

DESIGN AND DEVELOPMENT OF A MULTI-PLATFORM INFORMATION SYSTEM FOR GEMAH RIPAH WASTE BANK WITH USER GUIDE MODULE

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ABSTRACT

Background: Waste management in Indonesia remains a complex issue, with an annual volume reaching 19,588 tons, of which 25.5% is unmanaged. The waste composition is predominantly organic and plastic, positioning Indonesia as the second-largest contributor to plastic waste globally. Waste banks applying the 3R (Reduce, Reuse, Recycle) concept represent a strategic solution; however, their implementation remains suboptimal. The utilization of digital technology through the Bank Sampah Gemah Ripah website is expected to enhance education, transparency, and community participation in independent waste management in Dusun Jotawang, Bantul.

Objective: This study aims to design a digital-based waste bank information system through the development of the Gemahripah.glide.page platform, compatible with multiple devices (desktop, Android, and iOS), and to develop a systematic and user-friendly guideline module to effectively support public access.

Methods: A descriptive quantitative approach was employed using a questionnaire survey involving 90 respondents in Dusun Jotawang, Bangunharjo, Sewon, Bantul. The instruments were tested for validity, reliability, and normality using SPSS.

Result: The high level of public knowledge (93.3%) and participation (64.4%) indicates strong potential for strengthening community-based waste management. The website is compatible across multiple devices; however, perceptions regarding ease of access remain varied, requiring optimization of navigation and interface design. The guideline module, validated and deemed reliable, has the potential to improve digital literacy and foster public trust in the use of waste bank technology.

Conclusion: The study demonstrates that the Gemahripah.glide.page website effectively supports the management of Bank Sampah Gemah Ripah and is accessible across different devices. Nevertheless, improvements in navigation, speed, and interface are necessary to enhance user accessibility. The validated and systematic guideline module holds potential to increase digital literacy and public trust in waste bank technology.

Keywords: Website, Waste Bank, Information System, Waste Management, Gemah Ripah

PERANCANGAN DAN PENGEMBANGAN SISTEM INFORMASI BANK SAMPAH GEMAH RIPAH BERBASIS MULTI PLATFORM BESERTA MODUL PANDUAN PENGGUNA

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ABSTRAK

Latar Belakang: Permasalahan sampah di Indonesia yang mencapai 19.588 ton per tahun dengan 25,5% tidak terkelola, didominasi sampah organik dan plastik, menempatkan Indonesia sebagai penyumbang sampah plastik terbesar kedua di dunia. Bank sampah berbasis 3R menjadi solusi strategis, namun implementasinya belum optimal. Pemanfaatan teknologi digital melalui website Bank Sampah Gemah Ripah diharapkan meningkatkan edukasi, transparansi, dan partisipasi masyarakat dalam pengelolaan sampah mandiri di Dusun Jotawang, Bantul.

Tujuan: Untuk merancang sistem informasi bank sampah berbasis digital melalui pengembangan platform Gemahriph.glide.page yang kompatibel dengan berbagai perangkat (desktop, Android, dan iOS), serta menyusun modul panduan yang sistematis dan mudah dipahami untuk mendukung akses masyarakat secara efektif.

Metode: Penelitian ini menggunakan pendekatan kuantitatif deskriptif melalui survei kuesioner terhadap 90 responden di Dusun Jotawang, Bangunharjo, Sewon, Bantul, dengan uji validitas, reliabilitas, dan normalitas menggunakan SPSS.

Hasil: Tingkat pengetahuan masyarakat yang tinggi (93,3%) dan partisipasi 64,4% menunjukkan potensi penguatan pengelolaan sampah berbasis komunitas. Website kompatibel pada berbagai perangkat, namun persepsi kemudahan akses masih bervariasi sehingga diperlukan optimalisasi navigasi dan antarmuka. Modul panduan yang valid dan reliabel berpotensi meningkatkan literasi digital serta kepercayaan masyarakat terhadap pemanfaatan teknologi bank sampah.

Kesimpulan: Penelitian ini menunjukkan bahwa website Gemahriph.glide.page efektif mendukung pengelolaan Bank Sampah Gemah Ripah dan kompatibel di berbagai perangkat. Namun, kemudahan akses masih perlu dioptimalkan melalui perbaikan navigasi, kecepatan, dan antarmuka. Modul panduan yang valid dan sistematis berpotensi meningkatkan literasi digital serta kepercayaan masyarakat terhadap teknologi bank sampah.

Kata Kunci: Website, Bank Sampah, Sistem Informasi, Pengelolaan Sampah, Gemah Ripah