LEMBAR
HASIL PENILAIAN SEJAWAT SEBIDANG ATAU *PEER REVIEW*
KARYA ILMIAH : PROSIDING

Judul Karya Ilmiah (Artikel)	:	The effect of small dams in Rawa Pening catchment area on sedimentation rate of Rawa Pening Lake		
Jumlah Penulis	:	5 orang (**Dyah Ari Wulandari**, Dwi Kurniani, Sutarto Edhisono, Ferdian Ardianto and Denri Dahlan)		
Status Pengusul	:	penulis ke-1 dan korespondensi		
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		b. ISBN/ ISSN	:	2261-236X
		c. Tahun Terbit / Tempat Pelaksanaan	:	Bandung, 27-29 November 2018
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Kategori Publikasi Artikel (beri ✓pada kategori yang tepat)	:	√	Prosiding Forum Ilmiah Internasional
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Total (100%)	**12,5**	**10,5**	**11,5**
Nilai pengusul = 60% x 11,5 = 6,9	**7,5**	**6,3**	**6,9**

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Prof. Dr. Ir. Sriyana M.S.
NIP. 196006021986021001
Unit kerja : Departemen Teknik Sipil FT UNDIP

Reviewer II

Prof. Dr. Ir. Suharyanto M.Sc.
NIP. 196309141988031012
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b. Ruang lingkup dan kedalaman pembahasan (30%)	4.5		4
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Nilai Pengusul = 60% x 12.5 = 7.5			

Catatan Penilaian artikel oleh Reviewer :

1. **Kesesuaian dan kelengkapan unsur isi artikel :**
   Unsur-unsur isi artikel dalam jurnal tersebut sudah sesuai dan telah dipersiapkan dengan baik dan lengkap. Unsur-unsur tersebut terdiri dari Judul, abstrak, pendahuluan, metode, hasil dan pembahasan, kesimpulan, dan daftar pustaka, dimana pengusul sebagai penulis pertama dan korespondensi.
2. **Ruang lingkup dan kedalaman pembahasan:**
   Ruang lingkup dalam artikel ini adalah menganalisis pengaruh *small dams* sebanyak 40 buah yang dapat menurunkan sedimentasi menjadi 77,91%. Penurunan tersebut dipengaruhi dua sub DAS Klegung dan Legi yang memiliki tingkat erosi yang tinggi. Bila pada dua Sub DAS tersebut di bangun 7 buah *Small Dams* akan mengurangi penurunan sedimen sebesar 67%. Kedalaman pembahasan ini cukup namun lokasi ketujuh *Small Dams* belum jelas.
3. **Kecukupan dan kemutakhiran data/informasi dan metodologi:**
   Ruang lingkup kajian dideskripsikan dengan lengkap berdasarkan data dan informasi terbaru. Daftar pustaka yang digunakan sebanyak 4 pustaka terbitan 10 tahun terakhir dari 5 pustaka. Secara umum kemutakhiran data dan metodologi yang digunakan relevan dan sesuai dengan prosedur penelitian.
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Unit Kerja : Departemen Teknik Sipil FT UNDIP

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	Internasional [15]	Nasional [ ]	
a. Kelengkapan unsur isi artikel (10%)	1.5		1,5
b. Ruang lingkup dan kedalaman pembahasan (30%)	4.5		3,0
c. Kecukupan dan kemutahiran data/informasi dan metodologi (30%)	4.5		3,0
d. Kelengkapan unsur dan kualitas terbitan/artikel (30%)	4.5		3,0
Total (100%)	**15.00**		**10,50**
Nilai Pengusul = 60% x 10,50 = 6,30			

Catatan Penilaian artikel oleh Reviewer :

1. **Kesesuaian dan kelengkapan unsur isi artikel :**
   Artikel ditulis sesuai kaidah penulisan artikel ilmiah dan sesuai instruction for authors.

2. **Ruang lingkup dan kedalaman pembahasan:**
   Penjelasan ruang lingkup penelitian terbatas pada hasil perhitungan sediment yield.

3. **Kecukupan dan kemutakhiran data/informasi dan metodologi:**
   Tidak terdapat informasi lokasi stasiun dan periode data hujan yang dipakai.
   Cara/Metode untuk menghitung pada kondisi ada small dam kurang jelas.
   Detail/karakteristik yang peru dari small dam small dams tidak ada (mungkin berpengaruh pada hasil)
   Misal : Di sub das Sraten, sediment yield nya sebelum ada small dams lebih kecil dibanding setelah ada. Demikian sub das lain seperti di Ngerco, Legi, Klegung, Legi, dll. Tapi mengapa total sediment yield nya lebih kecil?

4. **Kelengkapan unsur dan kualitas terbitan:**
   Artikel terbit pada prosidin ginternasional berindex Google Scholar. Scientific committee dan peserta berasal lebih dari 4 negara, namun pemeriksaan editing kurang teliti.
   Gambar 2 : nama nama sub das tidak terbaca.
   Gambar 4 : Ada teks yang hilang dan ada yang typo

Semarang,
Reviewer 2

Prof. Dr. Ir. Suharyanto M.Sc.
NIP. 196309141988031012
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THE 2ND CONFERENCE FOR CIVIL ENGINEERING RESEARCH NETWORKS 2018

Bandung, 27 - 29 November 2018

Editors :

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Budi Hasiholan
Patria Kusumaningrum

Institut Teknologi Bandung

ConCERN-2
The 2nd Conference for Civil Engineering Research Networks 2018

CERTIFICATE

OF APPRECIATION

THIS CERTIFICATE IS PRESENTED TO

DYAH ARI WULANDARI

in recognition and appreciation as **Presenter** at ConCERN-2: The 2nd Conference for Civil Engineering Research Networks from the 27th to 29th of November at Institut Teknologi Bandung, Indonesia.

Ir. Biemo W. Soemardi, M.Sc.,Ph.D.
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The conference was attended by researchers from 7 countries: Indonesia, Malaysia, Thailand, Australia, Russia, Japan, and Algeria.

There were 8 keynote speakers from various entities, i.e., government agency, local and international academicians, and international Official Development Assistance (ODA) agency, as follows:

1. Herry Vaza, Ph.D - Secretary of Research and Development Agency Ministry of Public Works and Housing, Indonesia
   Indonesian Infrastructure Development Challenges and Strategies
2. Mr. Shinichi Yamanaka - Chief Representative, JICA Indonesia Office
   JICA's Contribution to Indonesia's Infrastructure Development
3. Mr. Lee Chuan Seng - Former Deputy of Building Construction Authority, Singapore
   The Development Journey of Digitization in Singapore's Construction Industry (2011 to Present)
4. Brawijaya, Ph.D - Directorate of Construction Services Development Ministry of Public Works and Housing, Indonesia
   Strengthening Construction Safety Management in Indonesia
5. Dr. Bashar Mohammed - Associate Professor Civil & Environmental Engineering Universiti Teknologi Petronas
   Rubber Concrete (Rubbercrete) and it's Application
6. Dr. Toong Khuan Chan - Senior Lecturer in Construction Management and Technology, University of Melbourne, Australia
   A Rational Economic Approach to Technology Choice and Industry Development
7. Prof. Masyhur Irsyam - Professor of Civil and Environmental Engineering, Institut Teknologi Bandung, Indonesia
   Palu Earthquake 2018, a Preliminary Geotechnical Engineering Report

In addition, there was 1 invited speaker from the industry:

1. Mr. Dwi Windarto - Director of Transit Oriented Development (TOD) and Legal of PT Kereta Cepat Indonesia China (High-speed Rail Indonesia-China).
   Infrastructure Development of Jakarta-Bandung High-speed Rail

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The 2nd Conference for Civil Engineering Research Networks (ConCERN-2 2018)

Bandung, Indonesia, November 27-29, 2018

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Study on confined end-regions of RC walls under monotonic and cyclic loadings

Rafik Taleb[1,*] and *Susumu* Kono[2]

[1]Department of Civil Engineering, University of Blida 1, Blida, Algeria
[2]Institute of Innovative Research, Tokyo Institute of Technology, Yokohama, Japan

Abstract. A study was conducted to clarify the influence of reinforcement detailing, slenderness and loading type on the capacity, damages and failure modes of confined boundary regions of reinforced concrete (RC) cantilever walls. It was found that the tensile strain prior to compressive strain affected the performance of thin wall boundaries and may lead to different failure modes compared to compression load only. It was also found that dense transverse reinforcement detailing in thin confined boundaries did not improve their performance. Some design and detailing practices were evaluated to determine their accuracy in preventing global buckling and bar buckling under extreme lateral loading. Numerical model that take into account reinforcing bar buckling was proposed to simulate the behaviour of specimens tested under monotonic condition. The model could simulate the observed response with good accuracy.

1 Introduction

Following the 2010 Chile and the 2012 New Zealand earthquakes, observed damages in RC wall buildings raised concern about the seismic performance of rectangular RC walls. In these earthquakes, severe damage happened to concrete walls in numerous walled buildings leading to partial or total collapse. Structural wall damages of boundary regions included spalling and crushing of concrete, often spread over the entire wall width, longitudinal reinforcement in those regions fractured under tension or buckled under compression, and apparent out-of-plan wall buckling was also observed in some damaged buildings [1,2,3]. It was reported that lack of adequate confinement and detailing in boundary regions was one of the main causes of those damages. These observations raise questions about the mechanisms that lead to reinforcing bars buckling, concrete crushing, and global wall buckling, as well as the quantity and configuration of transverse reinforcement at wall boundaries required to ensure good performance.

This study is a contribution to clarify the influence of reinforcement detailing, slenderness and loading type on the capacity, damages and failure modes of confined boundary regions of RC rectangular walls. One of the objectives of this study is to assess whether or not out-of-plan buckling and buckling of vertical reinforcement could be expected at the boundaries of concrete walls, and to explore the relationship between the phenomena of concrete crushing and reinforcing bar buckling. It is also important to predict the influence of ultimate failure mode on ultimate drift capacity of RC walls and build numerical model able to take into account these damage situations.

2 Experimental Program

An experimental program was conducted in order to bring insight on the seismic performance of confined end regions of RC rectangular walls. The behaviour of boundary regions in a ductile RC wall subjected to lateral loading was studied by isolating the boundary regions of the wall as an axially loaded RC column. Although the approach does not account for the strain gradient expected across the section, the idealization is useful in providing an understanding of the mechanism involved during lateral loading of the RC wall. The objective was to investigate the influence of longitudinal and transverse reinforcement amount, slenderness and load type (Monotonic and cyclic) on their capacity, damage process and failure modes.

2.1 Description of the test specimens

Table 1 shows cross-sectional configurations and reinforcement layouts of the tested elements. Eight rectangular elements with two different sectional dimensions (B-type and C-type) having approximately similar cross-sectional area were constructed and tested. The element specimens were built without considering cover concrete so that the intermediate damage state due to spalling of cover concrete could be omitted, since the objective was to assess ultimate behaviour and failure

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Correlation between shear and normal strength for brittle reinforced concrete member considering internal stress condition of concrete

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Abstract. Formulas used to predict shear strength of reinforced concrete in different standards do not always correspond to each other due to the complexity of the shear transfer mechanism. Currently there is no generally accepted method of shear strength pridiction, however, traditionally, shear strength anticipation of a structural concrete elements is performed differently on members with or without shear reinforcement. These empirical approches tend to predict the shear strength too conservatively; alternatively, shear strength of concrete can be easily predicted by Mohr-Coulomb theory. In case of high-axial load and low shear reinforcement, the strength is likely to be determined by the concrete's shear crack. Therefore, a method to predict the strength of concrete with Mohr-circle has been proposed but the circles crossed the boundary and could not evaluate the strength correctly. Mohr circle can be used for prediction of diagonal tension failure strength but the circle cannot be evaluated. In this paper, Mohr circles were investigated considering all steps of cyclic loading until shear crack occurred. It also investigates a correlation between shear strength and normal strength through recognition of the Mohr-Coulomb failure criteria for each specimen.

1 Introduction

Formulas used to predict shear strength of reinforced concrete in different standards do not always correspond to each other's prediction due to the complexity of the shear transfer mechanism. The shear strength anticipation of reinforced concrete members has been one of the fact-finding topic and therefore numerous researches have been launched (Nielsen et al. [1]; Vecchio and Collins [2, 3]; Bentz, Vecchio and Collins [4]). Currently there is no generally accepted method of shear strength prediction; however, traditionally, shear strength anticipation and checking of structural concrete elements is performed differently on members according to the shear reinforcement. Several well-established theories based on equilibrium considerations can be applied when shear reinforcement is provided, leading to safe design solutions. On the other hand, the actual shear failure mechanism cannot be demonstrated by these approaches and the shear strength is often estimated too conservatively.

As a solution for that issue, Muttoni [5] and Zhang [6] have investigated the shear strength of reinforced concrete members without stirrups based on a critical shear crack. It is realized that recently developed methods are restricted to the certain condition and property of material and cannot be directly applied to new technology. Therefore, a method is desired for the prediction of shear strength to have applicability over all conditions based on rational shear failure mechanism.

In this paper it is attempted to address correlation between shear and normal strength based on recent improvements of shear strength prediction by Mohr-Coulomb theory to investigate the shear failure mechanism of reinforced concrete members.

2 Shear strength prediction with mohr-coulomb criterion

A shear strength prediction of reinforced concrete members with Mohr-Coulomb criterion has been proposed by Pujol [7]. When the Mohr circle's stress reaches the criterion internally, shear stress is given (See Fig. 1). The Mohr-Coulomb theory is a mathematical model (Fig. 1) describing the response of brittle materials such as concrete, or rubble piles, to shear stress as well as normal stress. The Mohr-Coulomb theory suggests a correlation between normal and shear stress as well as failure load and angle of friction. Coulomb's friction hypothesis is utilized to determine the combination of shear and normal stress that will cause a fracture of concrete. Mohr's circle is used to clarify which principal stresses will produce this combination of shear and

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Critical success factors of collaborative approach in delivering sustainable construction

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Abstract. The essential aspect of sustainability in construction lead the complexities and involvement of multi parties in the construction project as well as its process. Conflicts of interests may appear in the process. Collaborative approach is essential for supporting decision making in delivering sustainable construction. This research identifies the collaboration critical factors. Scatter plot of mean and standard deviation analysis is done to rank the criticality of each collaboration factors in delivering sustainable construction. Eventually, factor analysis is done to identify the similarities between all the factors. There are twelve (12) factors identified from previous studies. Among all the collaboration factors, coordination among project stakeholders is identified as the most critical in delivering sustainable construction and followed by sharing responsibilities and mutual support. Based from factor analysis, five new factors of collaborative approach have been found.

1 Introduction

There are three key areas involved in sustainability. They are environmental responsibility; social awareness; and economic profitability. Achieving the right balance between these three key areas supports true sustainability. Given that there are a massive number of ongoing construction projects every year, the cumulative environmental impact from the projects becomes a serious problem that can cause significant damage, not only to ecosystems but also to the health and well-being of field workers and nearby residents of those projects [1]. Therefore, the construction industry has now emphasized in adopting the concept of sustainability to better protect the environment; being more profitable and competitive; as well as delivering buildings and structures that provide greater satisfaction, well-being and value to customers and users. Thus, sustainable construction is a trend nowadays and not only refers to the buildings and spaces but also the processes or activities used to construct the structures. Most of the structures and infrastructures are constructed under project-based setting. A construction project, especially those with sustainable construction intention, involves multi-disciplinary entities. Multi entities are needed in performing sustainable construction. The term entities in construction can refer to individuals, teams, units, departments, functional areas or organizations [2]. The entities can be categorised into three main roles which are owner/ developer; designer (architects and engineers); and contractor (main contractor, sub-contractor and specialist). Traditional construction project practice has been based on rigid and impermeable boundaries that have made communication, cooperation and integration a major challenge [3]. Hence, collaborative approach is essential in breaking the boundaries between entities involved in a construction project and finally delivering a successful sustainable construction. Research has suggested that successful collaboration allowing potential for learning and innovations; leading to project success as well as creating future collaboration opportunity [4]. Fig 1 [5] illustrates the collaborative decision model in construction, whereby in supporting the involvement of multi disciplines participants collaboration is essential. This research aims to seek critical success factors of collaborative approach in supporting decision making to deliver sustainable construction.

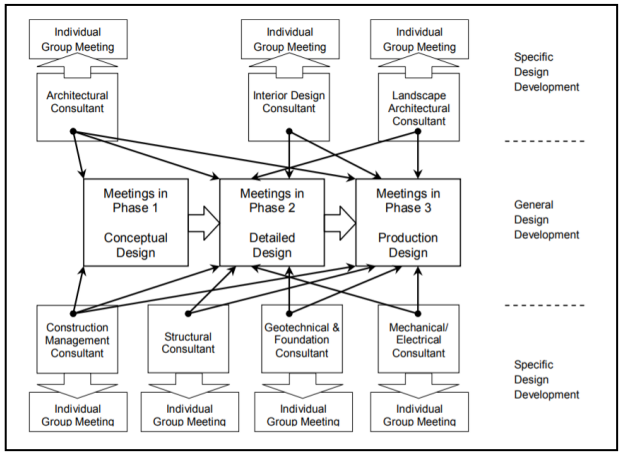

Fig. 1. Decision making model in construction [5]

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Analysis of embankment slope stability: the comparison of finite element limit analysis with limit equilibrium methods

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Abstract. This paper presented the analysis of embankment slope stability by considering the problem of embankment slope stability with special effects that it was filled with sand and was placed on purely cohesive clay. The finite element limit analysis of two-dimensional plane strain was employed to analyze the stability of this problem. The embankment slope height (H), the depth factors (d/H) and the embankment slope angle (β) for the finite element limit analysis of sand was modeled as a volume element with the properties of Mohr-Coulomb material in drained condition. And the clay was modeled as a volume element with the properties of Tresca material in undrained condition where the parameters were soil unit weight (γ), undrained shear strength (s_u) and friction angle (ϕ′). Parametric studies consisted of three dimensionless variables including depth factors (d/H), friction angle (ϕ′) and embankment slope angle (β). Results were summarized in the form of the dimensionless stability number ($s_u/\gamma H(FS)$) and the design chart and application were presented. In addition, the comparison of the solution of stability number with the limit equilibrium methods and the failure mechanisms were also proposed in this paper.

1 Introduction

Embankment slope stability is commonly found in various road construction projects and at present, the prediction of the embankment slope stability is one of the important roles for civil engineers. In general, there are several effects on the embankment slope stability, such as embankment slope's physical properties, strength parameters, and embankment slope geometry and the construction process is also affected to the embankment slope as well. Moreover, the embankment slope can be categorized into natural embankment slope or construction processed embankment slope. Also, most of the fill slopes are often found in construction projects, which are characteristics of the embankment slope [1,2].

Limit equilibrium method (LEM) is one of the conventional methods which are used to evaluate embankment slope stability because LEM is a simple and inexplicable method. However, there are some limitations in this method, such as the shear assumption that occurs in the division of the components and the assumption of the failure curved lines. In general, LEM bases on the principle of moment and the equilibrium of force in order to evaluate the stability of the embankment slope. There are many important researches such as in [3,4,5,6,7] which analyzed the problems of embankment slope stability by using LEM, but only in 2D analysis system. In the analysis of the embankment slope stability, it is necessary to assume the failure curved line and then divides the components of the failure curved line, which must base on the principle of moment and the equilibrium of force in order to base on the basic principles of LEM. Thereafter, the assumptions present in these researches should check for ensuring that the assumptions are correct and consistent with the principle of LEM.

Limit analysis can also use to analyze embankment slope stability problems and the use of these methods has been incorporated into the research such as in [8,9,10,11]. On the other hand, some researchers have studied in order to find solutions to the case of layered soil slope and cohesive-frictional slope such as in [12,13]. However, there are not many researches on the solution which is obtained from the analysis of embankment slope which is filled of sand and is placed on purely cohesive clay by using finite element limit analysis. Therefore, the research in this topic is still important and should place for the further research in this topic.

For the above reason, this paper proposed the analysis of embankment slope stability by considering the problems of embankment slope stability with special effects that it was filled of sand and was placed on purely cohesive clay by using finite element limit analysis both upper and lower bound on plane strain (2D Plane Strain). Moreover, the comparison of the solutions of stability numbers to the LEM and its applications were presented in this research.

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