanitary napkin. Every month, 353 million women and adolescent girls across India need to dispose of their that women did not want the menstrual waste in their houses so they disposed it away

without thinking much about how it will be disposed of further. In fact it was found that even if the facility was provided the behavior did not change much because of human psychology patterns. Sanitary napkin incinerators are used to resolve this problems. Incinerators need to be used at a certain temperature level. Schools, institutions and even at community level these incinerators can be installed. Incinerators can be used in controlled environment so that the gases released do not harm a larger area. However this can only be a better alternative. The Government of India has laid down specific laws for waste management and handling, keeping in mind environmental protection and prevention from health hazards. Following is anexhaustive list of acts that govern the disposal system of India according to the ministry of Urban development.

Why is it necessary to dispose of sanitary napkins:

- If they are left in the open , they are sore sight.
- May lead transmission of infections like hepatitis B and hepatitis C.
- No danger of HIV infections.
- Will attract files and insects.

II. LITURATURE SURVEY

Sanitary napkins typically used by women's, but an issue where disposal system do not operate effectively and affordable thought that come to every women's mind when she picks up sanitary napkin. Every month 353 millions women's and adolescent girls across India need to dispose their sanitary napkins. [1]Linda scott, paul Montgomery, laurel stinfelt, Catherine dolan, sue dopson have presented that frequently hear a public concern about providing sanitary napkins to women's and adolescent girls in developing countries. We believe that the impact of pads disposal should be weighed against the potential to help girls delay child bearing by preserving privacy about puberty. Disposal of commercial sanitary napkins is also a problem Even when the community does burned in the open, often incompletely, leaving gobs of half-consumed objects for dogs or children to pick out. [2] Fan Bai, Xiaochang Wang is said Aerobic composting is a method for sanitary napkins disposal of human feces as has been used in bio-toilet systems. As the composting products can be appropriate as fertilizer, it would

be agreeable if the composting condition could be well controlled for holding fecal nitrogen as far as possible in the composts. It draws attention especially from regions and areas where provision of sufficient water for toilet flushing is difficult due to water shortage, therefore it is necessary to biodegradation of the human feces in which organics and fecal nitrogen are decomposed or transformed under the action of microorganisms. [3] Yichun YEH, Harutoshi OGAI, Ryouta YUI, Hiroshi MORITA, Yukinori TAKABAYASHI have provided a system which disposes a microorganisms, cryptomeria chips and ALGA, for waste reduction a new disposal technique is been introduce which dispose diapers. Microorganisms living with the cryptomeria chips have effect on the decomposition of the disposable diapers, an eco-friendly disposal method that uses microorganisms from the woods to dispose the used diapers is proposed to reduce waste. Microorganisms contain cryptomeria chips have the effect on the decomposition of the pulp. about 85.46% of the pulp per sheet decomposed by microorganisms. decomposition rate of disposable diapers can improve, by using another nutrition source for the multiplication of microorganisms. [4] This study investigated how women manage menstrual waste in the backcountry, in the light of potential environmental degradation. Personal interviews were conducted to determine the methods of menstrual waste disposal that are used in backcountry. Hygiene and discretion are major factors of concern for women in dealing with menstruation, and lack of information about appropriate menstrual disposal practices in the outdoors was occurred. Disposal of menstrual wear via sewage systems can lead to blockages of those systems, and cause millions of plastic strips to be dumped into the sea, where they remain indefinitely, causing visible pollution. Menstrual products are disposed of by the majority of users in the easiest and most convenient way. Eighty percent of users flushed sanitary napkin down the toilet at home and work. Use of disposable sanitary napkin to manage menses has led women to dispose of the used products in the most convenient way for many this is to bury them. The plastic used in sanitary napkins, which is non-biodegradable, is not only harmful for health, but also has negative consequences on the environment.

The aim of our project is to keep environment clean by means sanitary napkin disposal system we also need to give solution to dispose sanitary napkin and avoid current ways of disposal like sanitary napkins are mixed with regular waste and it is difficult to separate them and dispose them off. This exposes viral borne waste to the environment, animal and public at large causing diseases like Hepatitis B & C. Incinerating this napkin is the only way of getting rid of these problems hence installation of this system is developed. A safe, hygienic, scientific and quick method of disposal of

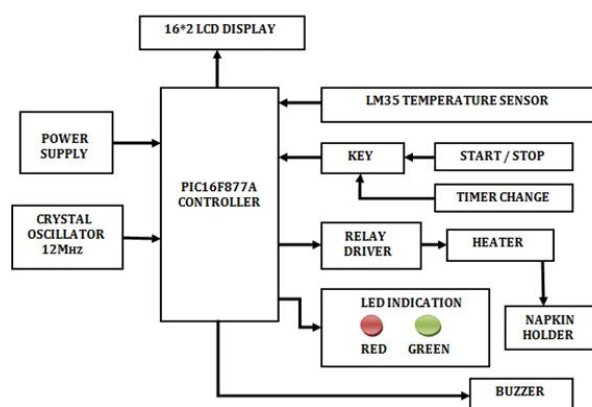
sanitary napkin is dispose them at relatively low temperature to ash. It helps to dispose sanitary napkin in hygienic way without generating harmful emission. This system requires less power, capacity of 60 per day.

III. PROPOSED SYSTEM

The block diagram consist of different component like PIC16F877A, Relay Driver, LM35, Heater, Buzzer, LCD Display.

When system is connected to AC mains i.e. 230V AC the power supply present in the system convert that 230V AC into 5V DC. This 5V DC voltage is applied to the Microcontroller to turn it ON since it is the basic DC voltage required for it to turn ON. Once the Microcontroller turn ON along with a system name i.e.” Sanitary Napkin Disposal System”, the initial state of timer i.e. ON/OFF and temperature reading are display on LCD. As system turn ON, another power supply converts 230V AC into 12V DC which is required for the relay to turn ON, its starts heating the coil of burner. Once the required heat to burn the napkin is attained, the Microcontroller display the message regarding the system being ready for its process. A timer is being programmed for 5min to dispose of one napkin. After the dispose ash is produce which is the final output we want. Once the ash is completely form, LED glows indicating that process is completed and turn of the heater and relay. Also there is another condition such a that if we put another napkin along with the napkin under process, the sensor present there sense another napkin and automatically increments the time of the timer by 5 minutes for which the timer is being programmed. Time is go increasing with quantity of napkin with 5 minutes. In this way system works.

IV. SYSTEM ARCHITECTURE



5.2.1 System Requirements Selection of software and language

- Embedded C
- Express PCB

Selection of hardware

- Power Supply
- Microcontroller [PIC16F877A]
- Temperature Sensor [LM35]
- 16*2 LCD Display
- Heater
- Buzzer
- Relay Driver [ULN2803]
- Light Emitting Diode [LED]

V. CONCLUSION

Sanitary waste disposal has become and increasing problem in India as the plastic used in disposable sanitary napkin's are not bio-degradable and lead to health and environmental hazard. Insufficient information is available to women on the environmental impacts of menstrual waste and on alternative behaviors which reduce the impact. With no knowledge of how to dispose napkin's, most women just throw them in the garbage bin which usually gets mixed up with dry, wet and hazardous waste. Apart from the fact that it can not be recycled, the exposed sanitary napkin's poses grave health risk for the waste collector. This project gives a solution for destroy napkin waste in a very hygienic way. This is portable system for destroy napkin waste using Incinerator. This system also helps to achieving the "Swachha Bharat" mission and avoid the large amount of diseases.

REFERENCES

- [1] Linda scott, paul Montgomery, laurel stinfielt, Catherine dolan, Sanitary Pad Acceptability and Sustainability Study, University of Oxford, Oct 2013.
- [2] Fan Bai, Xiaochang Wang, Nitrogen Holding Property of the Composts in an Aerobic Mesophilic Composting Reactor for Sanitary Disposal of Human Feces, IEEE, vol.7, issue 11, 2011.
- [3] Yichun YEH, Harutoshi OGAI, Ryouta YUI, Hiroshi MORITA, Yukinori TAKABAYASHI Modeling of Waste Disposal System for Disposable Diapers, IEEE Oct.2006.

- [4] Rotary Club of kalyan, Sanitary Napkin Vending Machines and Disposal Machines for Girls in Rural Area School and College.