LEMBAR

HASIL PENILAIAN SEJAWAT SEBIDANG ATAU *PEER REVIEW*

KARYA ILMIAH: JURNAL ILMIAH

Judul Karya Ilmiah (Paper)	: **Precast Bridges of Bamboo Reinforced Concrete in Disadvantaged Village Areas in Indonesia**	
Jumlah Penulis	: 1 Orang (1. Muhtar, 2. ……….., 3. ………., 4. ………..)	
Status Pengusul	: Penulis pertama / ~~penulis ke….~~ / penulis korespondensi**	
Identitians Jurnal/Prosiding	: a. Nama Jurnal/ Prosiding	: Applied Sciences (Switzerland)
	b. ISSN/ISBN	: **2076-3417**
	c. Tahun Terbit, (tempat pelaksanaan jika prosiding)	: 2020, *10*(20), 7158
	d. Penerbit/Organiser	: MDPI Multidisciplinary Digital Publishing Institute
	e. Alamat repository PT/ Web	: http://repository.unmuhjember.ac.id/8742/
	f. Terindek di (jika ada)	: SCOPUS (Q1 SJR 0.44)
Kategori Publikasi Artikel Ilmiah (Beri √ pada kategori yang tepat)	: ☑ √ Jurnal Internasonal Bereputasi	
	☐ Jurnal Internasional	
	☐ Jurnal Nasional Terakreditasi	
	☐ Jurnal Nasioanl Tidak Terakreditasi	
	☐ Jurnal Nasional Terindeks DOAJ dll	
	☐ Prosidng Forum Ilmiah Internasional	
	☐ Prosiding Forum Ilmiah Nasioanl	

Hasil Penialain *Peer Review* :

Komponen Yang Dinilai	Nilai Maksimal Jurnal Ilmiah (Isikan di kolom yang sesuai)					Nilai Akhir yang diperoleh
	Internasonal Bereputasi	Internasional	Nasional Terakreditasi	Nasioanl Tidak Terakreditasi	Nasional Terindeks DOAJ dll	
Kelengkapan dan kesesuain unsur isi jurnal (10%)	4					3
Ruang Lingkup dan kedalaman pembahasan (30%)	12					12
Kecukupan dan kemutakhiran data/informasi dan metodelogi (30%)	12					12
Kelengkapan unsur dan kualitas penerbit (30%)	12					12
Total 100%	40					39
Kontribusi Pengusul (Penulis Pertama/ ~~Anggota Utama~~)						100% × 39 = 39
Komentar Peer Review	1. Tentang Kelengkapan dan kesesuain unsur : Lengkap dan sesuai unsur IMRAD pada jurnal 2. Tentang Ruang Lingkup dan kedalaman pembahasan : Lingkup riset terkait beton bertulang bambu yg diaplikasikan pada elemen pracetak jembatan, Pembahasan mendalam, uji Lab divalidasi dengan perhitungan Numerik 3. Kecukupan, Kemutakhiran data serta metodelogi : Referensi Relevan dari jurnal, ada bahasan metode dan hasil analisa. ada novelty berupa perbedaan hasil uji 4. Kelengkapan unsur kualitas penerbit : Sangat lengkap, jurnal Q1 dengan penerbit ternama 5. Indikasi Plagiasi: tidak ada, Total Similarity 14 % 6. Kesesuian bidang ilmu : Linier dan sangat sesuai dengan bidang ilmu penulis					

Malang, 5 Maret 2021
Reviewer 1

(**Prof. Dr. Ir. Sri Murni Dewi, MS.**)
NPK/NIP. 195112111981032001
Unit kerja: Teknik Sipil UB Malang
Jafung : Guru Besar
Bidang Ilmu : Teknik Sipil

LEMBAR

HASIL PENILAIAN SEJAWAT SEBIDANG ATAU *PEER REVIEW*

KARYA ILMIAH: JURNAL ILMIAH

Judul Karya Ilmiah (Paper)	: **Precast Bridges of Bamboo Reinforced Concrete in Disadvantaged Village Areas in Indonesia**
Jumlah Penulis	: 1 Orang (1. Muhtar, 2. ……….., 3. ………., 4. ………..)
Status Pengusul	: Penulis pertama / ~~penulis ke….~~ / penulis korespondensi**
Identitians Jurnal/Prosiding	: a. Nama Jurnal/ Prosiding : Applied Sciences (Switzerland)
	b. ISSN/ISBN : **2076-3417**
	c. Tahun Terbit, (tempat pelaksanaan jika prosiding) : 2020, *10*(20), 7158
	d. Penerbit/Organiser : MDPI Multidisciplinary Digital Publishing Institute
	e. Alamat repository PT/ Web : http://repository.unmuhjember.ac.id/8742/
	f. Terindek di (jika ada) : SCOPUS (Q1 SJR 0.44)
Kategori Publikasi Artikel Ilmiah (Beri √ pada kategori yang tepat)	: [√] Jurnal Internasonal Bereputasi [ ] Jurnal Internasional [ ] Jurnal Nasional Terakreditasi [ ] Jurnal Nasioanl Tidak Terakreditasi [ ] Jurnal Nasional Terindeks DOAJ dll [ ] Prosidng Forum Ilmiah Internasional [ ] Prosiding Forum Ilmiah Nasioanl

Hasil Penialain *Peer Review* :

Komponen Yang Dinilai	Nilai Maksimal Jurnal Ilmiah (Isikan di kolom yang sesuai)					Nilai Akhir yang diperoleh
	Internasonal Bereputasi	Internasional	Nasional Terakreditasi	Nasioanl Tidak Terakreditasi	Nasional Terindeks DOAJ dll	
Kelengkapan dan kesesuain unsur isi jurnal (10%)	4					3
Ruang Lingkup dan kedalaman pembahasan (30%)	12					12
Kecukupan dan kemutakhiran data/informasi dan metodelogi (30%)	12					12
Kelengkapan unsur dan kualitas penerbit (30%)	12					12
Total 100%	40					39
Kontribusi Pengusul (Penulis Pertama/ Anggota Utama)						100 % x 39 = 39
Komentar Peer Review	1. Tentang Kelengkapan dan kesesuain unsur : Sangat lengkap sesuai unsur IMRAD jurnal 2. Tentang Ruang Lingkup dan kedalaman pembahasan : Lingkup riset sesuai, tentang pembuatan beton bertulang bambu, Artikel ditulis dg baik pembahasan mendalam, uji lab divalidasi dg uji lapangan dan numerik. 3. Kecukupan, Kemutakhiran data serta metodelogi : Referensi cukup relevan dan mutakhir 4. Kelengkapan unsur kualitas penerbit : Kualitas jurnal Q1 dg penerbit ternama 5. Indikasi Plagiasi : tidak ada, total similarity 14% cukup aman 6. Kesesuian bidang ilmu : Sangat sesuai bidang ilmu penulis (Teknik Sipil)					

Malang, 5 Maret 2021
Reviewer 2

(**Prof. Dr. Ir. Rudy Soenoko, M.Eng.Sc.**)
NPK/NIP. 194909111984031001
Unit kerja : Teknik Mesin UB Malang
Jafung : Guru Besar
Bidang Ilmu : Teknik Mesin

Journals Information Initiatives About muhtar@unmuhjember.ac.id My Profile Logout Submit

User Menu

- Home
- Manage Accounts
- Change Password
- Edit Profile
- Logout

Submissions Menu

- Submit Manuscript
- Display Submitted Manuscripts
- Display Co-Authored Manuscripts
- English Editing
- Discount Vouchers
- Invoices
- LaTex Word Count

Reviewers Menu

- Volunteer Preferences

Article Information Overview

Manuscript ID	**applsci-931322**
Status	Website online
DOI	10.3390/app10207158
Publication Certificate	Download Publication Certificate (PDF)
Banner	Download Banner (PDF)
Website Links	Abstract HTML version PDF version Manuscript
Article type	Article
Title	Precast Bridges of Bamboo Reinforced Concrete in Disadvantaged Village Areas in Indonesia
Journal	*Applied Sciences*
Volume	10
Issue	20
Section	Environmental Sciences
Special Issue	Advanced Technologies in Wood Science
Abstract	Bamboo is an inexpensive, environmentally friendly, and renewable building material that thrives in Indonesia. Bamboo has a high tensile strength but also has weaknesses, namely, it is easily attacked by insects and has high water absorption. Utilization of bamboo as a precast concrete bridge reinforcement must be treated first through soaking, drying, and giving a waterproof coating and sand. This research aimed to obtain a precast bamboo reinforced concrete bridge technology with good integrity, with measuring parameters of deformation and deflection according to AASHTO standards. The dimensions of the bridge were a span of 320 cm, a width of 224 cm, and a height of 115 cm. Two bridge frames were connected by four bridge beams. The bridge plate was made of a 10-cm-thick concrete plate. The bridge support of the reinforced concrete is assumed to be the hinge support and the rubber bearing is assumed to be the roller support. The bamboo reinforced concrete frame bridge test was carried out directly with a load of a minibus-type vehicle. The test results show that the precast bamboo reinforced concrete frame bridges have sufficiently good integrity; that is, they can distribute loads with deflection and deformation that do not exceed their permits. The maximum displacement occurs in the bridge frame of 0.25 mm, meeting the requirements based on the AASTHO and RSNI T-12-2004 standards, which is not more than Δ_{max} = L/800 = 3.75 mm. The maximum deformation occurs in the bridge beam of 0.20 mm, and the bridge frame of 0.13 mm meets the requirements based on the AASTHO and RSNI T-12-2004 standards, which is not more than δ_{max} = L/800 = 3.75 mm.
Keywords	precast bridges; bamboo reinforced concrete (BRC); bridge technology; bridge frame

data

Data is of paramount importance to scientific progress, yet most research data drowns in supplementary files or remains private. Enhancing the transparency of the data processes will help to render scientific research results reproducible and thus more accountable. Co-submit your methodical data processing articles or data descriptors for a linked data set in *Data* journal to make your data more citable and reliable.

- Deposit your data set in an online repository, obtain the DOI number or link to the deposited data set.
- Download and use the Microsoft Word template or LaTeX template to prepare your data article.
- Upload and send your data article to the *Data* journal here.

Submit To Data

Author Information

Submitting Author	Muhtar Muhtar
Corresponding Author	Muhtar Muhtar
Author #1	Muhtar
Affiliation	1. Faculty of Engineering, University of Muhammadiyah Jember, Jember 68121, Indonesia
E-Mail	muhtar@unmuhjember.ac.id

Manuscript Information

Received Date	29 August 2020
Revised Date	6 October 2020
Accepted Date	10 October 2020
Published Date	14 October 2020
Submission to First Decision (Days)	41
Submission to Publication (Days)	45
Round of Revision	2
Size of PDF	26364 KiB
Word Count	7881
Page Count	25
Figure Count	36
Table Count	7
Reference Count	51
Citations	1

Editor Decision

Decision	Accept in current form
Decision Date	9 October 2020

Review Report

Reviewer 1	Review Report (Round 1)	Review Report (Round 2)	
Reviewer 2	Review Report (Round 1)	Review Report (Round 2)	
Reviewer 3	Review Report (Round 1)	Review Report (Round 2)	
Reviewer 4	Review Report (Round 1)	Review Report (Round 2)	Review Report (Round 3)

APC information

Journal APC:	1,800.00 CHF
Total Payment Amount:	1,800.00 CHF

Previously Published Papers

Muhtar; Gunasti, A.; Suhardi; Nursaid; Irawati; Dewi, I.C.; Dasuki, M.; Ariyani, S.; Fitriana; Mahmudi, I.; Abadi, T.; Rahman, M.; Hidayatullah, S.; Nilogiri, A.; Desta Galuh, S.; Eko Wardoyo, A.; Budi Hamduwibawa, R. The Prediction of Stiffness of Bamboo-Reinforced Concrete Beams Using Experiment Data and Artificial Neural Networks (ANNs). *Crystals* **2020**, *10*, 757. doi: 10.3390/cryst10090757

Muhtar. The Prediction of Stiffness Reduction Non-Linear Phase in Bamboo Reinforced Concrete Beam Using the Finite Element Method (FEM) and Artificial Neural Networks (ANNs). *Forests* **2020**, *11*, 1313. doi: 10.3390/f11121313

Related Papers Published in MDPI Journals

If you have any questions or concerns, please do not hesitate to contact applsci@mdpi.com.

Gmail

Telusuri email

Tulis

Update

Forum

Promosi

Selengkapnya

Meet

Rapat baru

Rapat saya

Hangout

muhtar

Tidak ada chat terbaru

Mulai yang baru

126 dari 671

[Applied Sciences] Manuscript ID: applsci-931322 - Submission Received

Kotak Masuk ×

Editorial Office <applsci@mdpi.com>

kepada saya

Sab, 29 Agu 10.54

Inggris > Indonesia Terjemahkan pesan

Nonaktifkan untuk: Inggris ×

Dear Dr. Muhtar,

Thank you very much for uploading the following manuscript to the MDPI submission system. One of our editors will be in touch with you soon.

Journal name: Applied Sciences
Manuscript ID: applsci-931322
Type of manuscript: Article
Title: Precast Bridges of Bamboo Reinforced Concrete in Disadvantaged Village Areas in Indonesia
Authors: Muhtar Muhtar *
Received: 29 August 2020
E-mails: muhtar@unmuhjember.ac.id
Submitted to section: Environmental and Sustainable Science and Technology,
https://www.mdpi.com/journal/applsci/sections/Environmental_Sustainable_Science_Technology
Advanced Technologies in Wood Science
https://www.mdpi.com/journal/applsci/special_issues/Advanced_Technologies_Wood_Science

You can follow progress of your manuscript at the following link (login required):
https://susy.mdpi.com/user/manuscripts/review_info/a03a87c1f829d72ec85481e6218a1186

The following points were confirmed during submission:

1. Applied Sciences is an open access journal with publishing fees of 1800 CHF for an accepted paper (see https://www.mdpi.com/about/apc/ for details). This manuscript, if accepted, will be published under an open access Creative Commons CC BY license (https://creativecommons.org/licenses/by/4.0/), and I agree to pay the Article Processing Charges as described on the journal webpage (https://www.mdpi.com/journal/applsci/apc). See https://www.mdpi.com/about/openaccess for more information about open access publishing.

Please note that you may be entitled to a discount if you have previously received a discount code or if your institute is participating in the MDPI Institutional Open Access Program (IOAP), for more information see https://www.mdpi.com/about/ioap. If you have been granted any other special discounts for your submission, please contact the Applied Sciences editorial office.

2. I understand that:

a. If previously published material is reproduced in my manuscript, I will provide proof that I have obtained the necessary copyright permission. (Please refer to the Rights & Permissions website: https://www.mdpi.com/authors/rights).

b. My manuscript is submitted on the understanding that it has not been published in or submitted to another peer-reviewed journal. Exceptions to this rule are papers containing material disclosed at conferences. I confirm that I will inform the journal editorial office if this is the case for my manuscript. I confirm that all authors are familiar with and agree with submission of the contents of the manuscript. The journal editorial office reserves the right to contact all authors to confirm this in case of doubt. I will provide email addresses for all authors and an institutional e-mail address for at least one of the co-authors, and specify the name, address and e-mail for invoicing purposes.

If you have any questions, please do not hesitate to contact the Applied Sciences editorial office at applsci@mdpi.com

Kind regards,

Applied Sciences Editorial Office
St. Alban-Anlage 66, 4052 Basel, Switzerland
E-Mail: applsci@mdpi.com
Tel. +41 61 683 77 34
Fax: +41 61 302 89 18

*** This is an automatically generated email ***

Balas Teruskan

Gmail

Telusuri email

Tulis

Update
Forum
Promosi
Selengkapnya

Meet
Rapat baru
Rapat saya

Hangout
muhtar

Tidak ada chat terbaru
Mulai yang baru

104 dari 671

[Applied Sciences] Manuscript ID: applsci-931322 - Major Revisions (Deadline 29 September)

Kotak Masuk ×

michelle Wu <michelle.wu@mdpi.com>
kepada saya, Applied

Sen, 21 Sep 11.31

Inggris > Indonesia Terjemahkan pesan Nonaktifkan untuk: Inggris ×

Dear Dr. Muhtar,

Thank you for submitting the following manuscript to Applied Sciences:

Manuscript ID: applsci-931322
Type of manuscript: Article
Title: Precast Bridges of Bamboo Reinforced Concrete in Disadvantaged Village Areas in Indonesia
Authors: Muhtar Muhtar *
Received: 29 August 2020
E-mails: muhtar@unmuhjember.ac.id
Submitted to section: Environmental and Sustainable Science and Technology,
https://www.mdpi.com/journal/applsci/sections/Environmental_Sustainable_Science_Technology
Advanced Technologies in Wood Science
https://www.mdpi.com/journal/applsci/special_issues/Advanced_Technologies_Wood_Science

It has been reviewed by experts in the field and we request that you make major revisions before it is processed further. Please find your manuscript and the review reports at the following link:
https://susy.mdpi.com/user/manuscripts/resubmit/a03a87c1f829d72ec85481e6218a1186

Your co-authors can also view this link if they have an account in our submission system using the e-mail address in this message.

Please revise the manuscript according to the reviewers' comments and upload the revised file within 8 days. Use the version of your manuscript found at the above link for your revisions, as the editorial office may have made formatting changes to your original submission. Any revisions should be clearly highlighted, for example using the "Track Changes" function in Microsoft Word, so that changes are easily visible to the editors and reviewers. Please provide a cover letter to explain point-by-point the details of the revisions in the manuscript and your responses to the reviewers' comments. Please include in your rebuttal if you found it impossible to address certain comments. The revised version will be inspected by the editors and reviewers. Please detail the revisions that have been made, citing the line number and exact change, so that the editor can check the changes expeditiously. Simple statements like 'done' or 'revised as requested' will not be accepted unless the change is simply a typographical error.

Please carefully read the guidelines outlined in the 'Instructions for Authors' on the journal website
https://www.mdpi.com/journal/applsci/instructions and ensure that your manuscript resubmission adheres to these guidelines. In particular, please ensure that abbreviations have been defined in parentheses the first time they appear in the abstract, main text, and in figure or table captions; citations within the text are in the correct format; references at the end of the text are in the correct format; figures and/or tables are placed at appropriate positions within the text and are of suitable quality; tables are prepared in MS Word table format, not as images; and permission has been obtained and there are no copyright issues.

If the reviewers have suggested that your manuscript should undergo extensive English editing, please have the English in the manuscript thoroughly checked and edited for language and form.

Do not hesitate to contact us if you have any questions regarding the revision of your manuscript or if you need more time. We look forward to hearing from you soon.

Kind regards,
Michelle Wu
Assistant Editor
Email: michelle.wu@mdpi.com
Skype: live:.cid.c1544526f53fb5fa

Good news: Applied Sciences has a new impact factor of 2.474, increased again.
Q2 in "Physics, Applied" (JCR)
Q2 in "Engineering, Multidisciplinary"(JCR)

* Applied Sciences 2019 CiteScore™ - 2.40 (Q2 in Engineering)

* Applied Sciences 2019 Impact Factor (WoS) - 2.474 (Q2 in "Physics Applied", "Chemistry, Multidisciplinary" and "Engineering, Multidisciplinary")

SJR: 0.418 (Q1 in Engineering [miscellaneous]).
Twitter: @applsci

Open for Submissions:
http://susy.mdpi.com, choosing journal "Applied Sciences"

Apply for Journal 2021 Travel Awards:
https://www.mdpi.com/journal/applsci/awards

If you are interested in organizing a Special Issue in the journal, please send us the proposal by email or via
http://www.mdpi.com/journalproposal/sendproposalspecialissue/applsci.

--
MDPI Branch Office, Beijing
Applied Sciences Editorial Office
E-mail: applsci@mdpi.com
http://www.mdpi.com/journal/applsci/

MDPI
Postfach, CH-4020 Basel, Switzerland
Office: St. Alban-Anlage 66, 4052 Basel
Fax +41 61 302 89 18 (office)

Received, thank you. | Thanks a lot. | Noted with thanks.

Balas | Balas ke semua | Teruskan

Gmail

Telusuri email

Tulis

Update
Forum
Promosi
Selengkapnya

Meet
Rapat baru
Rapat saya

Hangout
muhtar

Tidak ada chat terbaru
Mulai yang baru

98 dari 671

[Applied Sciences] Manuscript ID: applsci-931322 - Manuscript Resubmitted

Kotak Masuk ×

Submission System <submission@mdpi.com>
kepada saya

Rab, 30 Sep 04.53

Inggris > Indonesia Terjemahkan pesan   Nonaktifkan untuk: Inggris ×

Dear Dr. Muhtar,

Thank you very much for resubmitting the modified version of the following
manuscript:

Manuscript ID: applsci-931322
Type of manuscript: Article
Title: Precast Bridges of Bamboo Reinforced Concrete in Disadvantaged Village
Areas in Indonesia
Authors: Muhtar Muhtar *
Received: 29 August 2020
E-mails: muhtar@unmuhjember.ac.id
Submitted to section: Environmental and Sustainable Science and Technology,
https://www.mdpi.com/journal/applsci/sections/Environmental_Sustainable_Science_Technology
Advanced Technologies in Wood Science
https://www.mdpi.com/journal/applsci/special_issues/Advanced_Technologies_Wood_Science
https://susy.mdpi.com/user/manuscripts/review_info/a03a87c1f829d72ec85481e6218a1186

A member of the editorial office will be in touch with you soon regarding
progress of the manuscript.

Kind regards,

MDPI

--
Applied Sciences Editorial Office
Postfach, CH-4020 Basel, Switzerland
Office: St. Alban-Anlage 66, CH-4052 Basel
Tel. +41 61 683 77 34 (office)
Fax +41 61 302 89 18 (office)
E-mail: applsci@mdpi.com
https://www.mdpi.com/journal/applsci/

*** This is an automatically generated email ***

Balas   Teruskan

Gmail

Telusuri email

Tulis

Update
Forum
Promosi
Selengkapnya

Meet
Rapat baru
Rapat saya

Hangout
muhtar

Tidak ada chat terbaru
Mulai yang baru

96 dari 671

[Applied Sciences] Manuscript ID: applsci-931322 - Revised Version Received

Kotak Masuk ×

michelle Wu <michelle.wu@mdpi.com>
kepada saya, Applied

Rab, 30 Sep 08.31

Inggris > Indonesia Terjemahkan pesan Nonaktifkan untuk: Inggris ×

Dear Dr. Muhtar,

Thank you very much for providing the revised version of your paper:

Manuscript ID: applsci-931322
Type of manuscript: Article
Title: Precast Bridges of Bamboo Reinforced Concrete in Disadvantaged Village
Areas in Indonesia
Authors: Muhtar Muhtar *
Received: 29 August 2020
E-mails: muhtar@unmuhjember.ac.id
Submitted to section: Environmental and Sustainable Science and Technology,
https://www.mdpi.com/journal/applsci/sections/Environmental_Sustainable_Science_Technology
Advanced Technologies in Wood Science
https://www.mdpi.com/journal/applsci/special_issues/Advanced_Technologies_Wood_Science
https://susy.mdpi.com/user/manuscripts/review_info/a03a87c1f829d72ec85481e6218a1186

We will continue processing your paper and will keep you informed
about the submission status.

Kind regards,

Michelle Wu
Assistant Editor
Email: michelle.wu@mdpi.com
Skype: live:.cid.c1544526f53fb5fa

Good news: Applied Sciences has a new impact factor of 2.474, increased again.
Q2 in "Physics, Applied" (JCR)
Q2 in "Engineering, Multidisciplinary"(JCR)

* Applied Sciences 2019 CiteScore™ - 2.40 (Q2 in Engineering)
* Applied Sciences 2019 Impact Factor (WoS) - 2.474 (Q2 in "Physics Applied",
"Chemistry, Multidisciplinary" and "Engineering, Multidisciplinary")

SJR: 0.418 (Q1 in Engineering [miscellaneous]).
Twitter: @applsci

Open for Submissions:
http://susy.mdpi.com, choosing journal "Applied Sciences"

Apply for Journal 2021 Travel Awards:
https://www.mdpi.com/journal/applsci/awards

If you are interested in organizing a Special Issue in the journal, please
send us the proposal by email or via
http://www.mdpi.com/journalproposal/sendproposalspecialissue/applsci.

--
MDPI Branch Office, Beijing
Applied Sciences Editorial Office
E-mail: applsci@mdpi.com
http://www.mdpi.com/journal/applsci/

MDPI
Postfach, CH-4020 Basel, Switzerland
Office: St. Alban-Anlage 66, 4052 Basel
Fax +41 61 302 89 18 (office)

Balas Balas ke semua Teruskan

Gmail

Telusuri email

Tulis

Update
Forum
Promosi
Selengkapnya

Meet
Rapat baru
Rapat saya

Hangout
muhtar

Tidak ada chat terbaru
Mulai yang baru

93 dari 671

[Applied Sciences] Manuscript ID: applsci-931322 - Minor Revisions

Kotak Masuk ×

Jamie Li <jamie.li@mdpi.com>
kepada saya, Applied, michelle

Min, 4 Okt 13.28

Inggris > Indonesia Terjemahkan pesan

Nonaktifkan untuk: Inggris ×

Dear Dr. Muhtar,

Thank you for submitting your manuscript:

Manuscript ID: applsci-931322
Type of manuscript: Article
Title: Precast Bridges of Bamboo Reinforced Concrete in Disadvantaged Village Areas in Indonesia
Authors: Muhtar Muhtar *
Received: 29 August 2020
E-mails: muhtar@unmuhjember.ac.id
Submitted to section: Environmental and Sustainable Science and Technology,
https://www.mdpi.com/journal/applsci/sections/Environmental_Sustainable_Science_Technology
Advanced Technologies in Wood Science
https://www.mdpi.com/journal/applsci/special_issues/Advanced_Technologies_Wood_Science

It has been reviewed by experts in the field and we request that you make minor revisions before it is processed further. Please find your manuscript and the review reports at the following link:
https://susy.mdpi.com/user/manuscripts/resubmit/a03a87c1f829d72ec85481e6218a1186

Your co-authors can also view this link if they have an account in our submission system using the e-mail address in this message.

Please revise the manuscript according to the reviewers' comments and upload the revised file within 5 days. Use the version of your manuscript found at the above link for your revisions, as the editorial office may have made formatting changes to your original submission. Any revisions should be clearly highlighted, for example using the "Track Changes" function in Microsoft Word, so that they are easily visible to the editors and reviewers. Please provide a short cover letter detailing any changes, for the benefit of the editors and reviewers. Please detail the revisions that have been made, citing the line number and exact change, so that the editor can check the changes expeditiously. Simple statements like 'done' or 'revised as requested' will not be accepted unless the change is simply a typographical error.

If the reviewers have suggested that your manuscript should undergo extensive English editing, please have the English in the manuscript thoroughly checked and edited for language and form. Alternatively, MDPI provides an English editing service checking grammar, spelling, punctuation and some improvement of style where necessary for an additional charge (extensive re-writing is not included), see details at https://www.mdpi.com/authors/english.

Do not hesitate to contact us if you have any questions regarding the revision of your manuscript or if you need more time. We look forward to hearing from you soon.

Kind regards,
Ms. Jamie Li, M.Sc.
Co-Managing Editor & Associate Publisher
Email: jamie.li@mdpi.com
Skype: jamie.li.mdpi
Good News: Processes Receives Updated Impact Factor 2.753 (Q2 in the "Engineering, Chemical" Category)

Join us on Twitter (@Processes_MDPI) and LinkedIn (Processes MDPI) and stay informed of the latest publications:
https://twitter.com/Processes_MDPI
https://www.linkedin.com/in/processesjournal/

Call for Special Issue Guest Editors for Processes
http://www.mdpi.com/journalproposal/sendproposalspecialissue/processes

Submit a "review" into the Special Issue "Feature Review Papers"
https://www.mdpi.com/journal/processes/special_issues/feature_review

--
MDPI Branch Office, Beijing
Gengfang International, Floor 4, Building 7, Yard 13, Huayuan Rd, Haidian District, 100088 Beijing, China

Applied Sciences Editorial Office
E-mail: applsci@mdpi.com
http://www.mdpi.com/journal/applsci/
--
MDPI
Postfach, CH-4020 Basel, Switzerland
Office: St. Alban-Anlage 66, 4052 Basel

muhtar umj <muhtar@unmuhjember.ac.id>
kepada michelle, Applied

Rab, 7 Okt 06.20

Dears,

Michelle Wu
Assistant Editor
and
Ms. Jamie Li, M.Sc.
Co-Managing Editor & Associate Publisher

There are suggestions for editing English from one reviewer. Is the Applied Sciences Journal automatically handle directly?

Regards,

Muhtar

...

Balas | Balas ke semua | Teruskan

Gmail

Telusuri email

Tulis

Update

Forum

Promosi

Selengkapnya

Meet

Rapat baru

Rapat saya

Hangout

muhtar

Tidak ada chat terbaru
Mulai yang baru

90 dari 671

[Applied Sciences] Manuscript ID: applsci-931322 - Manuscript Resubmitted

Kotak Masuk ×

Submission System <submission@mdpi.com>
kepada saya

Sel, 6 Okt 19.42

Inggris > Indonesia Terjemahkan pesan

Nonaktifkan untuk: Inggris ×

Dear Dr. Muhtar,

Thank you very much for resubmitting the modified version of the following manuscript:

Manuscript ID: applsci-931322
Type of manuscript: Article
Title: Precast Bridges of Bamboo Reinforced Concrete in Disadvantaged Village Areas in Indonesia
Authors: Muhtar Muhtar *
Received: 29 August 2020
E-mails: muhtar@unmuhjember.ac.id
Submitted to section: Environmental and Sustainable Science and Technology,
https://www.mdpi.com/journal/applsci/sections/Environmental_Sustainable_Science_Technology
Advanced Technologies in Wood Science
https://www.mdpi.com/journal/applsci/special_issues/Advanced_Technologies_Wood_Science
https://susy.mdpi.com/user/manuscripts/review_info/a03a87c1f829d72ec85481e6218a1186

A member of the editorial office will be in touch with you soon regarding progress of the manuscript.

Kind regards,

MDPI

--
Applied Sciences Editorial Office
Postfach, CH-4020 Basel, Switzerland
Office: St. Alban-Anlage 66, CH-4052 Basel
Tel. +41 61 683 77 34 (office)
Fax +41 61 302 89 18 (office)
E-mail: applsci@mdpi.com
https://www.mdpi.com/journal/applsci/

*** This is an automatically generated email ***

Balas Teruskan

Gmail

Telusuri email

Tulis

Update
Forum
Promosi
Selengkapnya

Meet
Rapat baru
Rapat saya

Hangout
muhtar

Tidak ada chat terbaru
Mulai yang baru

81 dari 671

[Applied Sciences] Manuscript ID: applsci-931322 - Accepted for Publication

Kotak Masuk ×

michelle Wu <michelle.wu@mdpi.com>
kepada saya, Applied, michelle

Sab, 10 Okt 08.30

Inggris > Indonesia Terjemahkan pesan   Nonaktifkan untuk: Inggris ×

Dear Dr. Muhtar,

We are pleased to inform you that the following paper has been officially accepted for publication:

Manuscript ID: applsci-931322
Type of manuscript: Article
Title: Precast Bridges of Bamboo Reinforced Concrete in Disadvantaged Village Areas in Indonesia
Authors: Muhtar Muhtar *
Received: 29 August 2020
E-mails: muhtar@unmuhjember.ac.id
Submitted to section: Environmental and Sustainable Science and Technology,
https://www.mdpi.com/journal/applsci/sections/Environmental_Sustainable_Science_Technology
Advanced Technologies in Wood Science
https://www.mdpi.com/journal/applsci/special_issues/Advanced_Technologies_Wood_Science
https://susy.mdpi.com/user/manuscripts/review_info/a03a87c1f829d72ec85481e6218a1186

We will now make the final preparations for publication, then return the manuscript to you for your approval.

If, however, extensive English edits are required to your manuscript, we will need to return the paper requesting improvements throughout.

We encourage you to set up your profile at SciProfiles.com, MDPI's researcher network platform. Articles you publish with MDPI will be linked to your SciProfiles page, where colleagues and peers will be able to see all of your publications, citations, as well as your other academic contributions.

We also invite you to contribute to Encyclopedia (https://encyclopedia.pub), a scholarly platform providing accurate information about the latest research results. You can adapt parts of your paper to provide valuable reference information for others in the field.

Kind regards,
Michelle Wu
Assistant Editor
Email: michelle.wu@mdpi.com
Skype: live:.cid.c1544526f53fb5fa

Good news: Applied Sciences has a new impact factor of 2.474, increased again.
Q2 in "Physics, Applied" (JCR)
Q2 in "Engineering, Multidisciplinary"(JCR)

* Applied Sciences 2019 CiteScore™ - 2.40 (Q2 in Engineering)
* Applied Sciences 2019 Impact Factor (WoS) - 2.474 (Q2 in "Physics Applied", "Chemistry, Multidisciplinary" and "Engineering, Multidisciplinary")

SJR: 0.418 (Q1 in Engineering [miscellaneous]).
Twitter: @applsci

Open for Submissions:
http://susy.mdpi.com, choosing journal "Applied Sciences"

Apply for Journal 2021 Travel Awards:
https://www.mdpi.com/journal/applsci/awards

If you are interested in organizing a Special Issue in the journal, please send us the proposal by email or via
http://www.mdpi.com/journalproposal/sendproposalspecialissue/applsci.

--
MDPI Branch Office, Beijing
Applied Sciences Editorial Office
E-mail: applsci@mdpi.com
http://www.mdpi.com/journal/applsci/

MDPI
Postfach, CH-4020 Basel, Switzerland
Office: St. Alban-Anlage 66, 4052 Basel
Fax +41 61 302 89 18 (office)

2

muhtar umj Sen, 12 Okt 13.08

Dear, Michelle Wu Assistant Editor I've made an APC payment of paper ID: applsci-931322. The proof of payment is in this email attachment. Reg...

michelle.wu@mdpi.com <michelle.wu@mdpi.com> Sen, 12 Okt 16.01

kepada applsci, saya

Inggris > Indonesia Terjemahkan pesan Nonaktifkan untuk: Inggris

Dear Dr. Muhtar,

Thank you for your reply. Your paper is under English editing.

...

On 2020/10/12 14:08, muhtar umj wrote:
> Dear, Michelle Wu Assistant Editor
>
> I've made an APC payment of paper ID: applsci-931322. The proof of
> payment is in this email attachment.
>
> Regards
>
> Muhtar
>
> Pada tanggal Sab, 10 Okt 2020 pukul 14.03 michelle.wu@mdpi.com
> <mailto:michelle.wu@mdpi.com> <michelle.wu@mdpi.com
> <mailto:michelle.wu@mdpi.com>> menulis:
>
> Dear Dr. Muhtar,
>
> Thank you for email. We have changed the CHF invoice to USD invoice.
>
> Please feel free to contact me if you have any other questions.
>
> Kind regards, Michelle Wu Assistant Editor Applied Sciences (IF=
> 2.474, CiteScore™=2.40) http://www.mdpi.com/journal/applsci
>
> Apply for Journal 2021 Travel Awards:
> https://www.mdpi.com/journal/applsci/awards
>
> If you are interested in organizing a Special Issue in the journal
> Applied Sciences, please send us the proposal via
> http://www.mdpi.com/journalproposal/sendproposalspecialissue/applsci.
>
>
>
>
>
> MDPI Branch Office, Beijing Suite 305, Zhongjia Mansion, Building
> No.13, Taiyangyuan Community, Dazhongsi East Road, Haidian District,
> Beijing 100098, China E-Mail: michelle.wu@mdpi.com
> <mailto:michelle.wu@mdpi.com> Skype: live:.cid.c1544526f53fb5fa
>
> MDPI St. Alban-Anlage 66, 4052 Basel, Switzerland
> http://www.mdpi.com/
>
> Disclaimer: MDPI recognizes the importance of data privacy and
> protection. We treat personal data in line with the General Data
> Protection Regulation (GDPR) and with what the community expects of
> us. The information contained in this message is confidential and
> intended solely for the use of the individual or entity to whom they
> are addressed. If you have received this message in error, please
> notify me and delete this message from your system. You may not copy
> this message in its entirety or in part, or disclose its contents to
> anyone.
>
> MDPI - Publisher of Open Access Journals http://www.mdpi.com
>
> On 2020/10/10 13:40, muhtar umj wrote:
>> Dear *Michelle Wu* Assistant Editor
>>
>> In connection with the APC fee payment, I hope the bill to be in
>> US dollars.
>>
>> Regards,
>>
>> *Muhtar*
>>
>> Pada tanggal Sab, 10 Okt 2020 pukul 08.30 michelle Wu
>> <michelle.wu@mdpi.com <mailto:michelle.wu@mdpi.com>
> <mailto:michelle.wu@mdpi.com <mailto:michelle.wu@mdpi.com>>>
> menulis:
>>

>> Dear Dr. Muhtar,
>>
>> We are pleased to inform you that the following paper has been
>> officially accepted for publication:
>>
>> Manuscript ID: applsci-931322 Type of manuscript: Article Title:
>> Precast Bridges of Bamboo Reinforced Concrete in Disadvantaged
>> Village Areas in Indonesia Authors: Muhtar Muhtar * Received: 29
>> August 2020 E-mails: muhtar@unmuhjember.ac.id
> <mailto:muhtar@unmuhjember.ac.id>
>> <mailto:muhtar@unmuhjember.ac.id
> <mailto:muhtar@unmuhjember.ac.id>> Submitted to section:
>> Environmental and Sustainable Science and Technology,
>>
> https://www.mdpi.com/journal/applsci/sections/Environmental_Sustainable_Science_Technology
>
>
>
>
>
>>
>>
>>
>>
>>
>>
> Advanced Technologies in Wood Science
>>
> https://www.mdpi.com/journal/applsci/special_issues/Advanced_Technologies_Wood_Science
>
>
>
>
>
>>
>>
>>
>>
>>
>>
> https://susy.mdpi.com/user/manuscripts/review_info/a03a87c1f829d72ec85481e6218a1186
>
>
>
>
>
>> We will now make the final preparations for publication, then
>> return the manuscript to you for your approval.
>>
>> If, however, extensive English edits are required to your
>> manuscript, we will need to return the paper requesting
>> improvements throughout.
>>
>> We encourage you to set up your profile at SciProfiles.com, MDPI's
>> researcher network platform. Articles you publish with MDPI will be
>> linked to your SciProfiles page, where colleagues and peers will be
>> able to see all of your publications, citations, as well as your
>> other academic contributions.
>>
>> We also invite you to contribute to Encyclopedia
>> (https://encyclopedia.pub), a scholarly platform providing
>> accurate information about the latest research results. You can
>> adapt parts of your paper to provide valuable reference information
>> for others in the field.
>>
>> Kind regards, Michelle Wu Assistant Editor Email:
>> michelle.wu@mdpi.com <mailto:michelle.wu@mdpi.com>
> <mailto:michelle.wu@mdpi.com <mailto:michelle.wu@mdpi.com>> Skype:
>> live:.cid.c1544526f53fb5fa
>>
>> Good news: Applied Sciences has a new impact factor of 2.474,
>> increased again. Q2 in "Physics, Applied" (JCR) Q2 in
>> "Engineering, Multidisciplinary"(JCR)
>>
>> * Applied Sciences 2019 CiteScore™ - 2.40 (Q2 in Engineering) *
>> Applied Sciences 2019 Impact Factor (WoS) - 2.474 (Q2 in "Physics
>> Applied", "Chemistry, Multidisciplinary" and "Engineering,
>> Multidisciplinary")
>>
>> SJR: 0.418 (Q1 in Engineering [miscellaneous]). Twitter: @applsci
>>
>> Open for Submissions: http://susy.mdpi.com, choosing journal
>> "Applied Sciences"
>>
>> Apply for Journal 2021 Travel Awards:
>> https://www.mdpi.com/journal/applsci/awards
>>

>> If you are interested in organizing a Special Issue in the
>> journal, please send us the proposal by email or via
>> http://www.mdpi.com/journalproposal/sendproposalspecialissue/applsci.
>
>>
>>
>>
>
>>
>>
>>
>>
>>
>>
> -- MDPI Branch Office, Beijing Applied Sciences Editorial Office
>> E-mail: applsci@mdpi.com <mailto:applsci@mdpi.com>
> <mailto:applsci@mdpi.com <mailto:applsci@mdpi.com>>

...

Thank you very much. | Thank you for the information. | Thank you for your response.

Balas | Balas ke semua | Teruskan

Gmail

Telusuri email

Tulis

Update

Forum

Promosi

Selengkapnya

Meet

Rapat baru

Rapat saya

Hangout

muhtar

Tidak ada chat terbaru
Mulai yang baru

80 dari 671

[Applied Sciences] Manuscript ID: applsci-931322 - Final Proofreading Before Publication (within 24 hours)

Kotak Masuk ×

michelle Wu <michelle.wu@mdpi.com>
kepada saya, Applied

Sel, 13 Okt 09.19

Inggris > Indonesia Terjemahkan pesan

Nonaktifkan untuk: Inggris ×

Dear Dr. Muhtar,

We invite you to proofread your manuscript to ensure that this is the final version that can be published and confirm that you will require no further changes from hereon:

Manuscript ID: applsci-931322
Type of manuscript: Article
Title: Precast Bridges of Bamboo Reinforced Concrete in Disadvantaged Village Areas in Indonesia
Authors: Muhtar Muhtar *
Received: 29 August 2020
E-mails: muhtar@unmuhjember.ac.id
Submitted to section: Environmental and Sustainable Science and Technology,
https://www.mdpi.com/journal/applsci/sections/Environmental_Sustainable_Science_Technology
Advanced Technologies in Wood Science
https://www.mdpi.com/journal/applsci/special_issues/Advanced_Technologies_Wood_Science

Please read the following instructions carefully before proofreading:

1) Download the manuscript from the link provided at the end of this message and upload the final proofed version at the same link within 24 hours (1 working day). If you experience any difficulties, please contact the Applied Sciences Editorial Office.

2) Please use Microsoft Word's built-in track changes function to highlight any changes you make, or send a comprehensive list of changes in a separate document. Note that this is the *last chance* to make textual changes to the manuscript. Some style and formatting changes may have been made by the production team, please do not revert these changes.

3) All authors must agree to the final version. Check carefully that authors' names and affiliations are correct, and that funding sources are correctly acknowledged. Incorrect author names or affiliations are picked up by indexing databases, such as the Web of Science or PubMed, and can be difficult to correct.

After proofreading, final production will be carried out. Note that changes to the position of figures and tables may occur during the final steps. Changes can be made to a paper published online only at the discretion of the Editorial Office. In this case, a separate Correction or Addendum will be published and we reserve the right to charge 50 CHF per Correction (including changes to author names or affiliations).

Please download the final version of your paper for proofreading here:

https://susy.mdpi.com/user/manuscripts/proof/file/a03a87c1f829d72ec85481e6218a1186

and upload here:

https://susy.mdpi.com/user/manuscripts/resubmit/a03a87c1f829d72ec85481e6218a1186

Supplementary and other additional files can be found at the second link. We look forward to hearing from you soon.

Kind regards,

Michelle Wu
Assistant Editor
Email: michelle.wu@mdpi.com
Skype: live:.cid.c1544526f53fb5fa

Good news: Applied Sciences has a new impact factor of 2.474, increased again.
Q2 in "Physics, Applied" (JCR)
Q2 in "Engineering, Multidisciplinary"(JCR)

* Applied Sciences 2019 CiteScore™ - 2.40 (Q2 in Engineering)
* Applied Sciences 2019 Impact Factor (WoS) - 2.474 (Q2 in "Physics Applied", "Chemistry, Multidisciplinary" and "Engineering, Multidisciplinary")

SJR: 0.418 (Q1 in Engineering [miscellaneous]).
Twitter: @applsci

Open for Submissions:
http://susy.mdpi.com, choosing journal "Applied Sciences"

Apply for Journal 2021 Travel Awards:
https://www.mdpi.com/journal/applsci/awards

If you are interested in organizing a Special Issue in the journal, please send us the proposal by email or via
http://www.mdpi.com/journalproposal/sendproposalspecialissue/applsci.

--
MDPI Branch Office, Beijing
Applied Sciences Editorial Office
E-mail: applsci@mdpi.com
http://www.mdpi.com/journal/applsci/

MDPI
Postfach, CH-4020 Basel, Switzerland
Office: St. Alban-Anlage 66, 4052 Basel
Fax +41 61 302 89 18 (office)

Yes, I confirm. Yes, everything is correct. I don't agree.

Balas Balas ke semua Teruskan

Gmail

Telusuri email

Tulis

Update
Forum
Promosi
Selengkapnya

Meet
Rapat baru
Rapat saya

Hangout
muhtar

Tidak ada chat terbaru
Mulai yang baru

72 dari 671

[Applied Sciences] Manuscript ID: applsci-931322 - Final Proofreading Before Publication Kotak Masuk ×

michelle.wu@mdpi.com <michelle.wu@mdpi.com>
kepada saya, applsci

Rab, 14 Okt 16.52

Inggris > Indonesia Terjemahkan pesan   Nonaktifkan untuk: Inggris ×

Dear Dr. Muhtar,

Thank you for your submission to MDPI. There are some figure you need to revise.

1. For figures 1,2,34,35,36: For X axis, please revise "-" with Minus sign "−".

2.For figure 2: In five-digit numbers, a comma to indicate thousand. E.g.: For Y axis, "10000" should be "10,000"

3. For Ref.41: Please add the specific date.

Please revise the content according to the above comments. We cannot publish the manuscript until you correct them.

We look forward to hearing from you soon.

Kind regards,
Michelle Wu
Assistant Editor
Applied Sciences (IF= 2.474, CiteScore™=2.40)
http://www.mdpi.com/journal/applsci

Apply for Journal 2021 Travel Awards:
https://www.mdpi.com/journal/applsci/awards

If you are interested in organizing a Special Issue in the journal Applied Sciences, please send us the proposal via
http://www.mdpi.com/journalproposal/sendproposalspecialissue/applsci.

MDPI Branch Office, Beijing
Suite 305, Zhongjia Mansion, Building No.13,
Taiyangyuan Community, Dazhongsi East Road,
Haidian District, Beijing 100098, China
E-Mail: michelle.wu@mdpi.com
Skype: live:.cid.c1544526f53fb5fa

MDPI
St. Alban-Anlage 66, 4052 Basel, Switzerland
http://www.mdpi.com/

MDPI - Publisher of Open Access Journals
http://www.mdpi.com

On 2020/10/13 10:19, michelle Wu wrote:
> Dear Dr. Muhtar,
>
> We invite you to proofread your manuscript to ensure that this is the
> final version that can be published and confirm that you will require
> no further changes from hereon:
>
> Manuscript ID: applsci-931322 Type of manuscript: Article Title:
> Precast Bridges of Bamboo Reinforced Concrete in Disadvantaged
> Village Areas in Indonesia Authors: Muhtar Muhtar * Received: 29
> August 2020 E-mails: muhtar@unmuhjember.ac.id Submitted to section:
> Environmental and Sustainable Science and Technology,
> https://www.mdpi.com/journal/applsci/sections/Environmental_Sustainable_Science_Technology
>
>
>

>
apat saya >
>
>
>
Advanced Technologies in Wood Science
> https://www.mdpi.com/journal/applsci/special_issues/Advanced_Technologies_Wood_Science
>
>
>
>
>
>
>
>
Please read the following instructions carefully before
> proofreading:
>
> 1) Download the manuscript from the link provided at the end of this
apat saya > message and upload the final proofed version at the same link within
> 24 hours (1 working day). If you experience any difficulties, please
> contact the Applied Sciences Editorial Office.
>
> 2) Please use Microsoft Word's built-in track changes function to
> highlight any changes you make, or send a comprehensive list of
> changes in a separate document. Note that this is the "last chance"
> to make textual changes to the manuscript. Some style and formatting
> changes may have been made by the production team, please do not
> revert these changes.
>
> 3) All authors must agree to the final version. Check carefully that
> authors' names and affiliations are correct, and that funding
> sources are correctly acknowledged. Incorrect author names or
> affiliations are picked up by indexing databases, such as the Web of
> Science or PubMed, and can be difficult to correct.
>
> After proofreading, final production will be carried out. Note that
apat saya > changes to the position of figures and tables may occur during the
> final steps. Changes can be made to a paper published online only at
> the discretion of the Editorial Office. In this case, a separate
> Correction or Addendum will be published and we reserve the right to
> charge 50 CHF per Correction (including changes to author names or
> affiliations).
>
>
> Please download the final version of your paper for proofreading
> here:
>
> https://susy.mdpi.com/user/manuscripts/proof/file/a03a87c1f829d72ec85481e6218a1186
>
>
>
>
>
apat saya >
>
>
and upload here:
>
> https://susy.mdpi.com/user/manuscripts/resubmit/a03a87c1f829d72ec85481e6218a1186
>
>
>
>
>
>
>
>
Supplementary and other additional files can be found at the second
> link. We look forward to hearing from you soon.
>
> Kind regards,
apat saya >
> Michelle Wu Assistant Editor Email: michelle.wu@mdpi.com Skype:
> live:.cid.c1544526f53fb5fa
>
> Good news: Applied Sciences has a new impact factor of 2.474,
> increased again. Q2 in "Physics, Applied" (JCR) Q2 in "Engineering,
> Multidisciplinary"(JCR)
>
> * Applied Sciences 2019 CiteScore™ - 2.40 (Q2 in Engineering) *
> Applied Sciences 2019 Impact Factor (WoS) - 2.474 (Q2 in "Physics
> Applied", "Chemistry, Multidisciplinary" and "Engineering,
> Multidisciplinary")
>
> SJR: 0.418 (Q1 in Engineering [miscellaneous]). Twitter: @applsci
>

> Open for Submissions: http://susy.mdpi.com, choosing journal "Applied
> Sciences"
>
> Apply for Journal 2021 Travel Awards:
> https://www.mdpi.com/journal/applsci/awards
>
> If you are interested in organizing a Special Issue in the journal,
> please send us the proposal by email or via
> http://www.mdpi.com/journalproposal/sendproposalspecialissue/applsci.
>
>
>
>
>
>
>
>
-- MDPI Branch Office, Beijing Applied Sciences Editorial Office
> E-mail: applsci@mdpi.com http://www.mdpi.com/journal/applsci/
>
> MDPI Postfach, CH-4020 Basel, Switzerland Office: St. Alban-Anlage
> 66, 4052 Basel Fax +41 61 302 89 18 (office)
>

apat saya

7

michelle.wu@mdpi.com Kam, 15 Okt 12.31

Dear Dr. Muhtar, Thank you for reading this email. There are two contents you need to revise: 1.For figure 2: In four-digit numbers, no need add a…

muhtar umj <muhtar@unmuhjember.ac.id> Kam, 15 Okt 13.17

kepada michelle.wu@mdpi.com

Dear Michelle Wu
Assistant Editor

With this email, I attached the final Word version manuscript file

manuscript.v9-Final_Clean-Proofread.docx

...

W

manuscript.v9-Fina...

Balas Teruskan

Response to Reviewer 1 Comments

Point 1: "The continued use of industrial products has caused permanent pollution."
Comment: What is permanent pollution?

Permanent pollution is environmental pollution caused by industrial waste without recycling or the continuous use of raw materials from nature without renewal.

And already written on line 29 – 31

Point 2: "Bamboo is one of the types of wood"
Comment: Bamboo is not a type of wood!.

Yes, bamboo is not a type of wood, and has been corrected, becomes:

Bamboo is a grass plant with cavities and nodes in its stems [42]. Bamboo is a renewable building material such as wood. Bamboo has the advantage of being economical, growing fast, and does not take long to achieve mechanical resistance.

And already written on line 32 – 35

Point 3: Comment: What is "mechanical resistance"?

Mechanical resistance of bamboos such as tensile strength, flexural strength, and other mechanical properties can be achieved in a relatively fast time, namely at the age of bamboo ranging from 3 - 4 years [6].

And already written on line 35 – 37

Point 4: "Bamboo for concrete reinforcement because it has a relatively high tensile strength."
Comment: Does a bridge fail in tension or compression?

The failure of the elements of the bridge frame or roof truss usually occurs in the pull stem elements. Bamboo has a high enough tensile strength suitable for use in tensile elements.

And already written on line 56 – 58

Point 5: "given a waterproof layer"
Comment: The composition of this waterproof layer is Sikadur® 89 -752. What is this? How is it applied? What is the moisture exclusion factor? It is also an adhesive? Water repellent?

Ghavami (2005) and Agarwal et al. (2014) concluded that the best waterproof layer is Sikadur 32 Gel. The waterproof or adhesive layer uses Sikadur®-752 produced PT Sika Indonesia [3,10]. Sikadur®-752 is A solvent-free, 2-component super-low viscosity-liquid, based on high strength epoxy resins. Especially for injecting into cavities and cracks in concrete. Usually used to fill and seal cavities and crack in structural concrete. Sikadur®-752 is applied to bamboo reinforcement to prevent water absorption. The specifications of Sikadur®-752 are shown in Table 1. The coating was carried out in two stages. The second waterproof layer was applied to perfect the waterproof layer of the first stage.

Table 1. The specification of Sikadur®-752 [1]

Components	Properties
Colour	Yellowish
Density	Approx. 1.08 kg/L
Mixing Ratio, by weight/volume	2 : 1
Pot life at +30°C	35 min
Compressive strength	62 N/mm² at 7 days (ASTM D-695)
	64 N/mm² at 28 days

Tensile strength	40 N/mm² at 28 days (ASTM D-790)
Tensile Adhesion Strength	2 N/mm² (Concrete failure, over echanically prepared concrete surface)
Coefficient of Thermal Expansion	-20 °C to +40 °C 89 x 10-6 per °C
Modulus of elasticity	1060 N/mm²

And already written on line 177 – 185

Point 6: "Precast bamboo reinforced concrete frame bridges have fairly good integrity"
Comment: What does "fairly good" mean?

Precast bamboo reinforced concrete frame bridges have sufficiently good integrity, that is, they can distribute loads with deflection and deformation that do not exceed their permits. The maximum displacement of 0.25 mm meets the requirements based on the AASTHO and RSNI T-12-2004 standards, which is not more than $\Delta max = L/800 = 3.75$ mm. The maximum deformation occurs in the bridge beam of 0.20 mm, and the bridge frame of 0.13 mm meets the requirements based on the AASTHO and RSNI T-12-2004 standards, which is not more than $\delta max = L/800 = 3.75$ mm.

And already written on line 423 – 429

Point 7: There are several missing parts to this paper.

1. What is the expected lifetime of these bridges? If these bridges will only be used for a short time, then maybe the following tests are not needed?

   The planned life of the bridge is 10 years. The determination of the age of the bridge in this study is based on opinions and research on the resistance of bamboo as concrete reinforcement that has been carried out by several researchers including Hidalgo (1992) in Sattar (1995), Ghavami (2005), Rong BS (2007), Lima Jr et al. (2008). After the design life of the bridge is reached, a gradual visual observation of the deflections and cracks will be carried out. Observations will be carried out every year with the main objective of observing the durability of bamboo as the concrete reinforcement of the bridge elements. Measured parameters during the observation period are deflection and cracks that may occur due to the decreased durability of bamboo reinforcement.

   Hidalgo (1992) in Sattar (1995) reports that a house in Colombia whose ceiling and walls are made of bamboo plastered with cement mortar can last for more than ninety years. Ghavami (2005) mentions that after testing, bamboo reinforced concrete beams are left in the open air at the PUC Rio Brasil university campus, bamboo reinforcements from treated beams show that the bond with the concrete is still in satisfactory condition after 15 years. B.S. Rong (2007), in his opening speech at the First International Conference On Modern Bamboo Structure (ICBS-2007) in Changsha, China, states that the bamboo reinforcement that is used as a substitute for steel reinforcement in precast floor plate elements for a five-story office building still functions well after more than fifty years of use, so bamboo reinforcement can be used as a substitute for steel reinforcement with the level of durability is good. Lima Jr et al. (2008) experimented on the Dendrocalamus giganteus bamboo species showing that bamboo with 60 cycles of wetting and drying in a calcium hydroxide solution and tap water did not decrease its tensile strength and Young Modulus. This is an important factor of the material for use as concrete reinforcement.

   And already written on line 233 – 253

2. You say that "but has weaknesses, namely, it is easy to attack by insects and high water absorption." You need tests on fungal and termite attack?

   This study did not test for fungal and insect attack, but the technology to prevent fungus and insect attack was based on the opinion and research of Ridley (1911) and Stebbings

(1904), namely that soaking in water for two months is sufficient to prevent insect attack. Soaking and drying aims to remove starch or sugar content in bamboo. The criterion for sufficient soaking is that the bamboo smells bad.

And already written on line 59 – 63

3. You add a water repellent coating but do not say how effective that is in reducing the rate and extent of moisture sorption.

   The effectiveness and durability of Sikadur®-752 adhesives require further research. Ghavami (2005) and Agarwal et al. (2014) concluded that the best waterproof layer is Sikadur 32 Gel. The waterproof or adhesive layer uses Sikadur®-752 produced PT Sika Indonesia [3,10]. Sikadur®-752 is A solvent-free, 2-component super-low viscosity-liquid, based on high strength epoxy resins. Especially for injecting into cavities and cracks in concrete. Usually used to fill and seal cavities and crack in structural concrete. Sikadur®-752 is applied to bamboo reinforcement to prevent water absorption. The second waterproof layer was applied to perfect the waterproof layer of the first stage

   And already written on line 182 – 183 and 177 - 182

4. High water sorption means loss of mechanical properties as the moisture goes up. Loss of stiffness, for example.
   Concrete is alkaline and that will have a long term effect of strength properties

   The soaking causes the bamboo's water content to increase and decrease its strength, however after drying it undergoes a transition from a brittle behavior to a very resilient behavior [QingfengXu 2014]. The effect of alkaline cement does not cause the bamboo to decrease in strength. According to Ming Li, (2017) the content of bamboo fiber (BF) which is treated with the right alkaline can effectively increase toughness, flexural strength, and tensile strength.

   And already written on line 63-68

6. There are no tests of compatibility of the bamboo with the concrete?

You must run tests on decay resistance, moisture sorption (rate and extent) and what properties are reduced and the effect of high pH on strength properties

> In this study, the technology used to prevent decay and absorption, and the effect of high pH, is to provide Sikadur adhesive which is also a waterproof layer, and the basis is previous research that has been conducted by several researchers including (1) Ghavami (2005) researched the attachment of bamboo reinforcement with several adhesives applied to the pull-out test and beam test. From the results of his research concluded that the best adhesive is Sicadur 32 Gel, (2) Agarwal et al. (2014) researched bamboo reinforcement treated with Araldite adhesive, Tepecrete P-151, Anti Corr RC, and Sicadur 32 Gel. From the sticky strength test, it was found that the best adhesive was Sicadur 32 Gel, (3) Lima Jr et al. (2008) experimented on the Dendrocalamus giganteus bamboo species showing that bamboo with 60 cycles of wetting and drying in a calcium hydroxide solution and tap water did not reduce its tensile strength and Young Modulus, (3) Javadian, Wielopolski, Smith, & Hebel, (2016) did research on several types of epoxy coatings to determine the bonding behavior between concrete and bamboo-composite reinforcement. The results showed that the bamboo-composite reinforcement without bonding layers was adequate with the concrete matrix, but with an epoxy base layer and sand particles, it could provide extra protection without losing bond strength. However, tests for decay resistance, absorption, and the effect of high pH on strength properties will be carried out in future studies.

And already written on line 69 – 84

Response to Reviewer 1 Comments

Point 1: "Bamboo has a high enough tensile strength suitable for use in tensile elements."

Comment: When a statement like this is made, you must define suitable? Tensile strength standard values can be given and then the value found for the composite.

Bamboo has a high enough tensile strength suitable for use in tensile elements. Bamboo is suitable for use in tensile elements simple construction such as roof truss, simple bridge trusses, simple house construction elements, and so on. Muhtar et al. [11] test the pull-out of bamboo reinforcement with a layer of Sikadur®-752 and hose clamps embedded in a concrete cylinder showed an increase in tensile stress of up to 240% compared to untreated bamboo reinforced concrete. A single reinforced BRC beam with a bamboo reinforcing area ratio of 4% exceeds the ultimate load of steel-reinforced SRC beam by 38.54% with a steel reinforcement area ratio of 0.89% [3].

And already written on line 57 – 64

Point 2: "This study did not test for fungal and insect attack, but the technology to prevent fungus and insect attack was based on the opinion and research of Ridley (1911) [42] and Stebbings (1904) [45]"

Comment: In many cases, the authors have depended on the research of others to cover properties important to their study. If it is important to their study, they should confirm that result with tests of their own. They have depended too much on the research findings of others.

Own research results have been added, including:

(4) Muhtar et al. (2019) [3] processing bamboo reinforcement by immersing in water for 1 month, coating with Sikadur®-752, and applying a hose clamp. The pull-out test results show that the bond-stress increases by 200% when compared to untreated bamboo. Sikadur®-752 adhesive is quite effective in preventing the occurrence of hygroscopic and hydrolysis processes between bamboo and concrete. The non-adhesive hose-clamp does not affect bond-stress.

And already written on line 91 – 96

and (10) Muhtar (2020) [12] conducted a flexural test on 4 beams with untreated bamboo reinforcement and treated with Sikadur®-752 and hose-clamp. The test results showed that the beam treated with Sikadur®-752 increased load capacity by 164% when compared to untreated reinforced bamboo. With the first treatment, bamboo is suitable for use as a simple construction concrete reinforcement.

And already written on line 119 – 123

Point 3: Are Figures 3 – 8 needed?

Yes, it is still needed to explain the bamboo reinforcement treatment process as written as follows:

(b) bamboo is soaked in water for 1 - 2 months to remove sugar content and prevent termites and insects as shown in Figure 3 [45], (c) dry in free air until the moisture content is approximately 12% as shown in Figure 4, (d) the bamboo reinforcement is trimmed with a grinding machine according to the specified size as shown in Figure 5, (e) providing a waterproof layer to reduce the occurrence of the hydrolysis process between bamboo and concrete as shown in Figure 6, (f) sand sprinkling to modify the roughness of bamboo reinforcement as shown in Figure 7, and (g) Stringing bamboo reinforcement as shown in Figure 8.

And already written on line 194 – 199

Point 4: If Figures 32 and 33 are not published in color, they will not have little meaning in black and white.

Yes, it must be published in color, because the color is the contour or value of the displacement.

Response to Reviewer 2 Comments

Point 1: "Correct the English mistake in line 21"

Improvements have been made, become:

The maximum displacement occurs in the bridge frame of 0.25 mm meets the requirements based on the AASTHO and RSNI T-12-2004 standards, which is not more than Δ_{max} = L/800 = 3.75 mm. The maximum deformation occurs in the bridge beam of 0.20 mm, and the bridge frame of 0.13 mm meets the requirements based on the AASTHO and RSNI T-12-2004 standards, which is not more than δ_{max} = L/800 = 3.75 mm..

And already written on line 21 – 25

Point 2: "Please distinguish deformation and deflection, their limit states could not the same (see line 22 of the abstract and other places)."

The maximum displacement occurs in the bridge frame of 0.25 mm meets the requirements based on the AASTHO and RSNI T-12-2004 standards, which is not more than Δ_{max} = L/800 = 3.75 mm. The maximum deformation occurs in the bridge beam of 0.20 mm, and the bridge frame of 0.13 mm meets the requirements based on the AASTHO and RSNI T-12-2004 standards, which is not more than δ_{max} = L/800 = 3.75 mm.

And already written on line 21 – 25, and

the allowable limit for the maximum displacement is Δmax = L/800 = 3.75 mm and the maximum deformation of the bridge is δ_{max} = L/800 = 3.75 mm

already written on line 357 – 358, and

The maximum displacement of 0.25 mm meets the requirements based on the AASTHO and RSNI T-12-2004 standards, which is not more than Δ_{max} = L/800 = 3.75 mm. The maximum deformation occurs in the bridge beam of 0.20 mm, and the bridge frame of 0.13 mm meets the requirements based on the AASTHO and RSNI T-12-2004 standards, which is not more than δ_{max} = L/800 = 3.75 mm.

already written on line 424 – 429

Point 3: How the deformation is measured from the test?

Measurements were made by installing LVDT (Linear Variable Displacement Transducers) with inductive transducers of type PR 9350 on the horizontal side of the frame and bridge beams as shown in Figure 28.

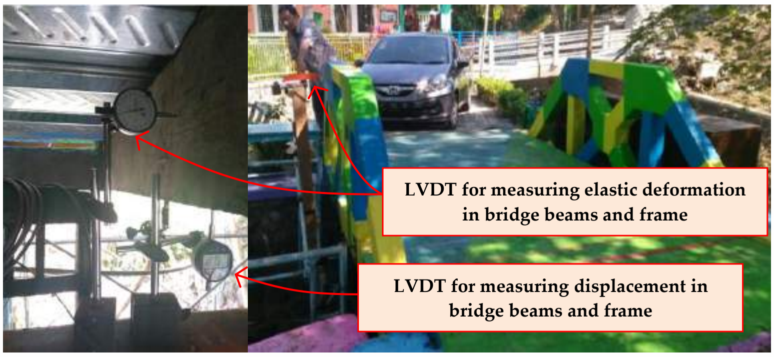


Figure 28. The measuring elastic displacement and deformation

The accuracy of deformation measurement is very much determined by the calibration of the equipment, the accuracy of the load point of the observation, the conditions of the test site such as near roads, and human error.

And already written on line 330 – 332

Point 4: “Please explain, for example in Figure 24, there is a zero deformation when the car axle coordinate is 200 cm. The same observation is for Figure 25.”

Figure 26 shows that the minimum beam deformation occurs when the car axle is right on the neutral line of the beam, this shows that the coupling moment or torque due to the load is a factor that greatly affects the size of the beam deformation. Gravity loads right on the neutral line can reduce deformation and increase the deflection of the bridge beams. Figure 26 and Figure 21 at 200 cm coordinates show that when the beam deformation is minimum, the beam displacement is maximum. As shown in Figure 17, Beam 1 is at coordinates 100 cm and Beam 2 is at coordinates 200 cm. The deformation of the beam increases in line with the track of the car axle, that is, the deformation continues to increase, respectively, of the front car axle and rear car axle. However, the accuracy of deformation measurements really needs attention to many determinants of accuracy.

Figure 27 and Figure 28 shows that minimum frame deformation or deformation = 0 occurs when the car axle is directly above the pedestal or approaching the pedestal. Meanwhile, the maximum frame deformation occurs when the car axle is in the middle of the bridge span, which is at coordinates 150 cm. There is a difference in the deformation of the bridge beam and the bridge frame, namely the maximum beam deformation occurs when the load is outside the beam coordinates, while the maximum frame deformation occurs when the load is the middle of the bridge span or at 150 cm coordinates. It must be remembered that careful preparation at the time of testing or measurement must be considered so that the data obtained is truly accurate, as shown in Figure 27 the coordinates of 250 cm occur inconsistent deformation data even though the car axle is close to the support.

And already written on line 335 – 354

Point 5: “How the bamboo reinforcements are included in the FEM model”

2.3. The numerical method used

To determine the capacity and behavior of reinforced concrete structural elements can be done with a numerical approach. Theoretical analysis is carried out as control over the results of research in the laboratory so that the actual structural behavior differences can be seen with the theoretical analysis. The numerical method used is the finite element method (FEM). Numerical verification in this study was carried out to control the suitability of the deflection value of the experiment results with the deflection contours of the FEM analysis result. The program developed in the FEM analysis is written with the Fortran PowerStation 4.0 program. The theoretical analysis to calculate the load causing the initial crack using the elastic theory with the transformation section. The formula for the transformation of the cross-sectional bamboo reinforced concrete is shown in Eq. (1) and Eq. (2). For linear analysis, the material data entered are the Poisson's ratio (υ) and the modulus of elasticity (E). The constitutive relationship analysis of the problem-solving method uses the stress-field theory. Triangular elements are used to model the plane stress element with a two-way primary displacement at each nodal point so that the element has six degrees of freedom as shown in Figure 18. The stress-strain relationship for the field stress problem has the form of an equation such as Eq. (3).

$$n = \frac{E_{Bamboo}}{E_{concrete}} \tag{1}$$

$$E_{Comp} = \frac{A_{Bamboo} x E_{Bamboo} + A_{Concrete} x E_{Concrete}}{A_{Comp}} \quad (2)$$

$$\begin{Bmatrix} \sigma_x \\ \sigma_y \\ \tau_{xy} \end{Bmatrix} = \frac{E}{(1+\nu^2)} \begin{bmatrix} 1 & \nu & 0 \\ \nu & 1 & 0 \\ 0 & 0 & \frac{1-\nu}{2} \end{bmatrix} \begin{Bmatrix} \varepsilon_x \\ \varepsilon_y \\ \gamma_{xy} \end{Bmatrix} \quad (3)$$

$$\sigma_{1,2} = \frac{\sigma_x + \sigma_y}{2} \pm \sqrt{\left(\frac{\sigma_x - \sigma_y}{2}\right)^2 + \tau_{xy}{}^2} = \sigma_{\max} \quad (4)$$

where E is the modulus of elasticity and v is the Poisson's ratio. And the principal stresses in two dimensions are calculated by Eq. (4). The Fortran PowerStation 4.0 programming language for triangle elements is shown at the following link: https://bit.ly/3l1oU0d

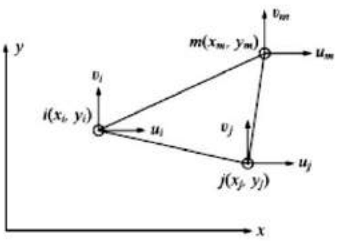


Figure 18. The degrees of freedom of triangular element

And already written on line 254 – 271

Point 6: “The conclusions should be enlarged”

Additional conclusions have been made:

The minimum beam deformation occurs when the car axle is right on the neutral line of the beam, this shows that the coupling moment or torque due to the load is a factor that greatly affects the size of the beam deformation. Gravity load right on the neutral line can reduce deformation and increase the deflection of the beam and bridge frame, and the size of the torque moment can affect the size of the deformation.

There is a difference in the maximum deformation occurrence between the beam and the bridge frame, namely the maximum beam deformation occurs when the load is outside the beam coordinates, while the maximum frame deformation occurs when the load is in the middle of the bridge span and outside the frame coordinates.

Precast bamboo reinforced concrete frame bridges have sufficiently good integrity, that is, they can distribute loads with deflection and deformation that do not exceed their permits. The maximum displacement of 0.25 mm meets the requirements based on the AASTHO and RSNI T-12-2004 standards, which is not more than Δmax = L/800 = 3.75 mm. The maximum deformation occurs in the bridge beam of 0.20 mm, and the bridge frame of 0.13 mm meets the requirements based on the AASTHO and RSNI T-12-2004 standards, which is not more than δmax = L/800 = 3.75 mm.

And already written on line 414 – 429

Response to Reviewer 2 Comments

Point 1: “The authors addressed all the reviewer's comments.
.”

Thank you for all the criticism and suggestions on this article.

Improvements have been made to minor spell check

Response to Reviewer 3 Comments

Point 1: “Please clarify the feasibility to control the quality of bamboo. Also, please comment about the availability of bamboo for this purpose in your local area and country”

Several researchers who have concluded that bamboo is suitable for use as concrete reinforcement include: (1) Ghavami (2005) [1] concluded that bamboo can be used as a structural concrete element including beams, windows, frames, and elements that experience bending stress, (2) Agarwal et al. (2014) [5] conducted tests of treated bamboo reinforced columns and beams and concluded that all tests indicated that bamboo has the potential to replace steel as reinforcing beam and column elements, (3) Sakaray et al. (2012) [31] conducted a feasibility test for moso type bamboo as a reinforcing material for concrete and the conclusion was that bamboo could be used as a substitute for steel in concrete, (4) Nayak et al. (2013) [32] conducted a study to analyze the effect of replacing steel reinforcement with bamboo reinforcement. One of the conclusions wrote that bamboo reinforcement is 3 times cheaper than steel reinforcement and that the engineering technique is cheaper than steel reinforcement, (5) Kaware et al. (2013) [33] reviewed bamboo as a reinforcing material for concrete and one conclusion was that bamboo exhibits ductile behavior like steel, (6) Khan (2014) [34] researched bamboo as an alternative material to substitute for reinforcing steel and one of the results of his study revealed that bamboo reinforced concrete can be used successfully for structural and non-structural elements in building construction, (7) Rahman et al. (2011) [6] conducted tests on bamboo reinforced concrete beams and one of the conclusions wrote that bamboo is a potential reinforcing material in concrete, (8) Sethia & Baradiya (2014) [35] in one conclusion revealed that bamboo can be used as an alternative to steel reinforcement in beams, and (9) Terai & Minami (2011) [36] conducted a study on 11 bamboo reinforced concrete blocks and tested them to check for flexural cracks and shear cracks. And concluded that the crack pattern of bamboo reinforced concrete (BRC) beams resembles the fracture pattern of steel-reinforced concrete (RCC) beams so that the fracture behavior of bamboo reinforced concrete (BRC) beams can be evaluated with the existing formula on RCC steel reinforced concrete beams.

And already written on line 85 – 107

Point 2: “Please provide more details about process for bamboo prior to its use. What process did the author use to "soak" the raw material? Also please comment about the durability of bamboo under this soaking process and also under the alkalinity of Portland cement.”

Bamboo to be used must be treated with the following steps: (a) bamboo is cut and split close to the size of the bamboo reinforcement to be used, namely 15 mm x 15 mm x 2000 mm for bridge beam reinforcement, 15 mm x 15 mm x 3160 mm for the lower side truss bridge reinforcement. Meanwhile, the reinforcement for the vertical truss is 15 mm x 15 mm x 1100 mm, the top stem is 15 mm x 15 mm x 1100 mm, and the diagonal stem is 15 mm x 15 mm x 1300 mm, (b) bamboo is soaked in water for 1 - 2 months to remove sugar content and prevent termites and insects [45], (c) dry in free air until the moisture content is approximately 12%, (d) the bamboo reinforcement is trimmed with a grinding machine according to the specified size, (e) providing a waterproof layer to reduce the occurrence of the hydrolysis process between bamboo and concrete, (f) sand sprinkling to modify the roughness of bamboo reinforcement

already written on line 166 – 176, and

the technology to prevent fungus and insect attack was based on the opinion and research of Ridley (1911) [42] and Stebbings (1904) [45], namely that soaking in water for two months is sufficient to prevent insect attack. Soaking and drying aims to remove starch or sugar content in bamboo. The criterion for sufficient soaking is that

the bamboo smells bad. The soaking causes the bamboo's water content to increase and decrease its strength, however after drying it undergoes a transition from a brittle behavior to a very resilient behavior [28]. The effect of alkaline cement does not cause the bamboo to decrease in strength. According to Ming Li (2017) [44] the content of bamboo fiber (BF) which is treated with the right alkaline can effectively increase toughness, flexural strength, and tensile strength.

In this study, the technology used to prevent decay and absorption, and the effect of high pH, is to provide Sikadur adhesive which is also a waterproof layer, and the basis is previous research that has been conducted by several researchers including (1) Ghavami (2005) [1] researched the attachment of bamboo reinforcement with several adhesives applied to the pull-out test and beam test. From the results of his research concluded that the best adhesive is Sicadur 32 Gel, (2) Agarwal et al. (2014) [5] researched bamboo reinforcement treated with Araldite adhesive, Tepecrete P-151, Anti Corr RC, and Sicadur 32 Gel. From the sticky strength test, it was found that the best adhesive was Sicadur 32 Gel, (3) Lima Jr et al. (2008) [29] experimented on the Dendrocalamus giganteus bamboo species showing that bamboo with 60 cycles of wetting and drying in a calcium hydroxide solution and tap water did not reduce its tensile strength and Young Modulus, (3) Javadian et al. (2016) [30] did research on several types of epoxy coatings to determine the bonding behavior between concrete and bamboo-composite reinforcement. The results showed that the bamboo-composite reinforcement without bonding layers was adequate with the concrete matrix, but with an epoxy base layer and sand particles, it could provide extra protection without losing bond strength. However, tests for decay resistance, absorption, and the effect of high pH on strength properties will be carried out in future studies..

And already written on line 60 – 84

Point 3: The numerical modelling part deserves better description. The author is asked to provide the details of modelling, and input parameters in the model. This should be a section under the Section 2

2.3. The numerical method used

To determine the capacity and behavior of reinforced concrete structural elements can be done with a numerical approach. Theoretical analysis is carried out as control over the results of research in the laboratory so that the actual structural behavior differences can be seen with the theoretical analysis. The numerical method used is the finite element method (FEM). Numerical verification in this study was carried out to control the suitability of the deflection value of the experiment results with the deflection contours of the FEM analysis result. The program developed in the FEM analysis is written with the Fortran PowerStation 4.0 program. The theoretical analysis to calculate the load causing the initial crack using the elastic theory with the transformation section. The formula for the transformation of the cross-sectional bamboo reinforced concrete is shown in Eq. (1) and Eq. (2). For linear analysis, the material data entered are the Poisson's ratio (υ) and the modulus of elasticity (E). The constitutive relationship analysis of the problem-solving method uses the stress-field theory. Triangular elements are used to model the plane stress element with a two-way primary displacement at each nodal point so that the element has six degrees of freedom as shown in Figure 18. The stress-strain relationship for the field stress problem has the form of an equation such as Eq. (3).

$$n = \frac{E_{Bamboo}}{E_{concrete}} \tag{1}$$

$$E_{Comp} = \frac{A_{Bamboo} x E_{Bamboo} + A_{Concrete} x E_{Concrete}}{A_{Comp}} \tag{2}$$

$$\begin{Bmatrix}\sigma_x\\ \sigma_y\\ \tau_{xy}\end{Bmatrix}=\frac{E}{(1+\nu^2)}\begin{bmatrix}1 & \nu & 0\\ \nu & 1 & 0\\ 0 & 0 & \frac{1-\nu}{2}\end{bmatrix}\begin{Bmatrix}\varepsilon_x\\ \varepsilon_y\\ \gamma_{xy}\end{Bmatrix} \tag{3}$$

$$\sigma_{1,2}=\frac{\sigma_x+\sigma_y}{2}\pm\sqrt{\left(\frac{\sigma_x-\sigma_y}{2}\right)^2+\tau_{xy}{}^2}=\sigma_{\max} \tag{4}$$

where *E* is the modulus of elasticity and *v* is the Poisson's ratio. And the principal stresses in two dimensions are calculated by Eq. (4). The Fortran PowerStation 4.0 programming language for triangle elements is shown at the following link: https://bit.ly/3l1oU0d

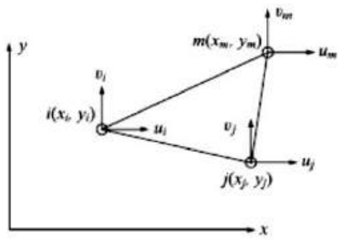


Figure 18. The degrees of freedom of triangular element

And already written on line 254 – 271

Point 6: “The author reported the static loading conditions of concrete structure. However, in reality, dynamic loading conditions will likely to cause damages in the structure. Did the author consider to perform any fatigue test? Please comment and clarify this point.”

Calculation of aerodynamic effects due to wind loads and dynamic analysis on precast concrete bamboo bridges were not carried out. Based on the Earthquake Resistance Standard for Bridges, SNI SNI-07-SE-2015 [39] dynamic analysis needs to be carried out for bridge types with complex behavior, one of which is the main span exceeding 200 meters. In this study, the bridge width is 2.24 meters and the bridge span is 3.20 meters, and the ratio of the bridge width to the bridge span of 0.7 is still stable against aerodynamic effects due to wind loads according to Leondhart's requirements (B ≥ *L*/25) and still meets the maximum deflection requirements. AASHTO [38] and RSNI T-12-2004 [25] that is Δmax = L/800 = 3.75 mm.

already written on line 389 – 396, and

Besides, the bridge is planned using the "Service Load Planning" method with the assumption that the structure has linear elastic behavior and the load test is carried out with elastic loads or under the initial crack load of the most critical bridge components. Observation of deflection and deformation that occurs is deflection and elastic deformation. The critical load (Pcr) or initial crack load is 2.1 tons and the maximum test load for minibusses is 1.55 tons.

And already written on line 282 – 286

Response to Reviewer 3 Comments

Point 1: “The manuscript can be accepted to publish in the journal of Applied Sciences.
.”

Thank you for all the criticism and suggestions on this article.

Improvements have been made to the research design as shown in the article manuscript file: applsci-931322_with the changes marked-R2.

Improvements have been made to minor spell check

Response to Reviewer 4 Comments

Point 1: "In the introduction, author has only refereed to tow references with regards to bamboo advantages and properties, please extend the search and include more literature on this topic (line 27-42)."

Additional references have been made, including:

In terms of its potential, in 2000 the total area of bamboo plants in Indonesia was 2,104,000 ha, consisting of 690,000 ha of bamboo planted in forest areas and 1,414,000 ha of bamboo plant areas outside forest areas [27]. Arsad, E (2015) [27] revealed that in Hulu Sungai Selatan Regency, the bamboo area was estimated to be around 22,158 ha with a production of about 3000 stems/ha. The description of the potential for bamboo production in East Java is 29,950,000 stems/year, Yogyakarta 2,900,000 stems/year, Central Java 24,730,000 stems/year, and West Java 14,130,000 stems/year [46]. With such a large production potential, efforts must be made to increase its economic value, including being used as an alternative to concrete reinforcement.

already written on line 42 – 50, and

the technology to prevent fungus and insect attack was based on the opinion and research of Ridley (1911) [42] and Stebbings (1904) [45], namely that soaking in water for two months is sufficient to prevent insect attack. Soaking and drying aims to remove starch or sugar content in bamboo. The criterion for sufficient soaking is that the bamboo smells bad. The soaking causes the bamboo's water content to increase and decrease its strength, however after drying it undergoes a transition from a brittle behavior to a very resilient behavior [28]. The effect of alkaline cement does not cause the bamboo to decrease in strength. According to Ming Li (2017) [44] the content of bamboo fiber (BF) which is treated with the right alkaline can effectively increase toughness, flexural strength, and tensile strength.

already written on line 60 – 68, and

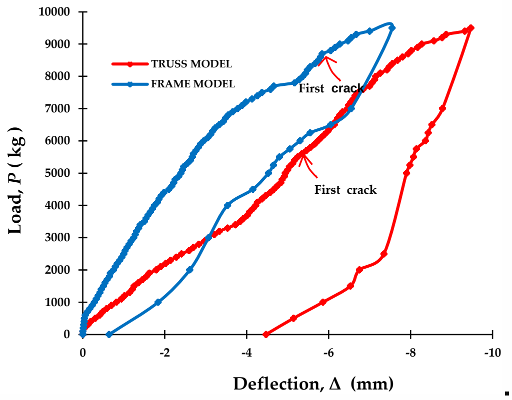
the technology used to prevent decay and absorption, and the effect of high pH, is to provide Sikadur adhesive which is also a waterproof layer, and the basis is previous research that has been conducted by several researchers including (1) Ghavami (2005) [1] researched the attachment of bamboo reinforcement with several adhesives applied to the pull-out test and beam test. From the results of his research concluded that the best adhesive is Sicadur 32 Gel, (2) Agarwal et al. (2014) [5] researched bamboo reinforcement treated with Araldite adhesive, Tepecrete P-151, Anti Corr RC, and Sicadur 32 Gel. From the sticky strength test, it was found that the best adhesive was Sicadur 32 Gel, (3) Lima Jr et al. (2008) [29] experimented on the Dendrocalamus giganteus bamboo species showing that bamboo with 60 cycles of wetting and drying in a calcium hydroxide solution and tap water did not reduce its tensile strength and Young Modulus, (3) Javadian et al. (2016) [30] did research on several types of epoxy coatings to determine the bonding behavior between concrete and bamboo-composite reinforcement. The results showed that the bamboo-composite reinforcement without bonding layers was adequate with the concrete matrix, but with an epoxy base layer and sand particles, it could provide extra protection without losing bond strength. However, tests for decay resistance, absorption, and the effect of high pH on strength properties will be carried out in future studies.

Several researchers who have concluded that bamboo is suitable for use as concrete reinforcement include: (1) Ghavami (2005) [1] concluded that bamboo can be used as a structural concrete element including beams, windows, frames, and elements that experience bending stress, (2) Agarwal et al. (2014) [5] conducted tests of treated bamboo reinforced columns and beams and concluded that all tests indicated that bamboo has the potential to replace steel as reinforcing beam and column elements,

(3) Sakaray et al. (2012) [31] conducted a feasibility test for moso type bamboo as a reinforcing material for concrete and the conclusion was that bamboo could be used as a substitute for steel in concrete, (4) Nayak et al. (2013) [32] conducted a study to analyze the effect of replacing steel reinforcement with bamboo reinforcement. One of the conclusions wrote that bamboo reinforcement is 3 times cheaper than steel reinforcement and that the engineering technique is cheaper than steel reinforcement, (5) Kaware et al. (2013) [33] reviewed bamboo as a reinforcing material for concrete and one conclusion was that bamboo exhibits ductile behavior like steel, (6) Khan (2014) [34] researched bamboo as an alternative material to substitute for reinforcing steel and one of the results of his study revealed that bamboo reinforced concrete can be used successfully for structural and non-structural elements in building construction, (7) Rahman et al. (2011) [6] conducted tests on bamboo reinforced concrete beams and one of the conclusions wrote that bamboo is a potential reinforcing material in concrete, (8) Sethia & Baradiya (2014) [35] in one conclusion revealed that bamboo can be used as an alternative to steel reinforcement in beams, and (9) Terai & Minami (2011) [36] conducted a study on 11 bamboo reinforced concrete blocks and tested them to check for flexural cracks and shear cracks. And concluded that the crack pattern of bamboo reinforced concrete (BRC) beams resembles the fracture pattern of steel-reinforced concrete (RCC) beams so that the fracture behavior of bamboo reinforced concrete (BRC) beams can be evaluated with the existing formula on RCC steel reinforced concrete beams.

And already written on line 69 – 107

Point 2: “In Figure 2 please use a better font and text size and resize the image; the quality is low”



Point 3: In line 92 and line 93 the numbers need to be rounded to nearest digit.

From the results of the bamboo tensile test in this study, it was found that the modulus of elasticity of bamboo (E_b) was 17236 MPa with a tensile strength of 127 N/mm2 [3] and the modulus of steel elasticity (E_s) was 207736 MPa [3].

And already written on line 189 – 192

Point 4: “Line 75 to line 82; this paragraph needs rephrasing and English editing; it is not clear.”

The targets of this research application are underdeveloped villages and lots of bamboos. Bamboo is a new and renewable energy from natural resources that are very abundant in rural areas. Bamboo needs to be used, including reinforced concrete. The use of bamboo is one of the real efforts to increase the economic strength of the community. Based on previous research and the abundant potential of bamboo, it is necessary to use it as a reinforcing element for simple precast reinforced concrete bridges, especially in rural areas with lots of bamboos.

And already written on line 150 – 155

Point 5: "In line 85, please describe the bamboo properties in more detail, like culm diameter, wall thickness, density and mechanical properties and how did you obtain these values for the bamboo culms that you have collected and used for the bridge"

Petung bamboo, the bamboo shoots are purplish black, covered with hairs such as brown velvet to blackish. Petung bamboo is large, segment length 40-50 cm, diameter 12-18 cm, with a stem height of up to 20 m. The nodes are surrounded by aerial roots. The wall thickness of the bamboo internode is between 11 and 36 mm, Brink M (2008) in Wikipedia Indonesia (2016) [42]. The mechanical properties of petung bamboo are shown in Table 1. Tensile test for bamboo petung based on ASTM D 143-94 [37].

Table 1. Mechanical properties of petung bamboo

Mechanical properties	
Tensile strength (MPa)	105±8
Modulus of elasticity (GPa)	26±5
Elongation of fault (%)	16±1
Flexural strength (MPa)	153±11
Hardness (VHN)	5±1
Impact strength (J/mm2)	0.15±0.7

already written on line 158 – 164, and

From the results of the bamboo tensile test in this study, it was found that the modulus of elasticity of bamboo (E_b) was 17236 MPa with a tensile strength of 127 N/mm^2

And already written on line 189 – 191

Point 6: "In line 87, please show a clear picture of the bamboo reinforcement and its dimension and length"

Bamboo to be used must be treated with the following steps: (a) bamboo is cut and split close to the size of the bamboo reinforcement to be used, namely 15 mm x 15 mm x 2000 mm for bridge beam reinforcement, 15 mm x 15 mm x 3160 mm for the lower side truss bridge reinforcement. Meanwhile, the reinforcement for the vertical truss is 15 mm x 15 mm x 1100 mm, the top stem is 15 mm x 15 mm x 1100 mm, and the diagonal stem is 15 mm x 15 mm x 1300 mm, (b) bamboo is soaked in water for 1 - 2 months to remove sugar content and prevent termites and insects [45], (c) dry in free air until the moisture content is approximately 12%, (d) the bamboo reinforcement is trimmed with a grinding machine according to the specified size, (e) providing a waterproof layer to reduce the occurrence of the hydrolysis process between bamboo and concrete, (f) sand sprinkling to modify the roughness of bamboo reinforcement.

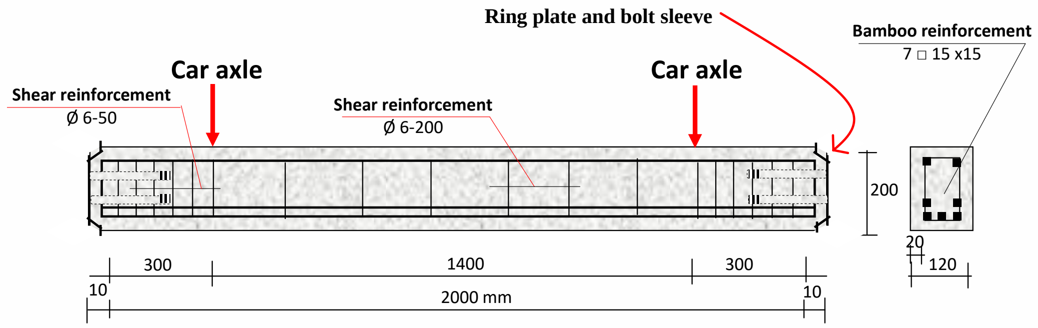
And already written on line 166 – 176

Point 7: "Figure 3 to figure 8 are not of high quality. Please replace them with high quality photos"

It has been replaced with high-quality photos, as follows:

Other photos are in Figures 4-8

Point 8: “Please show the shear reinforcement system in the pictures clearly”



It has been replaced with a new image, namely Figure 12

Point 9: “Please display the concrete mix design in a Table.”

Table 3. The mix composition of concrete

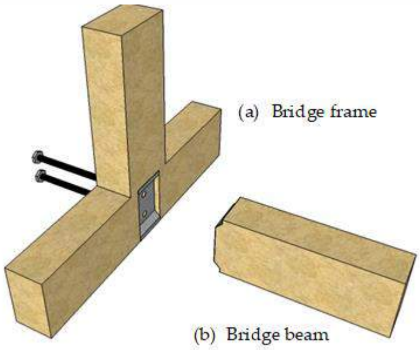
The concrete mix design	Cement (PPC)	Fine Aggregate	Coarse Aggregate	Water
	Kg/m³			
Material per-m³	381	185	689	1077
Mix composition	1	1.81	2.82	0.52

And already written on line 187

Point 10: “Figure 8 texts are not clear please revise”

It has been replaced with high-quality photos, as follows:

Point 11: "Figure 10 needs to be structured into 10a, 10b, 10c and revised captions"

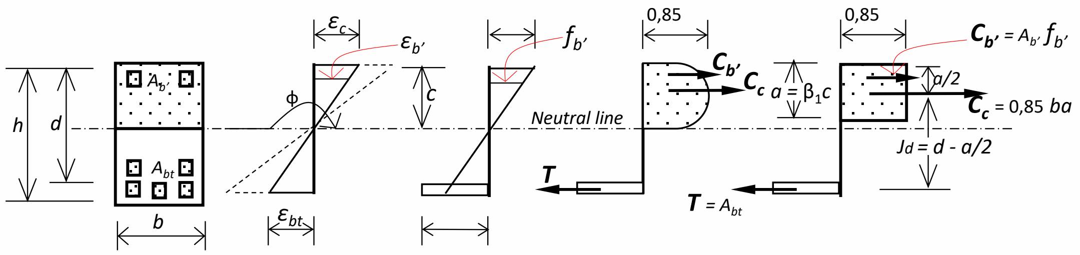


(c) Precast bridge frames

Point 12: "Figure 10 is not so clear, please revise the picture of the bridge"

Point 13: "Figure 14; where is the design calculations behind it? Please add a design concept that you used to design the beams, the size of the reinforcement and the spacing of the shear reinforcement"

The design concept of bamboo reinforced concrete beams follows Ghavami (2005) and Muhtar (2020) as shown in Figure 1. The balance of the concrete compressive force (C = Cb '+ Cc) and the tensile force (T) must be met as shown in Figure 1. The tensile strength of bamboo reinforcement (T) is obtained by multiplying the bond stress with the shear area in the bamboo reinforcement. The failure of the bamboo reinforced concrete beams due to the breaking of the bonds between bamboo and concrete.



And already written on line 207 – 212

Point 14: "In lines 111-113 the type of minibus was mentioned but no description about their weight, size and loading was given. This is not scientifically correct. How did you calculate the load? How did you calculate their movement and dynamics? Why Brio has no passengers and the rest they have?"

The weight of the Brio car and the Avanza car is calculated based on the empty weight and the total passenger weight according to the capacity of the number of passengers. The calculation of passenger weight is based on the average weight of Indonesians, namely 65 kg. The calculation of the total weight of a minibus and its specifications are shown in Table 5.

Table 5. Specifications and weight of minibus car

Type of car	Length	Height	Width	Wheelbase	Empty weight or one driver	Passenger capacity	Weight with full passenger
	mm	mm	mm	mm	kg	person	kg
Brio	3800	1485	1680	2655	930 - 965	5	1280
Avanza	4190	1695	1660	2655	1045 - 1095	7	1550

And already written on line 227 – 231

Point 15: "Is it safe to move the passengers on a bus that is going to stay on a bridge which was tested before?! How do you mitigate the safety and risks?!"

The security measure during the test is to place the support poles and scaffolding under the bridge. The support poles and scaffolding under the bridge also function as a place and safety for the LVDT tool. Besides, the bridge is planned using the "Service Load Planning" method with the assumption that the structure has linear elastic behavior and the load test is carried out with elastic loads or under the initial crack load of the most critical bridge components. Observation of deflection and deformation that occurs is deflection and elastic deformation. The critical load (P_{cr}) or initial crack load is 2.1 tons and the maximum test load for minibusses is 1.55 tons.

And already written on line 280 – 286

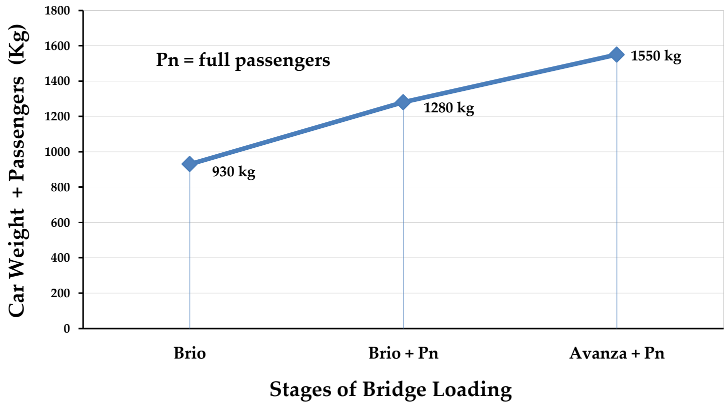
Point 16: "Line 117,please specify what LVDT stands for and what model have you used"

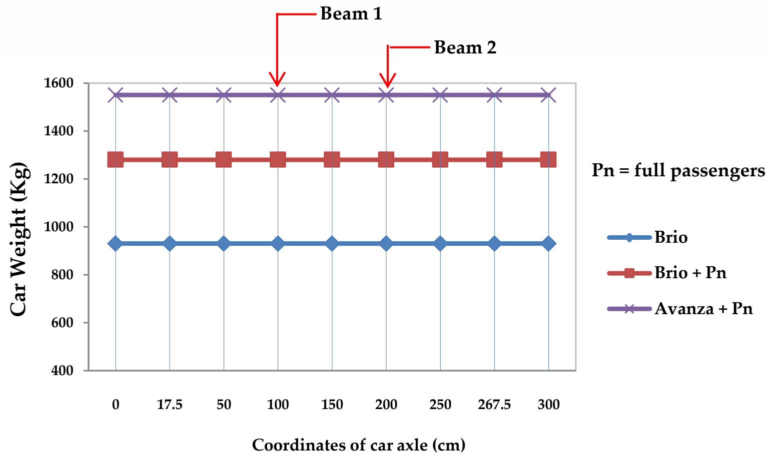
To get the displacement that occurs in the beam and bridge frame, 4 LVDTs (Linear Variable Displacement Transducers) are installed with inductive transducers of type PR 9350 in the middle of the frame span and the middle span of the bridge beam.

And already written on line 220 – 222

Point 17: "Figure 15 and 16 needs to be reset with new fonts. Please look at the submission for authors help"

Revisions have been made on Figures 15-16





The Reading Plan of Displacement

Point 18: "Line123-129, this is not a safe testing method.....this encourages other people to do the same if is permitted"

The security measure during the test is to place the support poles and scaffolding under the bridge. The support poles and scaffolding under the bridge also function as a place and safety for the LVDT tool. Besides, the bridge is planned using the "Service Load Planning" method with the assumption that the structure has linear elastic behavior and the load test is carried out with elastic loads or under the initial crack load of the most critical bridge components. Observation of deflection and deformation that occurs is deflection and elastic deformation. The critical load (Pcr) or initial crack load is 2.1 tons and the maximum test load for minibusses is 1.55 tons.

And already written on line 280 – 286

Point 19: "Line 141 mentions AASHTO but no reference was given"

The correction has been made, namely the reference number [38]

And already written on line 280 – 286

Point 20: "Table 3 is not clear, what is deflection and what is deformation? Please explain this table with more details"

Table 7. Data on the test results of the precast bridge of bamboo reinforced concrete frames

Bridge load	Displacement and deformation						
	Frame 1		Frame 2		Beam 1		Beam 2
	Displacement[1] (mm)	Deformation[2] (mm)	Displacement[1] (mm)	Deformation[2] (mm)	Displacement[1] (mm)	Deformation[2] (mm)	Displacement[1] (mm)
Brio 930 kg	0.2	0.03	0.04	0.04	0.06	0.01	0.14
Brio+Pn 1280 kg	0.2	0.01	0.04	0.05	0.08	0.06	0.17
Avanza+Pn 1550 kg	0.25	0.01	0.04	0.13	0.14	0.2	0.21

[1] Displacement is the deflection of the direction of gravity on the beam or frame elements due to the distribution of vehicle loads within the elastic limit. [2] Deformation is a change in shape or a change in the angle of the cross-section of the beam or frame due to the distribution of vehicle loads within the elastic limit measured in the direction of horizontal of the cross-section

And already written on line 303 – 307

Point 21: **"**Figure 30 needs to fully explained, what is the three figures in figure 3 for? Please describe the parameters for FEM model that were used to model the frame…."

Figure 33 shows displacement in the x-direction, green color shows minimum displacement, orange, and blue color shows the maximum positive and negative displacement. FEM analysis modeling on the bamboo reinforced concrete frames can be seen in item 2.3. the numerical method used.

And already written on line 373 – 376

2.3. The numerical method used

To determine the capacity and behavior of reinforced concrete structural elements can be done with a numerical approach. Theoretical analysis is carried out as control over the results of research in the laboratory so that the actual structural behavior differences can be seen with the theoretical analysis. The numerical method used is the finite element method (FEM). Numerical verification in this study was carried out to control the suitability of the deflection value of the experiment results with the deflection contours of the FEM analysis result. The program developed in the FEM analysis is written with the Fortran PowerStation 4.0 program. The theoretical analysis to calculate the load causing the initial crack using the elastic theory with the transformation section. The formula for the transformation of the cross-sectional bamboo reinforced concrete is shown in Eq. (1) and Eq. (2). For linear analysis, the material data entered are the Poisson's ratio (υ) and the modulus of elasticity (E). The constitutive relationship analysis of the problem-solving method uses the stress-field theory. Triangular elements are used to model the plane stress element with a two-way primary displacement at each nodal point so that the element has six degrees of freedom as shown in Figure 18. The stress-strain relationship for the field stress problem has the form of an equation such as Eq. (3).

$$n = \frac{E_{Bamboo}}{E_{concrete}} \tag{1}$$

$$E_{Comp} = \frac{A_{Bamboo} x E_{Bamboo} + A_{Concrete} x E_{Concrete}}{A_{Comp}} \tag{2}$$

$$\begin{Bmatrix} \sigma_x \\ \sigma_y \\ \tau_{xy} \end{Bmatrix} = \frac{E}{(1+\nu^2)} \begin{bmatrix} 1 & \nu & 0 \\ \nu & 1 & 0 \\ 0 & 0 & \frac{1-\nu}{2} \end{bmatrix} \begin{Bmatrix} \varepsilon_x \\ \varepsilon_y \\ \gamma_{xy} \end{Bmatrix} \tag{3}$$

$$\sigma_{1,2} = \frac{\sigma_x + \sigma_y}{2} \pm \sqrt{\left(\frac{\sigma_x - \sigma_y}{2}\right)^2 + \tau_{xy}{}^2} = \sigma_{\max} \tag{4}$$

where E is the modulus of elasticity and v is the Poisson's ratio. And the principal stresses in two dimensions are calculated by Eq. (4). The Fortran PowerStation 4.0 programming language for triangle elements is shown at the following link: https://bit.ly/3l1oU0d.

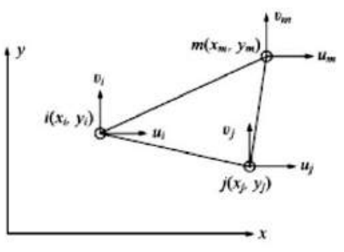


Figure 18. The degrees of freedom of triangular element

And already written on line 254 – 271

Point 22: "Line 196-202 is not clear, what do you mean? What is the stiffness? Where is the dynamic testing for the beam?."

The next step is validating the stiffness of the beam and bridge frames. Load-displacement relationship diagrams of experimental results, laboratory results, and FEM analysis results are combined into one graph. The maximum test load of the bridge becomes the stiffness control limit, which is 15.50 kN. Based on the displacement of the laboratory test results and the displacement of the field experiments results of the bamboo reinforced concrete frame precast bridge at a stop load of 15.50 kN, obtained the displacement ratio of the laboratory test results to the displacement of the field experiment results (Δ_{Exp} /Δ_{LAB}) = 2.6 for the bridge frame, and 4.07 for the bridge beam. Figure 32 and Figure 33 shows that the stiffness of the precast bridge beam and precast bridge frame increases ± 80% for the beam stiffness and increases ± 60% for the frame stiffness if it is used as an integral part of other bridge elements.

already written on line 297 – 406, and

Calculation of aerodynamic effects due to wind loads and dynamic analysis on precast concrete bamboo bridges were not carried out. Based on the Earthquake Resistance Standard for Bridges, SNI 2833-2008 dynamic analysis needs to be carried out for bridge types with complex behavior, one of which is the main span exceeding 200 meters. In this study, the bridge width is 2.24 meters and the bridge span is 3.20 meters, and the ratio of the bridge width to the bridge span of 0.7 is still stable against aerodynamic effects due to wind loads according to Leondhart's requirements ($B \geq L/25$) and still meets the maximum deflection requirements. AASHTO and RSNI T-12-2004 that is $\Delta max = L/800 = 3.75$ mm

And already written on line 389 – 396.

Point 23: "Line 204, the conclusions are weak. Please use bullet points to highlight main conclusions"

The following conclusions have been added:

The minimum beam deformation occurs when the car axle is right on the neutral line of the beam, this shows that the coupling moment or torque due to the load is a factor that greatly affects the size of the beam deformation. Gravity load right on the neutral line can reduce deformation and increase the deflection of the beam and bridge frame, and the size of the torque moment can affect the size of the deformation.

There is a difference in the maximum deformation occurrence between the beam and the bridge frame, namely the maximum beam deformation occurs when the load is outside the beam coordinates, while the maximum frame deformation occurs when the load is in the middle of the bridge span and outside the frame coordinates.

Precast bamboo reinforced concrete frame bridges have sufficiently good integrity, that is, they can distribute loads with deflection and deformation that do not exceed their permits. The maximum displacement of 0.25 mm meets the requirements based on the AASTHO and RSNI T-12-2004 standards, which is not more than $\Delta_{max} = L/800 = 3.75$ mm. The maximum deformation occurs in the bridge beam of 0.20 mm, and the bridge frame of 0.13 mm meets the requirements based on the AASTHO and RSNI T-12-2004 standards, which is not more than $\delta_{max} = L/800 = 3.75$ mm..

already written on line 414 – 429, and

Point 24: "Line 210-213, 0.25 mm is static deformation, how about dynamic and long term deformation, how about effect of wind, earthquake and water and humidity? Please include all these in your modeling"

Calculation of aerodynamic effects due to wind loads and dynamic analysis on precast concrete bamboo bridges were not carried out. Based on the Earthquake Resistance Standard for Bridges, SNI 2833-2008 dynamic analysis needs to be carried out for bridge types with complex behavior, one of which is the main span exceeding 200 meters. In this study, the bridge width is 2.24 meters and the bridge span is 3.20 meters, and the ratio of the bridge width to the bridge span of 0.7 is still stable against aerodynamic effects due to wind loads according to Leondhart's requirements ($B \geq L/25$) and still meets the maximum deflection requirements. AASHTO and RSNI T-12-2004 that is $\Delta_{max} = L/800 = 3.75$ mm.

And already written on line 389 – 396

Point 25: "Bamboo is a natural material and subjects to degradation, how do you control this within the beam after one year, or after 5 year?"

The planned life of the bridge is 10 years. The determination of the age of the bridge in this study is based on opinions and research on the resistance of bamboo as concrete reinforcement that has been carried out by several researchers including Hidalgo (1992) in Sattar (1995), Ghavami (2005), Rong BS (2007), Lima Jr et al. (2008). After the design life of the bridge is reached, a gradual visual observation of the deflections and cracks will be carried out. Observations will be carried out every year with the main objective of observing the durability of bamboo as the concrete reinforcement of the bridge elements. Measured parameters during the observation period are deflection and cracks that may occur due to the decreased durability of bamboo reinforcement.

Hidalgo (1992) in Sattar (1995) reports that a house in Colombia whose ceiling and walls are made of bamboo plastered with cement mortar can last for more than ninety years. Ghavami (2005) mentions that after testing, bamboo reinforced concrete beams are left in the open air at the PUC Rio Brasil university campus, bamboo reinforcements from treated beams show that the bond with the concrete is still in satisfactory condition after 15 years. B.S. Rong (2007), in his opening speech at the First International Conference On Modern Bamboo Structure (ICBS-2007) in Changsha, China, states that the bamboo reinforcement that is used as a substitute for steel reinforcement in precast floor plate elements for a five-story office building still functions well after more than fifty years of use, so bamboo reinforcement can be used as a substitute for steel reinforcement with the level of durability is good. Lima Jr et al. (2008) experimented on the Dendrocalamus giganteus bamboo species showing that bamboo with 60 cycles of wetting and drying in a calcium hydroxide solution and tap water did not decrease its tensile strength and Young Modulus. This is an important factor of the material for use as concrete reinforcement.

And already written on line 233 – 253

Response to Reviewer 4 Comments

English Editing uses "Language Editing" from MDPI

Point 1: "As i mentioned n my previous comments, please include more literature in your introduction. Using bamboo as reinforcement in concrete, using bamboo as beams and columns is not new nor novel. it has been studies since 1900 by many researchers around the world. i recommend reading state of the art research and review papers on using bamboo as building elements. for instance in line 61 you have pointed to the method for preserving bamboo from insects attack. These methods are no longer have the same effects as described in many new research papers that only soaking in water alone will not leave the insects away."

Additional references have been made, including:

Moe Thwe (2003) [51] conducted a study on the durability of bamboo with treatment using Calcium Hydroxide (CaOH2) to increase flexibility and durability.

already written on line 74 – 75, and

The thermal effect of Sikadur®-752 on bamboo reinforcement can be prevented by the moisture content of 12% in bamboo. In determining the strength of bamboo, 12% of moisture content in the air-dry condition has been considered as a reference standard [48] and the temperature does not significantly affect the loss of stiffness [49]. Chemical treatment of bamboo helps increase the durability of the bamboo fibers and reduces the moisture absorption of the bamboo fibers [50].

already written on line 210 – 215, and

Muhtar et al. (2018) [11] test the pull-out of bamboo reinforcement with a layer of Sikadur®-752 and hose clamps embedded in a concrete cylinder showed an increase in tensile stress of up to 240% compared to untreated bamboo reinforced concrete. A single reinforced BRC beam with a bamboo reinforcing area ratio of 4% exceeds the ultimate load of steel-reinforced SRC beam by 38.54% with a steel reinforcement area ratio of 0.89% [3].

already written on line 60 – 64, and

(4) Muhtar et al. (2019) [3] processing bamboo reinforcement by immersing in water for 1 month, coating with Sikadur®-752, and applying a hose clamp. The pull-out test results show that the bond-stress increases by 200% when compared to untreated bamboo. Sikadur®-752 adhesive is quite effective in preventing the occurrence of hygroscopic and hydrolysis processes between bamboo and concrete. The non-adhesive hose-clamp does not affect bond-stress.

already written on line 91 – 96, and

and (10) Muhtar (2020) [12] conducted a flexural test on 4 beams with untreated bamboo reinforcement and treated with Sikadur®-752 and hose-clamp. The test results showed that the beam treated with Sikadur®-752 increased load capacity by 164% when compared to untreated reinforced bamboo. With the first treatment, bamboo is suitable for use as a simple construction concrete reinforcement.

Already written on line 119 – 123

Point 2: "Line 141 - 149 is not clear. there should be a clear distinction between current work of the author and the previous one"

In this study, strengthening of reinforcement with hose-clamp is only to tensile reinforcement, whereas in previous studies it was carried out on all reinforcement. The hose-clamps strengthening with the distance is too tightly together can reduce the elastic properties of the bamboo and reduce capacity. The bridge frame model used in this study is a rigid frame model or "frame model" as in the experiment conducted by Muhtar et al. (2020) [23]. The reinforcement model on the lower side frame stem is installed with the concept of flexural reinforcement, whereas in previous studies it was carried out with the concept of truss reinforcement or symmetry, and their behavior shows flexural behavior.

Already written on line 158 – 165

Point 3: Line 164; what is the ref for your table?

No, reference from:

47. A. Hosta, A. Fahmi, and M. Farid. Mechanical and thermal properties of Indonesian ori bamboo and petung bamboo: Effects of heat treatment. *Proceedings of The National Seminar on Materials and Metallurgy (SENAMM V).* pp. 238–243, **2012.**

Table 1. Mechanical properties of petung bamboo [47]

Mechanical properties	
Tensile strength (MPa)	105±8
Modulus of elasticity (GPa)	26±5
Elongation of fault (%)	16±1
Flexural strength (MPa)	153±11
Hardness (VHN)	5±1
Impact strength (J/mm2)	0.15±0.7

And already written on line 186

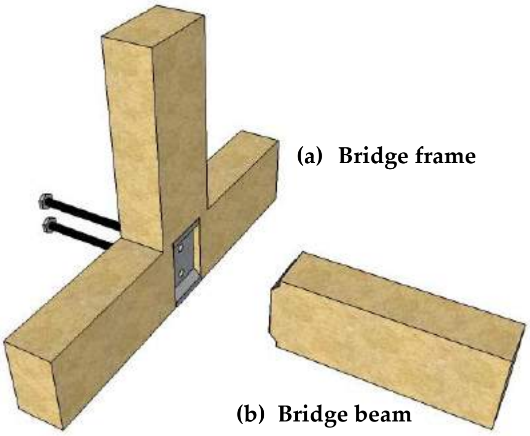
Point 4: "In Table 2 as you mentioned, the thermal expansion of the Sikadur is much higher than bamboo, how do you mitigate this thermal expansion in your design? given in indonesia we have high tempratures in summer."

The thermal effect of Sikadur®-752 on bamboo reinforcement can be prevented by the moisture content of 12% in bamboo. In determining the strength of bamboo, 12% of moisture content in the air-dry condition has been considered as a reference standard [48] and the temperature does not significantly affect the loss of stiffness [49]. Chemical treatment of bamboo helps increase the durability of the bamboo fibers and reduces the moisture absorption of the bamboo fibers [50].

And already written on line 210 – 215

Point 5: "Figure 11 lacks the quality, the text is very blur"

It has been replaced with high-quality photos, as follows:



(a) Bridge frame

(b) Bridge beam

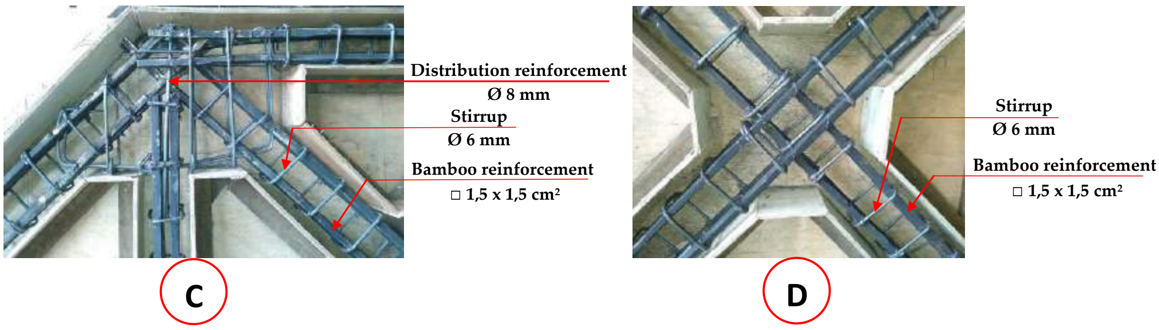
(c) Precast bridge frames

Point 6: "Figure 15, lacks quality, please revise the text, they cant be read."

It has been replaced with high-quality photos, as follows:

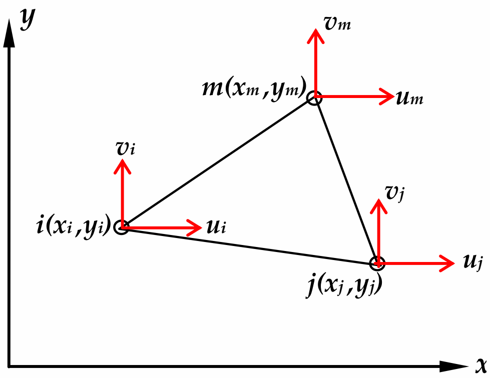
A

B



Point 7: "Figure 19 lacks quality, text cannot be read"

It has been replaced, as follows:



Point 8: "Line 397; stiffness of the bridge was calculated based on what primary conditions? this is not clear."

The next step is validating the stiffness of the beam and bridge trusses. The main principle is that the bridge must be in a service condition with a Serviceability Limit State (SLS) load. The elements of the bridge structure should not be subjected to cracks, deflection, or vibrations causing user discomfort. The allowable deflections are those that are elastic deflection and do not cause the crack. Stiffness is the main parameter of structural resistance. Therefore, the stiffness of the field test results needs to be validated by the stiffness of the laboratory test results.

And already written on line 428 – 433