







Fig 4. Waste Collection Information

In figure 5 the system can provide periodic reports needed by the Provincial Environment Management Office (PEMO) for monitoring and evaluation of the segregated waste data based on: weekly; monthly; quarterly; and annually. It also have summary of the waste collection of the LGU and the graphical presentation of the category of the waste collection.



Fig 5. Waste Collection Report

TABLE 1. OVERALL RESULTS OF THE MRF MANAGEMENT SYSTEM EVALUATION

ISO/IEC 25022	Numerical Result	Descriptive Interpretation
Functionality	4.24	Very Good
Reliability	3.87	Good
Usability	4.67	Very Good
Efficiency	4.45	Very Good
Maintainability	4.40	Very Good
Portability	4.63	Very Good
<b>Average Mean</b>	<b>4.37</b>	<b>Very Good</b>
<b>Standard Deviation (SD)</b>	<b>0.62</b>	

In general, the system evaluation obtained an over-all mean rating of **4.37** interpreted as **very good** with SD of **0.62** indicating homogeneity in the responses of the respondents. The functionality was rated very good which imply that the function satisfied or implied the needs of LGU. The system is capable to maintain its level of performance under the stated conditions for a specific period of time. The system was acceptable / applicable and ready implement to the MRF of the different LGU in Negros Occidental to monitor their solid waste.

## V. CONCLUSION

The findings of the study revealed that the functionality and efficiency of the MRF MES have met the requirements of the Solid Waste Management office in Negros Occidental. In addition, the consistency of the responses made by the system development and testing of the MRF MES evident to achieve a quality product that meets user's specified requirements. The MRF MES is the first automated system which can monitor and evaluate the waste collection in the province of Negros Occidental. This system is a useful tool to LGUs in recording, archiving and retrieving waste collection data. Furthermore, it will help the LGUs find solution to their waste management problems.

## REFERENCES

- [1] Bustamante, Christine D. (October 2013), San Carlos City's Materials Recovery Facility: Its Impact and Efficiency, Published Research on International Research Forum on Local Governance and Accountability in Environmental Protection, Disaster Risk Reduction Management and Sustainable Development Vol 1 No 1, 2013 ISSN 2350-6962J.
- [2] ISO/IEC 25022 Systems and software engineering - Systems and software Quality Requirements and Evaluation (SQuaRE) – Measurement of quality in use Committee identification: ISO/IEC JTC 1/SC 7/WG 6 Secretariat: JapanC. Y. Lin, M. Wu, J. A. Bloom, I. J. Cox, and M. Miller, "Rotation, scale, and translation resilient public watermarking for images," *IEEE Trans. Image Process.*, vol. 10, no. 5, pp. 767-782, May 2001.
- [3] Material Recovery Facilities Testing and Reporting Guidance. (August 2015) A guide to the development and implementation of material quality sampling. Zero Waste Scotland: Inspiring change for Scotland's resource economy, Scottish Environment Protection Agency (SEPA), website: [www.zerowastescotland.org.uk](http://www.zerowastescotland.org.uk)
- [4] Material recovery facility toolkit. (2013) Asian Development Bank, 1550 Metro Manila, Philippines, website: [www.adb.org](http://www.adb.org).
- [5] Pressley, Phillip N. Barlaz, Morton A. Analysis of material recovery facilities for use in life-cycle assessment, ISSN0956-053X, State Published – 2015



**Engr. Josephine Q. Salillas**, is a graduate of Master in Information Technology (MIT) last April 2015, and earned her Bachelors in Computer Engineering (CpE), March 2006 at the University of St. La Salle, Bacolod City, Negros Occidental, Philippines. Having affiliation with the Institute of Electrical and Electronics Engineers (IEEE) Life Sciences Community, Green ICT Community, Institute Of Computer Engineers of the Philippines (ICpEP) chapter and Philippines Society of IT Educators (PSITE) chapter.

She is a passer of International Computer Driving License (ICDL) last 2010. She is also the Coordinator, Curriculum and Instructional Materials Development (CIMD) in Carlos Hilado Memorial State College, Alijis Campus in Bacolod City, Negros Occidental, Philippines. She is the ICT Research Lead in the deployment and testing of Material Recovery Facility Monitoring and Evaluation System (MRF- MES) which had been successfully implemented in Cadiz and Bago City Negros Occidental, Philippines. She is currently conducting an environmental with innovation in technology research in the field of environmental engineering.