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pISSN 2541-0598 (Print)
eISSN: 2541-1217 (Online)
DOI: 10.30822/arteks

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11.11.2023 CODE PAPER: ARTEKS #2621

Paper acceptance letter

to: **Ulinata, Sally Septania Napitupulu, Adinda Garda Merah, Kristoforus Dandy**

Affiliation: Department of Architecture, Faculty of Engineering,
Universitas Kristen Indonesia

Dear Authors,

We are pleased to inform you that your paper entitled **“Evaluation of space comfort based on occupant satisfaction in West Jatinegara flats residential units”** was reviewed by 2 reviewers and got positive opinion. This paper has been accepted for publication at the peer-reviewed **“ARTEKS : Jurnal Teknik Arsitektur”**, to be published in December 31, 2023 (volume 8, issue 3).

You can monitoring the manuscript progress on

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Chairman of the Editorial Board:



Reginaldo Ch. Lake

Certificate of Proofreading

This document certifies that the manuscript was edited for proper English language, grammar, punctuation, spelling, and overall style by one or more of the highly qualified native English speaking editors at ARTEKS : Jurnal Teknik Arsitektur



Manuscript Title

Evaluation of space comfort based on occupant satisfaction
in West Jatinegara flats residential units

Author (s)

Ulinata, Sally Septania Napitupulu, Adinda Garda Merah, Kristoforus Dandy

Date Issued

November 10, 2023

doi: 10.30822/arteks.v8i3.2621

Catatan Koreksi dari reviewer :

The screenshot shows the ARTEKS journal dashboard with a notification titled "[ARTEKS] Editor Decision" dated 2023-10-17 02:48 PM. The notification is addressed to Ulinata Ulinata and concerns a submission titled "Thermal Comfort based on Occupant Activities in West Jatinegara Flats Residential Units". The decision is "Revisions Required".

[ARTEKS] Editor Decision
2023-10-17 02:48 PM

Ulinata Ulinata:

We have reached a decision regarding your submission to ARTEKS : Jurnal Teknik Arsitektur, "Thermal Comfort based on Occupant Activities in West Jatinegara Flats Residential Units".

Our decision is: Revisions Required

ARTEKS
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tarstekturunwira@gmail.com

Reviewer A:
Recommendation: Revisions Required

1. The topic is relevant to the scope of the journal
Yes

Your Comment on Topic:
The title is appropriate to the topic and relevant to the scope of the journal. However, the title does not describe the content of the article.
2. The article is written in English or in Indonesian (with maximum of 4000 words)
Yes

Your Comment on maximum words:
The article is written in English or in Indonesian
3. The title is precise, concise, and clear which adheres to the substance of the topic and does not provide multiple interpretation

The screenshot shows the ARTEKS journal dashboard with a notification titled "[ARTEKS] Editor Decision" dated 2023-10-17 02:48 PM. The notification is addressed to Ulinata Ulinata and concerns a submission titled "Thermal Comfort based on Occupant Activities in West Jatinegara Flats Residential Units". The decision is "Revisions Required".

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Yes

Your Comment on maximum words:
The article is written in English or in Indonesian
3. The title is precise, concise, and clear which adheres to the substance of the topic and does not provide multiple interpretation
No

Your Comment on Title:
The title does not match the substance of the topic and provides multiple interpretations
4. The context is original
Yes

Your Comment on original:
This research is a field survey research to collect research data which is then analyzed and concluded
5. The abstract describes the content of the article (with maximum of 200 words in length)
Yes

Your Comment on abstract:
Already appropriate. The abstract describes the contents of the article. The number of words is sufficient.
6. The key words are written in English and Indonesian
Yes

Comments on key words:
Already appropriate. Keywords are written in English and Indonesian.

7. The Introduction section covers:
a. Background of the study, problem statements, objectives and significance of the study, research design, literature review, and hypothesis (if any)
No

Comments on Introduction:
Unclear: research background, problem formulation, research objectives and significance, research design, literature review, and hypothesis.

ARTEKS : Jurnal

My Submission < 2621

Ulinia

Workflow

Submission

Review

Review Round

Review Round

Copyediting

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Title & Abstract

Contributors

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References

Galleys

Notifications

Comments on Introduction:

Unclear, research background, problem formulation, research objectives and significance, research design, literature review, and hypothesis.

b. Hypothetical stands that become the research questions

No

Your Comment on Introduction:

There is no hypothesis established as a research question.

c. The introduction section is extended from the abstract so no sub-sections follow

Yes

Your Comment on Introduction:

It is true that the introductory section is expanded from the abstract.

d. Statement of novelty and state of art

Yes

Your Comment on Introduction:

There are no claims of novelty or sophistication

8. Research Method:

a. The data are up-to-date; the selection of samples represents the issue and object of the study

No

Comments on Research Method:

The data displayed cannot be read. The sample selection adequately represents the problems and research objects.

b. The method used is robust and vigorous

No

Your Comment on Research Method:

The method used is not strong enough, because it does not use the thermal comfort standards that are generally used in Indonesia according to the research object. Examples of standards carried out are not in accordance with SNI thermal comfort standards.

9. Result and Discussion:

a. The result of the analysis answers the research questions

No

07:47
06/10/2025

ARTEKS : Jurnal

My Submission < 2621

Ulinia

Workflow

Submission

Review

Review Round

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Notifications

Your Comment on Result and Discussion:

The research results cannot answer the level of residential thermal comfort because there is no normal value as a standard of thermal comfort that can be used as a reference.

b. Data are displayed in tables, diagrams or figures (each table, diagram, or figure is referred in the body of the article)

No

Your Comment on Result and Discussion:

Data displayed in the form of tables, diagrams or images cannot be read.

c. The findings of the study contribute to the development of scientific knowledge

No

Your Comment on Result and Discussion:

Research findings do not contribute to the development of scientific knowledge

10. The conclusion made is based on the result analysis and discussion. [there is a consistency among the research problems, objectives of the research, and the conclusion]

Yes

Your Comment on Conclusion:

Conclusions are drawn based on the results of analysis and discussion.

11. References:

a. At least 20 references cited are research report articles, and at least 40 are literature reviews

No

Your Comment on References:

The number of references is only 15

b. Eighty percent of references contain primary references [journal articles, articles from proceedings, thesis, and dissertations]

Yes

Your Comment on References:

Eighty percent of references contain primary references [journal articles, articles from proceedings, thesis, and dissertations]

c. Eighty percent of references are current [published within the last five years]

Yes

Your Comment on References:

Eighty percent of references are current [published within the last five years]

12. The length of Introduction and Method sections is 40% of the whole body of the article and findings and conclusion sections is 60%

07:47
06/10/2025

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My Submission

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Your Comment on References:

Eighty percent of references are current (published within the last five years)

12. The length of Introduction and Method sections is 40% of the whole body of the article and findings and conclusion sections is 60%

Yes

Your Comment on Article Proportion:

The length of Introduction and Method sections is 40% of the whole body of the article and findings and conclusion sections is 60%

13. Note and Recommendation:

Overall, this article does not appear to be a scientific article that is written in a straightforward manner with a good writing structure. The title promises information on thermal comfort in residences based on occupant activity. However, the research data presented relates to residents' perceived thermal satisfaction. It is a shame that the data from this study cannot be read. So the analysis, discussion and conclusions do not appear to have a clear relationship.

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My Submissions

2621

Ulinata et al.

Evaluation of space comfort based on occupant satisfaction in west Jatinegara flats residential units

Published

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References

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Review Discussions

Add discussion

Name	From	Last Reply	Replies	Closed
format Tabel	arteks	2023-11-06 08:59 AM	0	☐
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Pengisian Declaration form ARTEKS, FREE PLAGIARISM STATEMENT and COPYRIGHT STATEMENT	arteks	2023-11-08 09:56 PM	2	☐

07:38 06/10/2025

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My Submissions

2621

Ulinata et al.

Evaluation of space comfort based on occupant satisfaction in west Jatinegara flats residential units

Published

Library

Review Round 1

Review Round 2

Review Round 3

Copyediting

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Publication

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Contributors

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References

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Status

The submission advanced to the next review round, was accepted, and is currently in the Production stage.

Notifications

[ARTEKS] Editor Decision	2023-10-17 02:48 PM
[ARTEKS] Editor Decision	2023-11-10 01:32 PM
[ARTEKS] Editor Decision	2023-12-26 09:54 AM

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9260	Other, Certificate of Proofreading_Ulinata_Sally Septania Napitupulu_Adinda Garda ...	2023-11-10	Other
9259	Article Text, artikel penelitian rusun jatinegara in english update 10 nov 23 rev.docx	2023-11-10	Article Text

07:39 06/10/2025

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ARTEKS : Jurnal

2621

Notifications

[ARTEKS] Editor Decision

2023-12-26 09:54 AM

Ulinata, Sally Septania Napitupulu, Adinda Garda Merah, Kristoforus Dandy;

The editing of your submission, "Evaluation of space comfort based on occupant satisfaction in west jatinegara flats residential units," is complete. We are now sending it to production.

Submission URL: <https://www.jurnal.unwira.ac.id/index.php/ARTEKS/authorDashboard/submission/2621>

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ARTEKS : Jurnal

2621

Notifications

Reviewer A:

Recommendation: Accept Submission

1. The topic is relevant to the scope of the journal
Yes

Your Comment on Topic:

2. The article is written in English or in Indonesian (with maximum of 4000 words)
Yes

Your Comment on maximum words:

3. The title is precise, concise, and clear which adheres to the substance of the topic and does not provide multiple interpretation
Yes

Your Comment on Title:

4. The context is original
Yes

Your Comment on original:

5. The abstract describes the content of the article (with maximum of 200 words in length)
Yes

Your Comment on abstract:

6. The key words are written in English and Indonesian
Yes

Comments on key words:

7. The Introduction section covers:
a. Background of the study, problem statements, objectives and significance of the study, research design, literature review, and hypothesis (if any)
Yes

07:42 06/10/2025

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Comments on key words:

7. The Introduction section covers:

a. Background of the study, problem statements, objectives and significance of the study, research design, literature review, and hypothesis (if any)

Yes

Comments on Introduction:

b. Hypothetical stands that become the research questions

Yes

Your Comment on Introduction:

c. The introduction section is extended from the abstract so no sub-sections follow

Yes

Your Comment on Introduction:

d. Statement of novelty and state of art

Yes

Your Comment on Introduction:

8. Research Method:

a. The data are up-to-date; the selection of samples represents the issue and object of the study

Yes

Comments on Research Method:

b. The method used is robust and vigorous

Yes

Your Comment on Research Method:

9. Result and Discussion:

a. The result of the analysis answers the research questions

Yes

Your Comment on Result and Discussion:

b. Data are displayed in tables, diagrams or figures (each table, diagram, or figure is referred in the body of the article)

Yes

07:43
06/10/2025

Journal : Journal

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Notifications

Your Comment on Result and Discussion:

b. Data are displayed in tables, diagrams or figures (each table, diagram, or figure is referred in the body of the article)

Yes

Your Comment on Result and Discussion:

c. The findings of the study contribute to the development of scientific knowledge

Yes

Your Comment on Result and Discussion:

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Yes

Your Comment on Conclusion:

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Your Comment on References:

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Yes

Your Comment on References:

c. Eighty percent of references are current (published within the last five years)

Yes

Your Comment on References:

12. The length of Introduction and Method sections is 40% of the whole body of the article and findings and conclusion sections is 60%

Yes

Your Comment on Article Proportion:

13. Note and Recommendation:

Accepted

07:44
06/10/2025

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To: Ulinata

Sat, Nov 11, 2023 at 5:05 PM

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You have been added to a discussion titled "Letter of Accepted #2621" regarding the submission "Thermal Comfort based on Occupant Activities in West Jatinegara Flats Residential Units".

Link: <https://journal.unwira.ac.id/index.php/ARTEKS/authorDashboard/submission/2621>

Reginaldo Christophori Lake

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new! grapes gone wild

07:54 06/10/2025

Kenyamanan Termal berdasarkan Aktivitas Penghuni di Unit Hunian Rumah Susun Jatinegara Barat

XXXXXXXXXXXXXXXXXX

XXXXXXXXXXXXXXXXXX

Abstract

Daerah Khusus Ibukota (DKI) Jakarta merupakan daerah yang mengalami pertumbuhan penduduk di setiap tahunnya sehingga mengakibatkan kenaikan jumlah kebutuhan terkait hunian dan terbatasnya lahan kosong untuk dijadikan hunian. Diperlukan sebuah strategi untuk mengatasi keterbatasan lahan untuk hunian yaitu dengan menyediakan rumah susun salah satunya Rumah Susun Jatinegara Barat. Diperlukan sebuah usaha untuk meminimalisir persoalan penghuni rumah susun tersebut dalam melangsungkan kehidupannya termasuk dalam segi kenyamanan. Penghuni merasakan nyaman jika berada pada suhu termal antara 22,8 °C-25,8 °C dengan kelembaban sebesar 70%. Penelitian yang berjudul Kenyamanan Termal berdasarkan Aktivitas Penghuni di Unit Hunian Rumah Susun Jatinegara Barat bertujuan untuk mengkaji desain dan memberikan masukan terkait desain sebagai strategi perbaikan untuk meningkatkan kenyamanan penghuni. Metode kuantitatif adalah metode yang digunakan dalam penelitian ini yang dilakukan dengan mengumpulkan data primer maupun sekunder, melakukan wawancara dengan teknik *random sampling* minimal 10% dari jumlah penghuni. Hasilnya menunjukkan bahwa luasan unit dan desain bukaan belum baik dan kurang mendukung kenyamanan termal di dalamnya, diperlukan optimalisasi pertukaran udara di setiap ruang yang ada di unit hunian tersebut, diperlukan untuk mempertimbangkan letak bukaan, rasio luas bukaan dan material kaca yang digunakan, diperlukan penambahan luasan ruang agar setiap kegiatan dapat diakomodir sehingga dapat terasa nyaman.

Keywords: Desain, Kanyamanan Termal, Aktivitas Penghuni, Rumah Susun Jatinegara Barat

Abstract

Title: Title in English

DKI Jakarta is an area that experiences population growth every year, resulting in an increase in the number of needs related to housing and limited vacant land for residential use. A strategy is needed to overcome the limited land for housing, namely by providing flats, one of which is the West Jatinegara Flats. An effort is needed to minimize the problems of the occupants of the flats in carrying out their lives, including in terms of comfort. Residents feel comfortable when they are in a thermal temperature between 22.8 °C-25.8 °C with humidity of 70%. The research entitled *Thermal Comfort Design based on Occupant Activity in West Jatinegara Flats* aims to examine the design and provide input related to design as an improvement strategy to increase occupant comfort. The quantitative method is the method used in this research which is carried out by collecting primary and secondary data, conducting interviews with a random sampling technique of at least 10% of the number of residents. The results show that the area of the unit and the design of the openings are not good and do not support thermal comfort in them, it is necessary to optimize air exchange in every room in the residential unit, it is necessary to consider the location of the openings, the ratio of the area of the openings and the glass material used, it is necessary to increase the area space so that every activity can be accommodated so that it can feel comfortable.

Keywords: Design, Thermal Comfort, Occupant Activity, Jatinegara Barat Flats

Preface

Di Provinsi Daerah Khusus Ibukota (DKI) Jakarta terjadi peningkatan akan jumlah

kebutuhan hunian yang diakibatkan oleh pertumbuhan jumlah penduduk dari waktu ke waktu sehingga menyebabkan munculnya berbagai masalah di Provinsi Daerah Khusus

Ibukota (DKI) Jakarta tersebut (Indonesia & Timur, 2021). Permasalahannya diantaranya adalah berkurangnya ketersediaan lahan kosong sehingga agar hunian dapat mengakomodasi pertumbuhan penduduk dan tidak membutuhkan lahan yang begitu besar solusinya adalah dengan merencanakan dan membangun hunian secara vertikal yaitu rumah susun (Alvin & Liauw, 2022).

Rumah susun dapat didefinisikan sebagai bangunan gedung bertingkat yang dibangun dalam suatu lingkungan yang terbagi dalam bagian-bagian yang distrukturkan secara fungsional dalam arah horisontal maupun vertikal dan merupakan satuan-satuan yang masing-masing dapat dimiliki dan digunakan secara terpisah terutama untuk tempat hunian yang dilengkapi dengan bagian bersama, benda bersama dan tanah bersama (Rahmat et al., 2010).

Beberapa kriteria perencanaan pembangunan rumah susun sederhana (Rusuna) adalah sebagai berikut (Peraturan Menteri Pekerjaan Umum, 2007):

1. Kriteria Umum diantaranya sebagai berikut :

- a. Bangunan Rumah Rusuna Bertingkat Tinggi harus memenuhi persyaratan fungsional, andal, efisien, terjangkau, sederhana namun dapat mendukung peningkatan kualitas lingkungan di sekitarnya dan peningkatan produktivitas kerja.
- b. Kreativitas desain hendaknya tidak ditekankan kepada kemewahan material, tetapi pada kemampuan mengadakan sublimasi antara fungsi teknik dan fungsi sosial bangunan, dan mampu mencerminkan keserasian bangunan gedung dengan lingkungannya;
- c. Biaya operasi dan pemeliharaan bangunan gedung sepanjang umurnya diusahakan serendah mungkin.

2. Kriteria Khusus diantaranya sebagai berikut :

- a. Rusuna bertingkat tinggi yang direncanakan harus mempertimbangkan identitas setempat pada wujud arsitektur bangunan tersebut.
- b. Massa bangunan sebaiknya simetri ganda, rasio panjang lebar (L/B) < 3 , hindari bentuk denah yang mengakibatkan puntiran pada bangunan.
- c. Jika terpaksa denah terlalu panjang (> 50 m) atau tidak simetris: pasang dilatasi bila dianggap perlu.

- d. Lantai dasar dipergunakan untuk fasos, fasek dan fasum, antara lain : Ruang Unit Usaha, Ruang Pengelola, Ruang Bersama, Ruang Penitipan Anak, Ruang Mekanikal-Elektrikal, prasarana dan sarana lainnya, antara lain tempat penampungan sampah/kotoran.
- e. Lantai satu dan lantai berikutnya diperuntukan sebagai hunian yang 1 (satu) Unit Huniannya terdiri atas: 1 (satu) Ruang Duduk/Keluarga, 2 (dua) Ruang Tidur, 1 (satu) KM/WC, dan Ruang Service (Dapur dan Cuci) dengan total luas per unit maksimum 30 m².
- f. Luas sirkulasi, utilitas, dan ruang-ruang bersama maksimum 30% dari total luas lantai bangunan.
- g. Denah unit rusuna bertingkat tinggi harus fungsional, efisien dengan sedapat mungkin tidak menggunakan balok anak, dan memenuhi persyaratan penghawaan dan pencahayaan.
- h. Struktur utama bangunan termasuk komponen penahan gempa (dinding geser atau rangka perimetral) harus kokoh, stabil, dan efisien terhadap beban gempa.
- i. Setiap lantai bangunan rusuna bertingkat tinggi harus disediakan ruang bersama yang dapat berfungsi sebagai fasilitas bersosialisasi antar penghuni.
- j. Sistem konstruksi rusuna bertingkat tinggi harus lebih baik, dari segi kualitas, kecepatan dan ekonomis (seperti sistem formwork dan sistem pracetak) dibanding sistem konvensional.
- k. Dinding luar rusuna bertingkat tinggi menggunakan beton pracetak sedangkan dinding pembatas antar unit/sarusun menggunakan beton ringan, sehingga beban struktur dapat lebih ringan dan menghemat biaya pembangunan.
- l. Lebar dan tinggi anak tangga harus diperhitungkan untuk memenuhi keselamatan dan kenyamanan, dengan lebar tangga minimal 110 cm.
- m. *Railling*/pegangan rambat balkon dan selasar harus

mempertimbangkan faktor privasi dan keselamatan dengan memperhatikan estetika sehingga tidak menimbulkan kesan masif/kaku, dilengkapi dengan *balustrade* dan *railing*.

- n. Penutup lantai tangga dan selasar menggunakan keramik, sedangkan penutup lantai unit hunian menggunakan plester dan acian tanpa keramik kecuali KM/WC.
- o. Penutup dinding KM/WC menggunakan pasangan keramik dengan tinggi maksimum adalah 1.80 meter dari level lantai.
- p. Penutup meja dapur dan dinding meja dapur menggunakan keramik. Tinggi maksimum pasangan keramik dinding meja dapur adalah 0.60 meter dari level meja dapur.
- q. Elevasi KM/WC dinaikkan terhadap elevasi ruang unit hunian, hal ini berkaitan dengan mekanikal-elektrikal untuk menghindari sparing air bekas dan kotor menembus pelat lantai.
- r. Material kusen pintu dan jendela menggunakan bahan alumunium ukuran 3x7 cm, kusen harus tahan bocor dan diperhitungkan agar tahan terhadap tekanan angin.
- s. Plafond memanfaatkan struktur pelat lantai tanpa penutup (*exposed*).
- t. Seluruh instalasi utilitas harus melalui shaft, perencanaan shaft harus memperhitungkan estetika dan kemudahan perawatan.
- u. Ukuran koridor/selasar sebagai akses horizontal antarruang dipertimbangkan berdasarkan fungsi koridor, fungsi ruang, dan jumlah pengguna, minimal 1.2m.
- v. Setiap bangunan rusuna bertingkat tinggi diwajibkan menyediakan area parkir dengan rasio 1 (satu) lot parkir kendaraan untuk setiap 5 (lima) unit hunian yang dibangun.
- w. Jarak bebas bangunan rusuna bertingkat tinggi terhadap bangunan gedung lainnya minimum 4 m pada lantai dasar, dan pada setiap penambahan lantai/tingkat bangunan ditambah 0,5 m dari jarak bebas lantai di bawahnya sampai mencapai jarak bebas terjauh 12,5 m.

Bangunan seperti halnya sebuah rumah susun umumnya dirancang oleh seorang arsitek dan arsitek berkewajiban untuk membuat hasil rancangan sebuah bangunan tidak hanya mempertimbangkan faktor estetika atau keindahan melainkan juga mempertimbangkan faktor kenyamanan bagi penghuni atau pengguna bangunan tersebut (Suwandi & Nur'aini, 2021).

Masyarakat Indonesia merasakan nyaman jika berada pada rentang suhu 22,8°C - 25,8°C dengan kelembaban 70% (Ramawangsa, 2021). Kenyataannya, posisi geografis tersebut menunjukkan bahwa Indonesia dan Daerah Khusus Ibukota (DKI) Jakarta berada pada posisi yang dekat dengan garis khatulistiwa yang memiliki iklim eksternal tropis lembab (Tomasowa, 2013). Kelembaban di sepanjang tahun juga cukup tinggi yaitu sekitar 80% hingga 90%, pada bulan Desember hingga Januari juga memiliki kondisi curah hujan yang tinggi sekali serta pada kondisi tertentu suhu di Daerah Khusus Ibukota (DKI) Jakarta juga merasakan rentang suhu dimana sebagian masyarakat merasakan tidak nyaman (Wati & Fatkhuroyan, 2017). Hal ini menyebabkan beberapa permasalahannya bagi masyarakat Indonesia khususnya Daerah Khusus Ibukota (DKI) Jakarta karena akan mengakibatkan produktivitas menjadi menurun yang disebabkan oleh kondisi suhu yang membuat kurang nyaman seperti sangat dingin atau sangat panas. Sehingga, diperlukan penelitian agar dapat melakukan survey dan pengukuran kondisi kenyamanan termal, suhu dan kecepatan angin di sebuah rumah susun karena aktivitas penghuni sehingga diketahui bagaimana kondisinya apakah perlu diberikan rekomendasi untuk meningkatkan kenyamanan termal atau mungkin sudah cukup. Kenyamanan termal dapat diartikan sebagai keadaan seseorang yang dapat menyampaikan kepuasannya terhadap lingkungan termalnya (Latifah et al., 2013).

Penelitian yang berjudul Kenyamanan Termal berdasarkan Aktivitas Penghuni di Unit Hunian Rumah Susun Jatinegara Barat bertujuan untuk memberikan masukan terhadap Kenyamanan Termal berdasarkan Aktivitas Penghuni di Unit Hunian Rumah Susun Jatinegara Barat sebagai strategi perbaikan untuk meningkatkan kenyamanan penghuni rumah susun tersebut. Hasil penelitian ini akan menjadi sebuah pertimbangan pada perancangan dan pembangunan rumah susun selanjutnya sehingga arsitek, praktisi, pengembang dan pihak lainnya yang berkontribusi pada tahap

perancangan serta pembangunan rumah susun selanjutnya mempertimbangkan faktor kenyamanan termal dan aktivitas penghuni agar nantinya penghuni merasakan nyaman dalam beraktivitas di rumah susun tersebut.

Research Method

Sebelum penelitian dilakukan, peneliti melakukan pendekatan dahulu dengan cara mengkaji beberapa artikel jurnal nasional maupun jurnal internasional dari tiga (3) penelitian sejenis. Kajian tersebut diperlukan sehingga dapat diketahui metode apa yang akan dipakai dan digunakan peneliti sebelumnya. Dari hasil kajian tersebut dapat dipilih atau ditentukan metode penelitian yang paling cocok dengan penelitian ini.

Penelitian pertama berjudul Evaluasi Purna Huni Rumah Susun Sewa Puda di Kota Kendari yang dilakukan pada tahun 2016 oleh Achmad Sepryadi, Ir. Agam Marsoyo, M.Sc., Ph.D., Dr. Ir. Budi Kamulyan, M.Eng yang mendeskripsikan hasil evaluasi purna huni rumah susun puda di Kelurahan Lapulu Kota Kendari dengan menggunakan metode penelitian deduktif kuantitatif dan kualitatif. Penelitian kedua berjudul *Post Occupancy Evaluation* (POE) pada Bangunan Rusun Prov.Banten (Studi Kasus “Pembangunan Rusun MBR di Prov.Banten) yang mendeskripsikan hasil kepuasan penghuni. Pada penelitian ini menggunakan metode kuantitatif. Penelitian ketiga berjudul Kenyaman Termal pada Rumah Susun di Jakarta Barat oleh Susanto, Sigit Wijaksono, Albertus Galih Prawata yang mendeskripsikan bagaimana menciptakan kenyamanan termal rumah susun di Jakarta Barat dengan menggunakan metode kuantitatif. Penelitian ini menggunakan beberapa pendekatan yang berasal dari tiga penelitian yang telah dilakukan pada sejumlah peneliti d i m a n a t e r d a p a t beberapa padanan judul serta latar belakang permasalahan di penelitian ini.

Diambil dari tiga penelitian sejenis yang pernah dilakukan sebelum penelitian ini, maka untuk Penelitian berjudul Kenyamanan Termal berdasarkan Aktivitas Penghuni di Unit Hunian Rumah Susun Jatinegara Barat adalah menggunakan pendekatan kuantitatif yang menggunakan metode riset evaluasi purna huni yang juga berfokus pada bagaimana kondisi kebutuhan termal dan aktivitas penghuni pada rumah susun

Jatinegara Barat tersebut setelah purna huni. Adapun proses mengumpulkan datanya diperoleh dari studi literatur, observasi serta wawancara atau *interview* kepada penghuni rumah susun

Proses awal penelitian menggunakan proses dengan cara menjelaskan apa latar belakang dari penelitian sehingga dapat menyampaikan fakta di lapangan lalu merumuskan permasalahan yang terjadi sehingga mendapatkan hasil penelitian yang dituju. Ada dua proses metode penelitian yang akan dijalankan dalam penelitian ini diantaranya adalah observasi dan wawancara.

1. Observasi

Observasi didapatkan dari pengamatan langsung ke lokasi studi kasus. Dari hasil observasi lapangan nantinya peneliti akan mendapatkan data-data primer dan sekunder yang peneliti butuhkan sebagai bahan dalam melakukan penelitian. Dalam tahapan observasi, peneliti akan melakukan beberapa tahapan sebelumnya diantaranya adalah sebagai berikut :

- Studi Literatur Pustaka

Studi literatur pustaka dilakukan untuk mendapatkan variabel yang akan diteliti dalam tahap observasi. Adapun studi pustaka didapatkan dari penelitian sejenis. Dari penelitian tersebut peneliti mencari kesamaan variabel yang kemudian peneliti sesuaikan dengan teori-teori arsitektur yang peneliti gunakan dalam penelitian ini, sehingga didapatkan variabel bab tinjauan pustaka. Peneliti juga mencari studi pustaka mengenai teori-teori dan standar rumah susun, kebutuhan termal dan aktivitas penghuni. Sumber studi pustaka ini diperoleh dari artikel jurnal nasional dan internasional, artikel prosiding nasional dan internasional, buku atau sumber pustaka lainnya yang diakses melalui internet.

- Pengumpulan Data

Dalam tahapan ini, proses pengumpulan data dilakukan dengan membuat instrumen yang diambil berdasarkan variabel.

2. Peralatan Observasi

Peralatan observasi yang digunakan peneliti dalam penelitian yang berjudul Kenyamanan Termal berdasarkan Aktivitas

Penghuni di Unit Hunian Rumah Susun Jatinegara Barat ini diantaranya yaitu :

- Kamera
Kamera dipakai agar dapat merekam hal-hal atau kejadian apa saja yang terjadi pada lokasi penelitian dengan bentuk foto. Kamera yang digunakan adalah kamera *handphone*. Hasilnya akan didokumentasikan serta dianalisis secara visual setelah itu dideskripsikan serta di klasifikasikan berdasarkan kriteria yang diperoleh dalam variable tersebut.
- Buku serta Peralatan Tulis
Buku serta peralatan tulis dipakai agar dapat mencatat informasi penting yang terdapat pada rumah susun tersebut.

3. Lokasi Penelitian

Lokasi penelitian adalah Rumah Susun Jatinegara barat yang berlokasi di Jl. Raya Jatinegara Barat No.10, RT.10/RW.1, Kp. Melayu, Kecamatan Jatinegara, Kota Jakarta Timur, Daerah Khusus Ibukota Jakarta 13320.

4. Waktu Penelitian

Penelitian ini berlangsung pada bulan maret dan September untuk melihat kebutuhan termal dan aktivitas penghuni saat penghuni berada di rumah susun tersebut di lantai 4, 10 dan 15 saja pada tower A dan B karena batasan waktu penelitian.

5. Populasi dan Sampel Penelitian

Populasi penelitian ini adalah penghuni rumah susun. Karena populasinya banyak, akan digunakan sampel.

Sampel penelitian ini dipilih menggunakan pada awalnya dengan cara simple random *sampling* (sederhana). Sampel penelitian dengan cara simple *random sampling* merupakan sebuah cara mengambil sampel yang diperoleh dari populasi dengan sistem acak tanpa memperhatikan jenjang kelas yang terdapat pada populasi itu (Sugiyono, 2001). Sampel diklasifikasikan dimana kriteria memilih responden seperti yang tertera di bawah ini:

- a. **Penghuni Rumah Susun**, yaitu pihak yang menempati/menghuni (*user*) Unit rumah susun pada Rumah Susun Jatinegara Barat.
- b. **Unit pengelola teknis rumah susun Jatinegara Barat**, yaitu suatu

pengelola yang bertugas untuk mengelola Unit rumah susun Jatinegara Barat.

6. Sumber Data, Teknik Pengumpulan Data dan Analisis Data

Teknik pengumpulan data analisis data serta sumber data yang digunakan untuk penelitian ini adalah sebagai berikut:

a. Sumber Data

1. Dokumen: dokumen-dokumen terkait dalam bentuk tulisan, gambar, foto, video, audio
2. Catatan: catatan-catatan yang terkait yang telah diarsipkan
3. Orang: keterangan dari mereka yang terlibat atau memberi keputusan
4. Artefak fisik: obyek-obyek fisik yang terkait

b. Pengumpulan Data

Dalam proses penyusunan penelitian ini dilakukan dengan cara mengumpulkan data yang susun dalam beberapa tahap diantaranya sebagai berikut:

1. Pengumpulan data primer, melakukan observasi atau pengamatan dengan penghuni.
2. Data sekunder, melakukan survey rumah susun ke lokasi penelitian secara langsung
3. Melakukan kajian studi literatur melalui buku, artikel pada jurnal atau prosiding nasional maupun internasional mengenai :
 - a. Standar, Peraturan serta Kriteria, Klasifikasi sebuah rumah susun.
 - b. Pengumpulan teori-teori mengenai teori dan standar rumah susun, kebutuhan termal dan aktivitas penghuni.

Discussion

Wawancara dan pengukuran telah dilakukan pada 36 unit hunian rumah susun, 18 unit pada masing-masing tower rumah susun. Dengan rata-rata penghuni telah menempati unit rumah susun selama 6 tahun dengan presentase 78 % (30 responden) penghuni merasa nyaman dan 22% (8 responden) merasa tidak nyaman tinggal di rumah susun. Berdasarkan wawancara pada 36 unit tersebut, dengan luas 30 m2 didapatkan 20 penghuni unit yang merasa cukup, 7 merasa kurang dan 8 merasa tidak cukup. Dari hasil wawancara dan

pengukuran termal pada tower A dan B dapat diambil kesimpulan bahwa :

1. Kondisi angin di unit hunian rumah susun kurang memadai. Pada kondisi terburuk, hujan dan angin besar, dapat membuat pintu area servis menimbulkan bunyi kencang dan gagang jendela kerap kali patah.
2. Kondisi suhu didalam rumah susun kurang memadai. Pada kondisi terburuk, musim panas, menyebabkan suhu tinggi sehingga diperlukan bantuan kipas angin yang terus menerus dinyalakan.
3. Kondisi kelembapan udara di dalam rumah susun kurang memadai. Kelembapan udara tinggi terjadi pada saat setelah hujan, yang menyebabkan penghuni merasa gerah di dalam unit.

Kondisi yang kurang memadai tersebut juga mempengaruhi kondisi fisik unit hunian. Dari hasil wawancara didapatkan data existing fasilitas hunian sebagai berikut :

Tower A

1. 7 unit hunian dengan kondisi jendela masih berfungsi dengan baik dan gagang jendela tidak rusak
2. 7 unit hunian dengan 1 buah pengait jendela rusak
3. 4 unit hunian dengan 2 buah pengait jendela rusak
4. Tampyas yang membuat air hujan masuk ke unit hunian dengan kondisi terburuk pada saat hujan besar dapat membuat banjir area kamar mandi.

Tower B

1. 9 unit hunian dengan kondisi jendela masih berfungsi dengan baik dan gagang jendela tidak rusak
2. 2 unit hunian dengan 1 buah pengait jendela rusak
3. 7 unit hunian dengan 2 buah pengait jendela rusak
4. Terjadi bocor pada area plafond saat hujan kencang dan area pinggir jendela yang disebabkan oleh pemasangan jendela kurang rapat
5. Tampyas yang membuat air hujan masuk ke unit hunian dengan kondisi terburuk pada saat hujan

Unit hunian yang dilakukan survey pengukuran suhu, kelembapan dan kecepatan angin adalah unit di lantai 4, 10 dan 15. Pada

lantai 4, survey pengukuran suhu, kelembapan dan kecepatan angin dilakukan pada unit yang diberikan kotak berwarna merah seperti yang terlihat pada gambar di bawah ini :



Gambar 1. Denah lantai 4 Pada Tower A yang dilakukan Survey Pengukuran Suhu, Kelembapan dan Kecepatan Angin
(Sumber : Penulis, 2022)

Pada unit 1 dilakukan survey pengukuran suhu, kelembapan dan kecepatan angin pada 2 periode yaitu pada bulan maret dan september dimana pada bulan maret dilakukan pada pagi hari hingga sore hari dengan kecepatan angin normal sehingga jendela pada kedua kamar tidur dapat dibuka secara maksimal. Hasil pengukuran suhu dari pagi hingga sore berada pada suhu di atas normal. Hasil pengukuran kelembapan masih dalam kategori normal/ideal.

Tabel 1. Hasil Survey Pengukuran Suhu, Kelembapan dan Kecepatan Angin Pada Unit 1 Lantai 4

UNIT 1																
Unit	Pukul & Cuaca		Suhu (°C)		Kelembapan (%)		Kecepatan Angin (m/s)									Keterangan
							Low Disruptive		Ambang Jendela		Ruang					
	Maret	September	Maret	September	Maret	September	Maret	September	Maret	September	Ruang	Maret	September			
1717 Candi	07:42	Cerah	31,6	30,8	65,6	64,4	1,43	0,75	0,81	0,42	R1	0,32	0,25	Jendela kamar dapat terdapat maksimal		
											R2	0,18	0,30			
											R3	0,37	0,26			
1111 Melayang	11:11	Angin kencang	30,8	32,3	62,9	57,3	2,53	3,36	0,77	0,42	R1	0,35	0,40	Jendela kamar dapat terdapat maksimal		
											R2	0,47	0,32			
											R3	0,24	0,27			
1532 Setabilis hujan	15:29	Cerah	30,5	32,4	63,3	50,9	1,26	3,81	0,47	0,47	R1	0,28	0,65	Jendela kamar dapat terdapat maksimal		
											R2	0,31	0,41			
											R3	0,22	0,34			

Pada unit 2 dilakukan survey pengukuran suhu, kelembapan dan kecepatan angin pada 2 periode juga yaitu pada bulan maret dan september dimana pada bulan september survey dilakukan pada pagi hari hingga sore hari dengan kecepatan angin lebih tinggi dibanding pada bulan maret sehingga menyebabkan ada bagian jendela di kamar tidur yang rusak. Hasil pengukuran suhu dari pagi hingga sore berada pada suhu di atas normal. Hasil pengukuran kelembapan masih dalam kategori normal/ideal.

Tabel 2. Hasil Survey Pengukuran Suhu, Kelembapan dan Kecepatan Angin Pada Unit 2 Lantai 4

UNIT 2															
Unit	Pukul & Cuaca		Suhu (°C)		Kelembapan (%)		Kecepatan Angin (m/s)								Keterangan
							(m/s)		Low Disruptive		Ambang Jendela		Ruang		
	Maret	September	Maret	September	Maret	September	Maret	September	Maret	September	Ruang	Maret	September		
	07:28	07:50	31,9	30,6	78,6	64,5	1,47	1,80	--	0,46	R1	0,11	0,11	Jendela rusak	
											R2	0,08	--		
												R3	0,12		0,11
	11:25	11:16	30,9	32,3	63,2	58,5	2,61	3,88	--	6,60	R1	0,12	0,11	Jendela rusak	
											R2	0,11	0,27		
												R3	0,24		0,12
	15:59	15:25	30,7	32,3	63,3	52,8	1,28	2,84	--	6,37	R1	0,08	0,12	Jendela rusak	
											R2	0,09	0,24		
												R3	0,21		0,13

Survey pengukuran suhu, kelembapan dan kecepatan angin dilanjutkan di lantai 10 pada tower A, pada unit yang diberi tanda kotak merah seperti pada gambar dibawah ini :



Gambar 2. Denah lantai 10 Pada Tower A yang dilakukan Survey Pengukuran Suhu, kelembapan dan kecepatan angin
(Sumber : Penulis, 2022)

Pada unit 1 dilakukan survey pengukuran suhu, kelembapan dan kecepatan angin dilakukan pada 2 periode yaitu pada bulan maret dan september dimana pada bulan september dilakukan pada pagi hari hingga sore hari dengan kecepatan angin lebih tinggi dibanding pada bulan maret sehingga menyebabkan ada bagian jendela kamar tidur yang rusak. Hasil pengukuran suhu dari pagi hingga sore berada pada suhu di atas normal. Hasil pengukuran kelembapan pada bulan maret mulai terasa lembab namun di bulan september menjadi normal/ideal kembali.

Tabel 3. Hasil Survey Pengukuran Suhu, Kelembapan dan Kecepatan Angin Pada Unit 1 lantai 10

UNIT 1															
Unit	Pukul & Cuaca		Suhu (°C)		Kelembapan (%)		Kecepatan Angin (m/s)						Keterangan		
							Luar Bangunan		Arah Jendela		Ruangan				
	Maret	September	Maret	September	Maret	September	Maret	September	Maret	September	Ruang	Maret		September	
	08.25	08.25	30,8	31,3	68,4	64,7	1,98	1,57	0,75	0,58		R1	0,56	0,37	Jendela ruang R1 rusak
	Cerah	Cerah										R2	0,18	0,21	
													R3	0,58	
	12.20	11.51			66,7	57,3	5,91	3,72	--	0,65		R1	0,12	0,31	Jendela ruang R1 rusak
	Hujan Angin	Angin kencang	31,5	32,3								R2	0,13	0,53	
													R3	0,37	
	16.55	16.52	30,8	32,6	66,5	51,5	6,67	8,34	--	0,84		R1	0,17	0,31	Jendela ruang R1 rusak
	Hujan Angin	Cerah										R2	0,21	0,77	
													R3	0,37	

Pada unit 2 dilakukan survey pengukuran suhu, kelembapan dan kecepatan angin dilakukan pada 2 periode yaitu pada bulan maret dan september yang dilakukan pada pagi hari hingga sore hari dengan kecepatan angin normal dan kondisi jendela dalam keadaan baik atau berfungsi serta tidak ada yang rusak. Hasil pengukuran suhu dari pagi hingga sore berada pada suhu di atas normal. Hasil pengukuran kelembapan pada bulan maret mulai terasa lembab namun di bulan september menjadi normal/ideal kembali.

UNIT 2															
Unit	Pukul & Cuaca		Suhu (°C)		Kelembapan (%)		Kecepatan Angin (m/s)								Keterangan
							Luar Bangunan		Arah Jendela		Ruangan				
	Maret	September	Maret	September	Maret	September	Maret	September	Maret	September	Ruang	Maret	September		
	09:37 Cerah	08:57 Cerah	30,9	31,1	67	62	3,13	1,44	-	0,24	R1	0,17	0,29	Jendela berfungsi	
											R2	-	0,18		
											R3	0,05	0,21		
	13:40 Sehabis hujan	12:38 Angin kencang	32	32,7	65,5	60,4	6,14	2,69	0,63	0,31	R1	0,42	0,21	Jendela berfungsi	
											R2	0,23	0,46		
											R3	0,44	0,32		
	17:50 Hujan angin	17:15 Cerah	31,3	32,6	64,7	49,4	7,08	2,10	-	0,39	R1	0,15	0,48	Jendela berfungsi	
											R2	0,17	0,44		
											R3	0,47	0,17		

Tabel 4. Hasil Survey Pengukuran Suhu, Kelembapan dan Kecepatan Angin Pada Unit 2 Lantai 10

Survey pengukuran suhu, kelembapan dan kecepatan angin kemudian dilanjutkan kembali di lantai 15 pada tower A, pada unit yang diberi tanda kotak merah seperti pada gambar dibawah ini :



Gambar 3. Denah lantai 15 Pada Tower A yang dilakukan Survey Pengukuran Suhu, kelembapan dan kecepatan angin
(Sumber : Penulis, 2022)

Pada unit 1 dilakukan survey pengukuran suhu, kelembapan dan kecepatan angin dilakukan pada 2 periode yaitu pada bulan maret dan september dimana pada bulan september dilakukan pada pagi hari hingga sore hari dengan kecepatan angin normal dan kondisi jendela dalam keadaan baik atau berfungsi serta tidak ada yang rusak. Hasil pengukuran suhu dari pagi hingga sore berada pada suhu di atas normal. Hasil pengukuran kelembapan pada bulan maret mulai terasa lembab namun di bulan september menjadi normal/ideal kembali.

Tabel 5. Hasil Survey Pengukuran Suhu, Kelembapan dan Kecepatan Angin Pada Unit 1 Lantai 15

UNIT 1														
Unit	Pukul & Cuaca		Suhu (°C)		Kelembapan (%)		Kecepatan Angin (m/s)							Keterangan
	Maret	September	Maret	September	Maret	September	Luar Bangunan		Arah Jendela		Ruangan			
							Maret	September	Maret	September	Ruang	Maret	September	
	09.25 Cerah	08.19 Cerah	30,7	31,7	70,9	62,3	3,24	2,52	0,46	0,28	R1	0,11	0,08	Jendela berfungsi
											R2	0,13	0,11	
												R3	0,11	0,15
	13.27 Angin kencang	12.31 Angin kencang	30,5	32,0	71,3	61,6	6,82	3,48	0,27	0,43	R1	0,58	0,20	Jendela berfungsi
											R2	0,11	0,21	
												R3	0,18	0,31
	17.47 Hujan angin	17.02 Cerah	30,5	32,6	70,8	49,4	7,21	4,39	--	0,90	R1	0,12	0,48	Jendela berfungsi
											R2	0,14	0,44	
												R3	0,15	0,27

Pada unit 2 dilakukan survey pengukuran suhu, kelembapan dan kecepatan angin dilakukan pada 2 periode yaitu pada bulan maret dan september dimana pada bulan september dilakukan pada pagi hari hingga sore hari dengan kecepatan angin normal dan kondisi

jendela dalam keadaan baik atau berfungsi serta tidak ada yang rusak. Hasil pengukuran suhu dari pagi hingga sore berada pada suhu di atas normal. Hasil pengukuran kelembapan pada bulan maret di pagi hari terasa agak lembab namun di siang dan sore hari serta di bulan september menjadi normal/ideal kembali.

Tabel 6. Hasil Survey Pengukuran Suhu, Kelembapan dan Kecepatan Angin Pada Unit 2 Lantai 15

UNIT 2													
Unit	Pukul & Cuaca		Suhu (°C)	Kelembapan (%)		Kecepatan Angin (m/s)							
						Luar Bangunan				Ruang			
	Maret	September	Maret	September	Maret	September	Maret	September	Maret	September	Maret	September	Keterangan
09.37 Cerah	08.37 Cerah	30,9	31,1	67	62	3,33	1,44	-	0,24	R1	0,17	0,39	Jendela tertutup
										R2	-	0,18	
										R3	0,05	0,21	
11.40 Sebatah hujan	12.38 Angin kencang	32	32,7	65,5	66,4	6,14	2,69	0,45	0,31	R1	0,42	0,21	Jendela tertutup
										R2	0,33	0,46	
										R3	0,44	0,32	
17.58 Hujan ringan	17.15 Cerah	31,3	32,8	64,7	65,4	7,08	2,10	-	0,39	R1	0,15	0,48	Jendela tertutup
										R2	0,17	0,44	
										R3	0,47	0,17	

Survey pengukuran suhu, kelembapan dan kecepatan angin kemudian dilanjutkan kembali di lantai 4 pada tower B, pada unit yang diberi tanda kotak merah seperti pada gambar dibawah ini :



Gambar 4. Denah lantai 4 Pada Tower B yang dilakukan Survey Pengukuran Suhu, kelembapan dan kecepatan angin (Sumber : Penulis, 2022)

Pada unit 1 dilakukan survey pengukuran suhu, kelembapan dan kecepatan angin dilakukan pada 2 periode yaitu pada bulan maret dan september dimana pada bulan september dilakukan pada pagi hari hingga sore hari dengan kecepatan angin normal sehingga dapat dibuka dengan maksimal. Hasil pengukuran suhu dari pagi hingga sore berada pada suhu normal. Hasil pengukuran kelembapan pada bulan maret terasa lembab namun dan di bulan september pada pagi hari namun pada siang ke sore hari menjadi normal/ideal kembali.

Tabel 7. Hasil Survey Pengukuran Suhu, Kelembapan dan Kecepatan Angin Pada Unit 1 Lantai 4

Kemudian pada unit 2 dilakukan kembali survey pengukuran suhu, kelembapan dan kecepatan angin dilakukan pada 2 periode

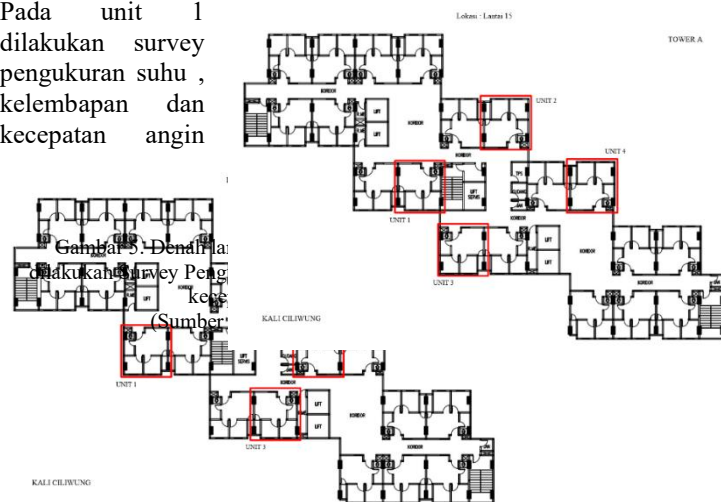
yaitu pada bulan maret dan september dimana pada bulan september dilakukan pada pagi hari hingga sore hari dengan kecepatan angin tinggi sehingga jendela menjadi tidak berfungsi (tidak bisa dibuka). Hasil pengukuran suhu dari pagi hingga sore berada pada suhu di atas normal. Hasil pengukuran kelembapan pada bulan maret terasa lembab namun dan di bulan september pada pagi hari namun pada siang ke sore hari menjadi normal/ideal kembali.

Tabel 8. Hasil Survey Pengukuran Suhu, Kelembapan dan Kecepatan Angin Pada Unit 1 Lantai 4

UNIT 1													
Unit	Pukul & Cuaca		Suhu (°C)	Kelembapan (%)		Kecepatan Angin (m/s)							
						Luar Bangunan				Ruang			
	Maret	September	Maret	September	Maret	September	Maret	September	Maret	September	Maret	September	Keterangan
07.55 Cerah	07.45 Cerah	29,8	30	67,5	69,2	1,47	1,41	0,09	0,75	R1	0,18	0,67	Jendela ruang R2 tidak berfungsi
										R2	0,07	0,68	
										R3	0,97	0,20	
11.35 Angin kencang	11.06 Angin kencang	30,9	31,6	67,7	69,5	4,90	3,07	-	0,88	R1	0,52	0,09	Jendela ruang R2 tidak berfungsi
										R2	0,15	0,65	
										R3	0,22	0,21	
15.57 Hujan ringan	15.32 Cerah	31,1	31,6	71,9	69,8	1,97	4,78	1,22	0,93	R1	0,12	0,12	Jendela ruang R2 tidak berfungsi
										R2	0,08	0,08	
										R3	0,23	0,10	

Survey pengukuran suhu, kelembapan dan kecepatan angin kemudian dilanjutkan kembali di lantai 10 pada tower B, pada unit yang diberi tanda kotak merah seperti pada gambar dibawah ini

Pada unit 1 dilakukan survey pengukuran suhu, kelembapan dan kecepatan angin



dilakukan pada 2 periode yaitu pada bulan maret dan september dimana pada bulan september dilakukan pada pagi hari hingga sore hari dengan kecepatan angin normal sehingga dapat dibuka dengan maksimal. Hasil pengukuran suhu dari pagi hingga sore berada pada suhu di atas normal. Hasil pengukuran

UNIT 1													
Unit	Pukul & Cuaca		Suhu (°C)	Kelembapan (%)		Kecepatan Angin (m/s)							
						Luar Bangunan				Ruang			
	Maret	September	Maret	September	Maret	September	Maret	September	Maret	September	Maret	September	Keterangan
07.15 Cerah	07.40 Cerah	29,4	29,8	66,4	68,2	1,52	1,16	0,87	0,8	R1	0,12	0,87	Jendela ruang terbita maksimal
										R2	0,17	0,11	
										R3	0,25	0,13	
11.38 Hujan ringan	12.34 Angin kencang	31,2	31,7	67,8	67,4	2,35	4,31	1,06	0,56	R1	0,36	0,14	Jendela ruang terbita maksimal
										R2	0,47	0,22	
										R3	0,52	0,13	
15.35 Sebatah hujan	15.21 Cerah	30,8	30,2	71,3	55,7	1,29	2,52	0,71	0,51	R1	0,12	0,17	Jendela ruang terbita maksimal
										R2	0,17	0,21	
										R3	0,25	0,08	

kelembapan pada bulan maret terasa lembab namun dan di bulan september menjadi normal/ideal kembali.

Tabel 9. Hasil Survey Pengukuran Suhu, Kelembapan dan Kecepatan Angin Pada Unit 1 Lantai 10

UNIT 1												
Unit	Pukul & Cuaca		Suhu (°C)	Kelembapan (%)		Kecepatan Angin (m/s)						
						Luar Bangunan			Atas Bangunan		Ruang	
	Maret	September	Maret	September	Maret	September	Maret	September	Maret	September	Maret	September
	09.27	06.05	30	30.7	66.7	64.9	2.11	3.36	0.52	0.45	R1	0.17
	Cerah	Cerah									R2	0.19
											R3	0.33
	12.17	11.28	30.4	31.6	66.1	59.2	2.83	6.72	0.76	0.29	R1	0.11
	Hujan ringan	Angin kencang									R2	0.15
											R3	0.33
	16.37	15.50	30.3	32.1	66.5	56.3	6.27	5.89	--	0.57	R1	0.15
	Hujan ringan	Cerah									R2	0.19
											R3	0.37

Kemudian dilanjutkan pada unit 2 dilakukan survey pengukuran suhu, kelembapan dan kecepatan angin dilakukan pada 2 periode yaitu pada bulan maret dan september dimana pada bulan september dilakukan pada pagi hari hingga sore hari dengan kecepatan angin tinggi sehingga mengakibatkan jendela rusak. Hasil pengukuran suhu dari pagi hingga sore berada pada suhu di atas normal. Hasil pengukuran kelembapan pada bulan maret terasa lembab namun dan di bulan september menjadi normal/ideal kembali.

Tabel 10. Hasil Survey Pengukuran Suhu, Kelembapan dan Kecepatan Angin Pada Unit 2 Lantai 10

UNIT 2												
Unit	Pukul & Cuaca		Suhu (°C)	Kelembapan (%)		Kecepatan Angin (m/s)						
						Luar Bangunan			Atas Bangunan		Ruang	
	Maret	September	Maret	September	Maret	September	Maret	September	Maret	September	Maret	September
	08.39	06.12	30.1	30.7	65.4	65.6	2.43	1.41	0.71	0.56	R1	0.08
	Cerah	Cerah									R2	0.08
											R3	0.31
	12.31	11.37	30.4	31.7	66.1	60.9	6.08	4.58	6.82	0.77	R1	0.13
	Hujan ringan	Angin kencang									R2	0.13
											R3	0.60
	16.55	15.58	30.2	32.2	66.3	54.8	6.75	22.18	--	2.30	R1	0.17
	Hujan ringan	Cerah									R2	0.18
											R3	0.34

Survey pengukuran suhu, kelembapan dan kecepatan angin kemudian dilanjutkan kembali di lantai 15 pada tower B, pada unit yang diberi tanda kotak merah seperti pada gambar dibawah ini :

Pada unit 1 dilakukan survey pengukuran suhu , kelembapan dan kecepatan angin dilakukan pada 2 periode yaitu pada bulan maret dan september dimana pada bulan september

dilakukan pada pagi hari hingga sore hari dengan kecepatan angin normal sehingga dapat dibuka dengan maksimal. Hasil pengukuran suhu dari pagi hingga sore berada pada suhu di atas normal. Hasil pengukuran kelembapan pada bulan maret dan september adalah normal/ideal.

Tabel 11. Hasil Survey Pengukuran Suhu, Kelembapan dan Kecepatan Angin Pada Unit 1 Lantai 15

UNIT 1												
Unit	Pukul & Cuaca		Suhu (°C)	Kelembapan (%)		Kecepatan Angin (m/s)						
						Luar Bangunan			Atas Bangunan		Ruang	
	Maret	September	Maret	September	Maret	September	Maret	September	Maret	September	Maret	September
	08.37	06.35	31.2	30.9	63	65.6	3.17	3.11	0.76	0.26	R1	0.12
	Cerah	Cerah									R2	0.12
											R3	0.42
	15.21	12.08	30.7	32	64.5	59.3	5.75	5.92	--	0.57	R1	0.21
	Angin kencang	Angin kencang									R2	0.22
											R3	0.47
	17.25	16.17	30.3	31.9	64.3	55.1	5.89	3.49	--	0.55	R1	0.22
	Hujan ringan	Cerah									R2	0.24
											R3	0.51

Pada unit 2 dilakukan survey pengukuran suhu , kelembapan dan kecepatan angin dilakukan pada 2 periode yaitu pada bulan maret dan september dimana pada bulan september dilakukan pada pagi hari hingga sore hari dengan kecepatan angin normal sehingga dapat dibuka dengan maksimal. Hasil pengukuran suhu dari pagi hingga sore berada pada suhu di atas normal. Hasil pengukuran kelembapan pada bulan maret dan september adalah normal/ideal.

Tabel 12. Hasil Survey Pengukuran Suhu, Kelembapan dan Kecepatan Angin Pada Unit 2 Lantai 15

UNIT 2												
Unit	Pukul & Cuaca		Suhu (°C)	Kelembapan (%)		Kecepatan Angin (m/s)						
						Luar Bangunan			Atas Bangunan		Ruang	
	Maret	September	Maret	September	Maret	September	Maret	September	Maret	September	Maret	September
	09.25	06.41	30.1	31.3	65.5	67.9	3.31	3.13	0.66	0.23	R1	0.09
	Cerah	Cerah									R2	0.19
											R3	0.15
	13.31	12.08	30.4	31.9	71.6	59	6.28	4.62	1.28	0.62	R1	0.15
	Angin kencang	Angin kencang									R2	0.19
											R3	0.52
	17.34	16.26	30.3	31.9	70.2	55.9	5.94	--	0.64	--	R1	0.13
	Hujan ringan	Cerah									R2	0.14
											R3	0.55

Conclusion

Kesimpulan yang dapat diambil dalam penelitian ini adalah sebagai berikut :

1. Pengukuran rentang suhu pada setiap unit di lantai 4, 10 dan 15 pada tower A dan B adalah di atas normal.
2. Kecepatan angin pada unit 2 di lantai 4 dan unit 1 dan 2 lantai 10 tower A serta unit 2 10 tower B sehingga mengakibatkan jendela rusak bahkan tidak dapat berfungsi.
3. Ruang pada unit 1 dan 2 lantai 10 dan 15 tower A pada bulan maret terasa lembab, ruang pada unit 1 lantai 4 pada bulan maret lembab dan, pada unit 2 lantai 4 terasa lembab di bulan maret dan pagi hari

di bulan September. Unit 1 dan 2 pada lantai 10 bulan maret juga terasa lembab. Berdasarkan kesimpulan di atas, peneliti memberikan saran agar kenyamanan termal ruang pada unit tower A dan B lebih nyaman diantaranya adalah seagai berikut :

1. Diperlukan penambahan luasan ruang agar setiap kegiatan dapat diakomodir sehingga dapat terasa nyaman. Namun kondisi saat ini tidak memungkinkan untuk dilakukan penambahan luasan unit maka diperlukan penataan di setiap ruang agar dapat lebih compact dan nyaman.
2. Diperlukan untuk mempertimbangkan letak bukaan, rasio luas bukaan dan material kaca dan kusen yang digunakan
3. Kelembapan udara bangunan rumah susun tower A dan B masih kurang baik sehingga kurang mendukung kenyamanan termal di dalamnya. Oleh karena itu diperlukan optimalisasi pertukaran udara di setiap ruang yang ada di unit hunian tersebut.

Acknowledgment

XXXXXXXXXXXX

Reference list / References

Indonesia, U., & Timur, K. J. (2021). *Kajian Tingkat Kenyamanan Fisik Ruang Dalam Unit Hunian Rumah Susun Daan Mogot Jakarta Barat*. 12(01), 38–47.

Alvin, A., & Liauw, F. (2022). Kampoeng Pelangi: Kampung Vertikal Untuk Masyarakat Berpenghasilan Rendah. *Jurnal Sains, Teknologi, Urban, Perancangan, Arsitektur (Stupa)*, 3(2), 1373. <https://doi.org/10.24912/stupa.v3i2.12318>

Latifah, N. L., Perdana, H., Prasetya, A., & Siahaan, O. P. M. (2013). Kajian Kenyamanan Termal pada Bangunan Student Center ITENAS Bandung (Study of Thermal Comfort in Student Center Buildings Itenas Bandung). *Reka Karsa: Jurnal Arsitektur (Reka Karsa: Architectural Journal)*, 1(1), 1–12.

Rahmat, D., Yang, T., Esa, M., Di, B., & Pesisir, W. (2010). *Ep Ku M M Ha Ep M*.

Ramawangsa, P. A. (2021). *Perspesi Pengguna Terhadap Kenyamanan Termal Di Area*

Threshold Pada Iklim Mikro. *NALARs*, 20(2), 91. <https://doi.org/10.24853/nalars.20.2.91-98>

Suwandi, A. A., & Nur'aini, R. D. (2021). KAJIAN KONSEP ARSITEKTUR PERILAKU DAN TINGKAT KENYAMANAN PENGHUNI PADA HUNIAN VERTICAL DENGAN ANALISIS BEHAVIORAL MAPPING (Studi Kasus: Rusunawa Pinus Elok Tower C, Jakarta Timur). *Vitruvian Jurnal Arsitektur Bangunan Dan Lingkungan*, 10(3), 257. <https://doi.org/10.22441/vitruvian.2021.v10i3.009>

Tomasowa, R. (2013). Mencermati Jendela Matahari di Atas Jakarta sebagai Dasar Perancangan Arsitektur. *ComTech: Computer, Mathematics and Engineering Applications*, 4(2), 1393. <https://doi.org/10.21512/comtech.v4i2.2677>

Wati, T., & Fatkhuroyan, F. (2017). Analisis Tingkat Kenyamanan Di DKI Jakarta Berdasarkan Indeks THI (Temperature Humidity Index). *Jurnal Ilmu Lingkungan*, 15(1), 57. <https://doi.org/10.14710/jil.15.1.57-63>

Undang-Undang No.16 tahun 1985 tentang rumah susun

Peraturan Menteri Pekerjaan Umum Nomor: 05/PRT/M/2007 Tentang Pedoman Teknis Pembangunan Rumah Susun ederhana Bertingkat Tinggi

Peraturan Pemerintah Republik Indonesia Nomor 13 tentang Penyelenggaraan Rumah SusunAlvin, A., & Liauw, F. (2022). Kampoeng Pelangi: Kampung Vertikal Untuk Masyarakat Berpenghasilan Rendah. *Jurnal Sains, Teknologi, Urban, Perancangan, Arsitektur (Stupa)*, 3(2), 1373. <https://doi.org/10.24912/stupa.v3i2.12318>

Leepel, R. J., Utomo, S. W., & Suganda, E. (2017). ASPEK LINGKUNGAN DAN PARTISIPASI MASYARAKAT PADA PENYELENGGARAAN RUMAH SUSUN SEDERHANA SEWA

JATINEGARA BARAT (Accessibility of Rented Simple Flats in Perspective of Sustainable Housing). *Jurnal Manusia Dan Lingkungan*, 24(3), 116. <https://doi.org/10.22146/jml.23638>

Natalia, D. A. R., & Tisnawati, E. (2019). Evaluasi Purna Huni Di Perumahan Condongcatur Ditinjau Dari Aspek Penggunaan Dan Perubahan Ruang. *NALARs*, 18(1), 35. <https://doi.org/10.24853/nalars.18.1.35-44>

Rosilawati, H. (2016). *Konsep Hunian Berkelanjutan Pada Rumah Susun Studi Kasus Rusunawa Dupak Bangunrejo , Surabaya*.

Tondobala, L. (n.d.). *Jurnal Fraktal Vo. 6 No. 1 (30-37). 1(1)*.

Van, H., Hardi, J., & Kunci, K. (n.d.). *Jatinegara Barat*. 133–142.

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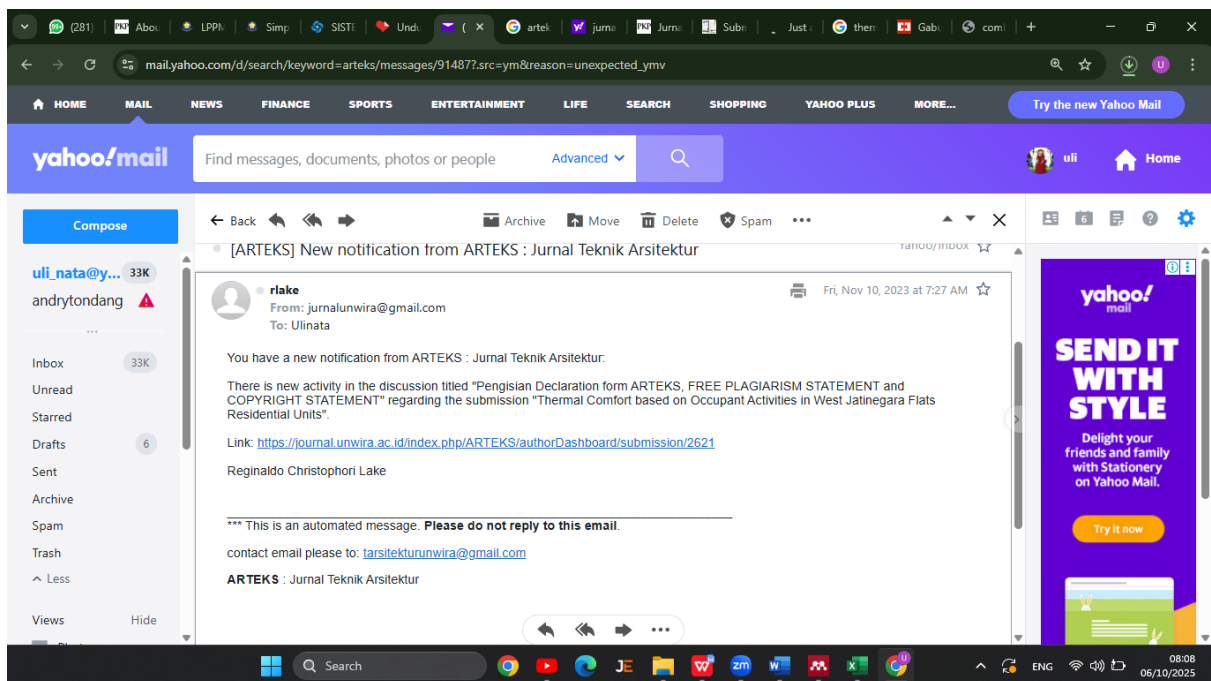
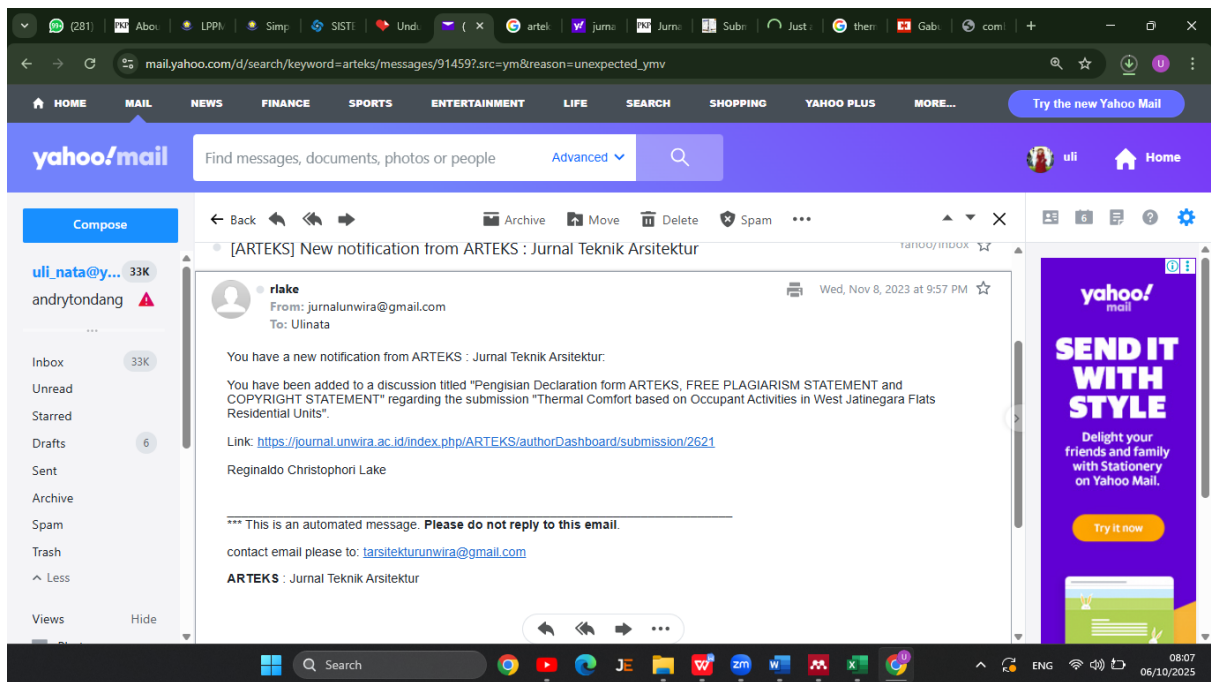
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Evaluation of Space Comfort based on Occupant Satisfaction in West Jatinegara Flats Residential Units

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Abstract

The Special Capital Region (DKI) of Jakarta is an area that experiences population growth every year, which raises the number of housing-related needs and reduces the amount of available vacant land for housing. In order to get around the lack of land for housing, a plan for flats—like the West Jatinegara Flats—must be implemented. The spaces in an apartment that are designed by an architect are required to produce a design that takes into account the comfort factor of the space for the occupants or users in addition to aesthetics. Residents feel comfortable if they are at a thermal temperature of between 22.8 °C-25.8 °C with humidity of 70%. The study, "Evaluation of Space Comfort based on Occupant Satisfaction in West Jatinegara Flats Residential Units," attempts to ascertain whether or not improving strategies are required to raise space comfort based on occupant satisfaction and whether or not an appropriate level of space comfort is achieved. This study employs the quantitative method, which entails gathering primary and secondary data and conducting interviews with at least 10% of the resident population selected at random. This study's results indicate that improvement strategies are required to improve room comfort. These strategies include organizing each room to make it cozier and more compact, considering the type of opening material, the opening area ratio, and the materials used for the glass and frame to prevent breakage and damage to the windows and handles. Every room in the residential unit needs to have optimal air exchange during strong wind conditions.

Keywords: Evaluation, Space Comfort, Occupant Satisfaction, West Jatinegara Flats

Introduction

The Special Capital Region (DKI) of Jakarta is one of the provinces in Indonesia whose population continues to increase every year (Indonesia & Timur, 2021). So with the increase in population, the demand for housing in the Special Capital Region (DKI) of Jakarta will also increase (Susilowati, 2016). This has resulted in an increasingly limited amount of vacant land available in the Special Capital Region (DKI) of Jakarta (Ketut et al., 2014). Therefore, a solution is needed to optimize empty land which is increasingly limited, namely by providing vertical housing such as flats so that residents can obtain comfortable and decent housing (Hendaryono, 2010). A flat is a multi-storey building that functions as a residence that has elements of individual or joint ownership (Rubiati & Padjadjaran, 2023). A flat consists of several rooms including a

multi-purpose room and a residential unit measuring around 18 m²-54 m² which contains a bedroom, drying room, kitchen and bathroom (Kasus et al., 2016).

Space is an object consisting of length, width and height consisting of points, lines and planes, if in an architectural context it can be described in the form of floors, walls and roofs (Paryoko et al., 2015). The spaces in an apartment are generally designed by an architect and the architect is obliged to produce a design that not only considers aesthetic or beauty factors but also considers comfort factors for the occupants or users (Suwandi & Nur'aini, 2021). Comfort is a feeling of comfort that arises from physical and psychological comfort that comes from a person's assessment of their environment (Mandau, 2017). Activities can be carried out well so that optimal work productivity is

obtained if comfort is created (Budiono et al., 2023). Activity can also be interpreted as one of the residents' activities that cannot be avoided so that a space can accommodate activities that create comfort (Котлер, 2008). Therefore, space comfort is needed so that residents can feel comfortable in their activities.

Space comfort comes from thermal comfort which is one part of activity comfort so that if activity increases optimally in a space that is designed and built if the thermal comfort is appropriate (Sugini, 2014). Thermal comfort can be defined as the level of satisfaction experienced by a person when consciously or unconsciously accepting the thermal conditions they experience (Tondobala, n.d.).

Indonesian people feel comfortable if they are in a temperature range of 22.8°C - 25.8°C with humidity of 70% (Ramawangsa, 2021). Specifically, the capital city (DKI) Jakarta is located close to the equator and has a humid tropical external climate (Tomasowa, 2013). Humidity throughout the year is also quite high, namely around 80% to 90%, December to January also has very high rainfall conditions and under certain conditions the temperature in the Special Capital Region (DKI) Jakarta also experiences a temperature range where some people feel uncomfortable. comfortable (Wati & Fatkhuroyan, 2017). This causes several problems for the Indonesian people, especially the Special Capital Region (DKI) Jakarta because it will result in decreased productivity caused by temperature conditions that make it uncomfortable, such as very cold or very hot (Aldrian et al., 2011). So, research is needed to be able to evaluate room comfort based on occupant satisfaction through a survey or interview and filling out a questionnaire in an apartment residential unit.

The research entitled Evaluation of Space Comfort based on Occupant Satisfaction in West Jatinegara Flats Residential Units aims to carry out an evaluation to determine whether spatial comfort based on Occupant Satisfaction in West Jatinegara Flats Residential Units is appropriate or not and whether improvement strategies are needed to increase space comfort based on Satisfaction the occupant. The results of this research will be a consideration in the design and construction of subsequent flats so that architects, practitioners, developers and other parties who contribute to the design and construction stages of flats then consider space comfort factors based on occupant satisfaction so that later residents will feel comfortable

when carrying out activities in the residential unit. the flat.

Research Method

Before the research was conducted, the researcher took an approach first by reviewing several national and international journal articles from three (3) similar studies. This study is needed so that it can be known what methods previous researchers will use and use. From the results of this study, research methods that are most suitable for this research can be selected or determined.

The first research was entitled Post-Occupancy Evaluation of Pudai Rental Flats in Kendari City which was carried out in 2016 by Achmad Sepryadi, Ir. Agam Marsoyo, M.Sc., Ph.D., Dr. Ir. Budi Kamulyan, M.Eng who described the results of the evaluation of retirement of Pudai flats in Lapulu sub-district, Kendari City using quantitative and qualitative deductive research methods (Kendari, 2016). The second research is entitled Post Occupancy Evaluation (POE) in Flat Buildings in Banten Province (Case Study "Construction of MBR Flats in Banten Province) which describes the results of occupant satisfaction (Andiyan et al., 2020). This research uses quantitative methods. The third research is entitled Thermal Comfort in Flats in West Jakarta by Susanto, Sigit Wijaksono, Albertus Galih Prawata which describes how to create thermal comfort in flats in West Jakarta using quantitative methods (Wijaksono & Galih Prawata, n.d.). This research uses several approaches derived from three studies that have been carried out by a number of researchers, where there are several titles and backgrounds to the problems in this research.

Based on these three studies, it can be seen that the appropriate methodology to be used in the research entitled Evaluation of Space Comfort Based on Occupant Satisfaction in Residential Units of West Jatinegara Flats is quantitative deductive with a post-occupancy evaluation research approach method which focuses on the thermal conditions of the room and occupant activities. at the Jatinegara Barat flats.

The process of collecting and processing research data was carried out in the following steps: (1) field observation, (2) literature study, and (3) comparison. Field observations were carried out using two methods, namely field measurements (physical measurements of residential units and room thermal measurements) and occupant interviews; a

literature study was carried out by reviewing literature related to research such as room comfort studies which focus on thermal comfort and activity space, theories regarding housing, standards related to comfort in residences, and high-rise buildings; and comparison is carried out by comparing the results of field observations and literature studies to obtain final comfort evaluation results.

Physical measurements of West Jatinegara flats residential units with the aim of describing existing conditions were carried out using a measuring tool that has a measuring limit of 10 meters and a laser meter with the measured area being 2 (two) bedroom areas along with doors, windows and the clear height of the room (ceramic -ceiling), and 1 (one) common room area including the main door, the drying room area door, and the clear height of the room (tile-ceiling). Existing physical measurements in the analysis are used as basic data to determine the comfort of occupant activities.

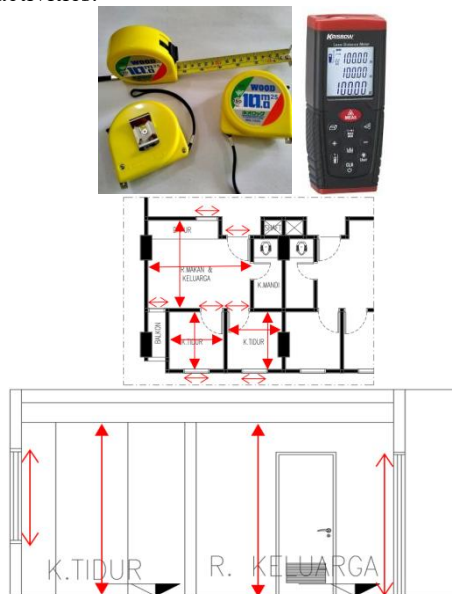


Figure 1. Measuring tools, measuring area (plan), measuring area (piece)

Room thermal measurements are divided into three data, namely temperature, wind speed and humidity. Measurements were carried out at the highest radiation points, namely 2 hours after sunrise (08.00-10.00), mid-day (11.00-13.00), and 2 hours before sunset (15.00-17.00). The tools used in room thermal measurements are a 3 in 1 environment meter (vane anemometer, thermometer and hygrometer) and a hot wire anemometer. Vane anemometers are used to measure wind speed in areas outside the residential unit, while hot wire anemometers

are used to measure air movement in areas inside the residential unit. The room thermal measurements in the analysis are used as basic data to determine the body comfort of the occupants.



Figure 2. Environment Meter and Hot Wire Anemometer

The thermal measurement points are located in the bedroom area (two rooms), the common room including the kitchen (1 room), and the drying room area. In the bedroom area, the measurement points are at the window sill area, the living room area of the bedroom, and the bedroom doorway area; in the common room and kitchen area, the measurement points are in the main doorway area, the middle area of the common room, and the drying room doorway area; and the measurement points for the drying room area are located at the threshold area of the drying room fence and the middle area of the drying room. The measuring point for the indoor area is at an elevation of + 1.2 meters starting from the ceramic area.

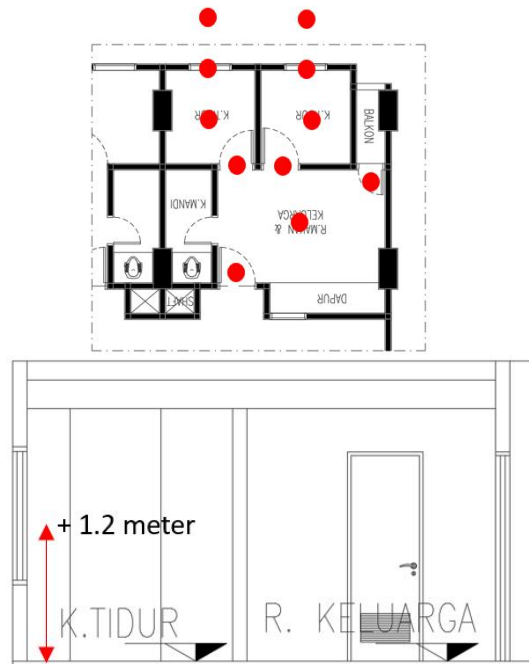


Figure 3. Position of measuring point (plan) and height position of measuring point (section)

In addition to physical measurements of residential units and room thermals. Field observations were also carried out using the interview method to determine occupant satisfaction with the size of the supporting space and thermal conditions. Specific questions in the interview concerning thermal comfort and occupant activities are as follows:

1. What activities do you carry out in the apartment residential unit?
2. Is the size of the residential unit able to accommodate all the activities of the apartment residents?
3. What are the wind conditions in the flat?
4. Are the temperature conditions in the apartment building comfortable for the residents?
5. Are the air humidity conditions in the apartment building comfortable for the residents?
6. Do you feel comfortable living in an apartment?

Respondents who took part in the interview were residents of the residential unit used as the unit of measurement. The number of respondents was 12 people in tower A and 12 people in tower B. Apart from that, other respondents came from the technical management unit of Jatinegara Barat flats. The final results of the interview are entered into the Google Form platform to find out the final results in the form of a percentage diagram.

Discussion

Interviews and measurements were carried out in 36 residential apartment units, 18 units in each apartment tower. On average, residents have lived in an apartment unit for 6 years, with a percentage of 78% (30 respondents) of residents feeling comfortable and 22% (8 respondents) feeling uncomfortable living in an apartment. Based on interviews with the 36 units, with an area of 30 m², 20-unit residents felt that it was sufficient, 7 felt that it was not enough and 8 felt that it was not enough. From the results of interviews and thermal measurements in towers A and B, it can be concluded that:

1. Wind conditions in flat residential

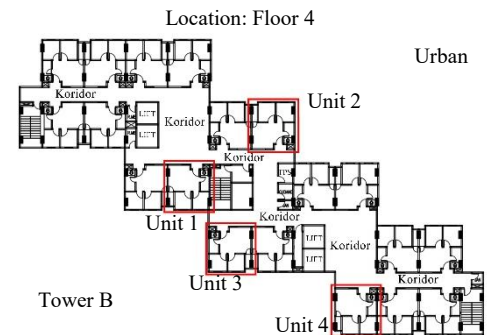


Figure 1. Plan of the 4th floor in Tower A where a Temperature, Humidity and Wind Speed Measurement Survey was carried out (Source: Author, 2022)

- units are inadequate. In the worst conditions, heavy rain and wind can cause the service area door to make a loud noise and the window handle often breaks.
2. The temperature conditions inside the apartment are inadequate. In the worst conditions, summer, causes high temperatures so that the help of a fan that is continuously turned on is needed.
3. The humidity conditions in the apartment are inadequate. High air humidity occurs after rain, which causes residents to feel hot in the unit.

These inadequate conditions also affect the physical condition of the residential unit. From the results of the interview, data on existing residential facilities was obtained as follows:

Tower A

1. 7 residential units with windows still functioning properly and window handles not damaged

2. 7 residential units with 1 broken window latch
3. 4 residential units with 2 broken window latches
4. *Tampyas* which causes rainwater to enter residential units in the worst conditions during heavy rain can flood the bathroom area.

Tower B

1. 9 residential units with windows still functioning properly and window handles not damaged
2. 2 residential units with 1 broken window latch
3. 7 residential units with 2 broken window latches
4. There was a leak in the ceiling area during heavy rain and the window edge area caused by the window installation not being tight enough
5. *Tampyas* which causes rainwater to enter residential units in the worst conditions when it rains

The residential units where temperature, humidity and wind speed measurement surveys were carried out were units on the 4th, 10th and 15th floors. On the 4th floor, temperature, humidity and wind speed measurement surveys were carried out on units marked with red boxes as seen in the image below

In unit 1, a temperature, humidity and wind speed measurement survey was carried out in 2 periods, namely in March and September, where in March it was carried out from morning to evening with normal wind speed so that the windows in both bedrooms could be opened optimally. The results of temperature measurements from morning to evening were above normal. The humidity measurement results are still in the normal/ideal category.

Table 1. Survey Results for Temperature, Humidity and Wind Speed Measurements In Unit 1 Floor 4

Unit 1							
Time & Weather		Temperature (°C)		Humidity (%)			
03	09	03	09	03	09		
07.17 Bright	07.42 Bright	31,6	30,8	65,6	64,4		
11.11 Cloudy	11.11 Strong winds	30,8	32,3	62,9	57,3		
15.32 After the rain	15.29 Bright	30,5	32,4	63,1	50,9		
Unit 1							
Time & Weather		Wind Velocity (m/s)					
		Outside Building		Window Sill		Room	
03	09	03	09	03	09	Rg	03 09
07.17 Bright	07.42 Bright	1,42	0,73	0,91	0,42	R1	0,32 0,23
						R2	0,36 0,30
						R3	0,57 0,26
11.11 Cloudy	11.11 Strong winds	2,53	3,36	0,77	0,42	R1	0,53 0,40
						R2	0,47 0,32
						R3	0,24 0,27
15.32 After the rain	15.29 Bright	1,26	3,81	0,67	0,47	R1	0,28 0,65
						R2	0,31 0,41
						R3	0,22 0,34
Unit 1							
Time & Weather		Noter					
03	09						
07.17 Bright	07.42 Bright	The windows of both rooms can be opened maximally					
11.11 Cloudy	11.11 Strong winds	The windows of both rooms can be opened maximally					
15.32 After the rain	15.29 Bright	The windows of both rooms can be opened maximally					

In unit 2, a temperature, humidity and wind speed measurement survey was carried out in 2 periods, namely in March and September, where in September the survey was carried out in the morning until the evening with higher wind speeds than in March, causing there to be windows in the rooms. broken sleep. The results of temperature measurements from morning to evening were above normal. The humidity measurement results are still in the normal/ideal category.

Table 2. Survey Results for Temperature, Humidity and Wind Speed Measurements In Unit 2, Floor 4

Unit 2							
Time & Weather		Temperature (°C)		Humidity (%)			
03	09	03	09	03	09		
07.28 Bright	07.50 Bright	31,9	30,6	70,6	64,5		
11.35 Light rain	11.16 Strong winds	30,9	32,3	63,2	58,5		
15.59 After the rain	15.35 Bright	30,7	32,3	63,3	52,8		
Unit 2							
Time & Weather		Wind velocity (m/s)					
		Outside Building		Window Sill		Room	
03	09	03	09	03	09	Rg	03 09
07.28 Bright	07.50 Bright	1,47	1,80	--	0,46	R1	0,11 0,11
						R2	0,08 --
						R3	0,12 0,11
11.35 Light rain	11.16 Strong winds	2,61	3,86	--	0,60	R1	0,12 0,11
						R2	0,11 0,27
						R3	0,24 0,12
15.59	15.35	1,28	2,04	--	0,37	R1	0,08 0,12

After the rain	Bright					R2	0,09	0,24
						R3	0,21	0,13
Unit 2								
Time & Weather		Note						
03	09							
07.17 Bright	07.42 Bright	Window is broken						
11.11 Cloudy	11.11 Angin kencang	Window is broken						
15.32 Schabis hujan	15.29 Bright	Window is broken						

The temperature, humidity and wind speed measurement survey continued on the 10th floor of tower A, in the unit marked with a red box as in the picture below:

In unit 1, a temperature, humidity and wind speed measurement survey was carried out in 2 periods, namely March and September, where in September it was carried out from morning to evening with higher wind speeds than in March, causing parts of the bedroom windows to be damaged. The results of temperature measurements from morning to evening were above normal. The results of humidity measurements in March started to feel damp but in September it became normal/ideal again.

The temperature, humidity and wind speed measurement survey continued on the 10th floor of tower A, in the unit marked with a red box as in the picture below:

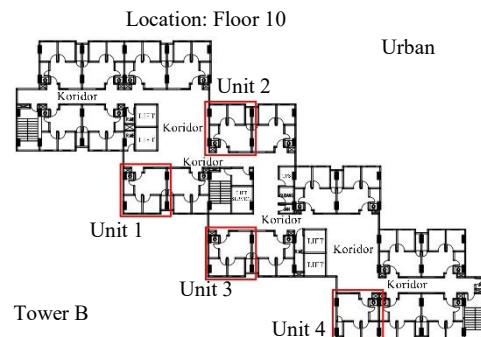


Figure 2. Plan of floor 10 in Tower A where a temperature, humidity and wind speed measurement survey was carried out (Source: Author, 2022)

In unit 1, a temperature, humidity and wind speed measurement survey was carried out in 2 periods, namely in March and September, where in September it was carried out in the morning until the evening with higher wind speeds than in March, causing part of the bedroom window to be damaged. damaged. The results of temperature measurements from morning to evening were above normal. The results of humidity measurements in March started to feel damp but in September it became normal/ideal again.

Table 3. Survey Results for Temperature, Humidity and Wind Speed Measurements In Unit 1 on the 10th floor

Unit 1					
Time & Weather		Temperature (°C)		Humidity (%)	
03	09	03	09	03	09
08.25	08.23	30,8	31,1	68,4	64,7
Bright	Bright				
12.20	11.51	31,5	32,3	66,7	57,1
Windy rain	Strong winds				
16.55	16.22	30,8	32,6	66,5	51,5
Windy rain	Bright				
Unit 1					
Time & Weather		Wind velocity (m/s)			
		Outside Building		Window Sill	
03	09	03	09	03	09
08.25	08.23	1,98	1,57	0,75	0,36
Bright	Bright				
12.20	11.51	5,91	3,72	--	0,65
Windy rain	Strong winds				
16.55	16.22	6,67	3,72	--	0,84
Windy rain	Bright				
Unit 1					
Time & Weather		Room			
03	09	Rg	03	09	
08.25	08.23	R1	0,16	0,17	
Bright	Bright	R2	0,18	0,21	
12.20	11.51	R3	0,16	0,23	
Windy rain	Strong winds	R1	0,12	0,11	
16.55	16.22	R2	0,13	0,53	
Windy rain	Bright	R3	0,37	0,21	
		R1	0,17	0,31	
		R2	0,21	0,77	
		R3	0,37	0,33	
Unit 1					
Time & Weather		Note			
03	09				
08.25	08.23	Room R1 window is broken			
Bright	Bright				
12.20	11.51	Room R1 window is broken			
Windy rain	Strong winds				
16.55	16.22	Room R1 window is broken			
Windy rain	Bright				

In unit 2, a temperature, humidity and wind speed measurement survey was carried out in 2 periods, namely in March and September, which was carried out in the morning until the evening with normal wind speed and the windows were in good condition or functioning and nothing was damaged. The results of temperature measurements from morning to evening were above normal. The results of humidity measurements in March started to feel damp but in September it became normal/ideal again.

Table 4. Survey Results for Temperature, Humidity and Wind Speed Measurements in Unit 2 on the 10th Floor

Unit 2					
Time & Weather		Temperature (°C)		Humidity (%)	
03	09	03	09	03	09
08.40	08.27	31,1	31,2	69	65,3
Bright	Bright				
12.35	11.58	31,2	31,9	68,7	58,4
Strong winds	Strong winds				
17.09	16.28	31,1	32,6	67,5	54,7
Windy rain	Bright				
Unit 2					
Time & Weather		Wind velocity (m/s)			
		Outside Building		Window Sill	
03	09	03	09	03	09
08.40	08.27	2,43	2,21	0,31	0,28
Bright	Bright				
12.35	11.58	5,62	3,92	--	0,47
Strong winds	Strong winds				
17.09	16.28	6,76	3,87	--	3,87
Windy rain	Bright				
Unit 1					
Time & Weather		Room			
03	09	Rg	03	09	
08.40	08.27	R1	0,15	0,21	
Bright	Bright	R2	0,11	0,23	
12.35	11.58	R3	0,22	0,20	
Strong winds	Strong winds	R1	0,20	0,27	
17.09	16.28	R2	0,31	0,31	
Windy rain	Bright	R3	0,39	0,30	
		R1	0,18	0,08	
		R2	0,22	0,14	
		R3	0,27	0,11	
Unit 1					
Time & Weather		Note			
03	09				
08.40	08.27	Room R1 window is broken			
Bright	Bright				
12.35	11.58	Room R1 window is broken			
Strong winds	Strong winds				
17.09	16.28	Room R1 window is broken			
Strong winds	Bright				

The temperature, humidity and wind speed measurement survey was then continued again on the 15th floor of tower A, in the unit marked with a red box as in the picture below:

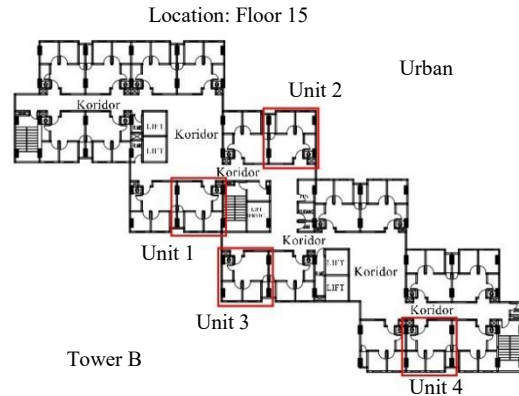


Figure 3. Plan of floor 15 in Tower A where a temperature, humidity and wind speed measurement survey was carried out (Source: Author, 2022)

In unit 1, a temperature, humidity and wind speed measurement survey was carried out in 2 periods, namely in March and September, where in September it was carried out in the morning until the evening with normal wind speed and the windows were in good condition or functioning and nothing was damaged. . The results of temperature measurements from morning to evening were above normal. The results of humidity measurements in March started to feel damp but in September it became normal/ideal again.

Table 5. Survey Results for Temperature, Humidity and Wind Speed Measurements in Unit 1, 15th Floor

Unit 1					
Time & Weather		Temperature (°C)		Humidity (%)	
03	09	03	09	03	09
09.25	08.50	30,7	31,7	70,9	62,3
Bright	Bright				
08.50	12.31	30,5	32,0	71,3	61,6
Bright	Strong winds				
17.47	17.02	30,5	32,6	70,8	49,4
Windy rain	Bright				
Unit 1					
Time & Weather		Wind Velocity (m/s)			
		Outside Building		Window Sill	
03	09	03	09	03	09
09.25	08.50	3,24	2,52	0,46	0,28
Bright	Bright				
08.50	12.31	6,82	3,48	0,27	0,43
Bright	Strong winds				
17.47	17.02	7,21	6,39	--	0,90
Windy rain	Bright				
Unit 1					
Time & Weather		Room			
03	09	Rg	03	09	
09.25	08.50	R1	0,11	0,08	
Bright	Bright	R2	0,13	0,11	
08.50	12.31	R3	0,21	0,15	
Bright	Strong winds	R1	0,09	0,20	
17.47	17.02	R2	0,11	0,23	
Windy rain	Bright	R3	0,18	0,31	
		R1	0,12	0,48	
		R2	0,14	0,44	
		R3	0,31	0,27	
Unit 1					
Time & Weather		Note			
03	09				
09.25	08.50	The window works			
Bright	Bright				
08.50	12.31	The window works			
Bright	Strong winds				
17.47	17.02	The window works			
Windy rain	Bright				

In unit 2, a temperature, humidity and wind speed measurement survey was carried out in 2 periods, namely in March and September, where in September it was carried out in the morning until the evening with normal wind speed and the windows were in good condition or functioning and nothing was damaged. . The results of temperature measurements from morning to evening were above normal. The results of humidity measurements in March felt a bit damp in the morning, but in the afternoon and evening and in September it became normal/ideal again.

Table 6. Survey Results for Temperature, Humidity and Wind Speed Measurements in Unit 2 on the 15th Floor

Unit 2									
Time & Weather		Temperature (°C)				Humidity (%)			
03	09	03	09	03	09	03	09	03	09
09.37 Bright	08.57 Bright	30,9	31,1	67	62				
13.40 After the rain	12.38 Strong winds	32	32,7	65,5	60,4				
17.50 Windy rain	17.15 Bright	31,3	32,6	64,7	49,4				
Unit 2									
Time & Weather		Wind Velocity (m/s)							
		Outside Building		Window Sill		Room			
03	09	03	09	03	09	Rg	03	09	
09.37 Bright	08.57 Bright	3,13	1,44	--	0,24	R1	0,17	0,29	
						R2	--	0,18	
						R3	0,05	0,21	
13.40 After the rain	12.38 Strong winds	6,14	2,69	0,63	0,31	R1	0,42	0,21	
						R2	0,23	0,46	
						R3	0,44	0,32	
17.50 Windy rain	17.15 Bright	7,08	2,69	--	0,39	R1	0,15	0,48	
						R2	0,17	0,44	
						R3	0,47	0,17	
Unit 2									
Time & Weather		Note							
03	09								
09.37 Bright	08.57 Bright	The window works							
13.40 After the rain	12.38 Strong winds	The window works							
17.50 Windy rain	17.15 Bright	The window works							

The temperature, humidity and wind speed measurement survey was then continued on the 4th floor in tower B, in the unit marked with a red box as in the picture below:

In unit 1, a temperature, humidity and wind

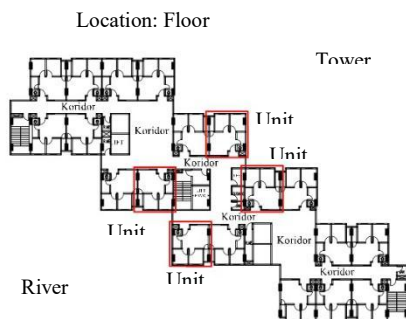


Figure 4. Plan of floor 4 in Tower B where a temperature, humidity and wind speed measurement survey was carried out (Source: Author, 2022)

velocity measurement survey was carried out in 2 periods, namely in March and September,

where in September it was carried out in the morning until the evening with normal wind velocity so that it could be opened optimally. The temperature measurement results from morning to evening were at normal temperatures. The results of humidity measurements in March felt damp, however, and in September in the morning but in the afternoon to the evening it became normal/ideal again.

Table 7. Survey Results for Temperature, Humidity and Wind Velocity Measurements in Unit 1, Floor 4

Unit 1									
Time & Weather		Temperature (°C)				Humidity (%)			
03	09	03	09	03	09	03	09	03	09
07.15 Bright	07.40 Bright	29,4	29,8	66,4	68,2				
11.10 Cloudy	12.34 Strong winds	31,2	31,7	67,9	62,4				
15.35 After the rain	15.21 Bright	30,8	30,2	71,3	55,7				
Unit 1									
Time & Weather		Wind Velocity (m/s)							
		Outside Building		Window Sill		Room			
03	09	03	09	03	09	Rg	03	09	
07.15 Bright	07.40 Bright	1,52	1,16	0,87	0,8	R1	0,12	0,07	
						R2	0,17	0,11	
						R3	0,25	0,13	
11.10 Cloudy	12.34 Strong winds	2,35	4,31	1,06	0,56	R1	0,36	0,14	
						R2	0,47	0,22	
						R3	0,52	0,13	
15.35 After the rain	15.21 Bright	1,29	2,52	0,71	0,51	R1	0,12	0,17	
						R2	0,17	0,21	
						R3	0,23	0,08	
Unit 1									
Time & Weather		Note							
03	09								
07.15 Bright	07.40 Bright	The window can be opened maximally							
11.10 Cloudy	12.34 Strong winds	The window can be opened maximally							
15.35 After the rain	15.21 Bright	The window can be opened maximally							

Then in unit 2 a temperature, humidity and wind velocity measurement survey was carried out again in 2 periods, namely in March and September where in September it was carried out in the morning until the evening with high wind velocity so that the windows became non-functional (could not be opened). The results of temperature measurements from morning to evening were above normal. The results of humidity measurements in March felt damp, however, and in September in the morning but in the afternoon to the evening it became normal/ideal again.

Table 8. Survey Results for Temperature, Humidity and Wind Velocity Measurements in Unit 2, Floor 4

Unit 2									
Time & Weather		Temperature (°C)				Humidity (%)			
03	09	03	09	03	09	03	09	03	09
07.35 Bright	07.45 Bright	29,8	30	67,5	69,2				
11.15 Strong winds	11.06 Strong winds	30,9	31,6	67,7	59,5				
15.57 Light rain	15.32 Bright	31,1	31,6	73,9	57,5				
Unit 2									
Time & Weather		Wind Velocity (m/s)							
		Outside Building		Window Sill		Room			
03	09	03	09	03	09	Rg	03	09	

07.35 Bright	07.45 Bright	1,47	1,41	0,93	0,75	R1	0,18	0,07
						R2	0,07	0,03
						R3	0,37	0,23
11.35 Strong winds	11.06 Strong winds	4,90	3,07	--	0,88	R1	0,52	0,09
						R2	0,15	0,05
						R3	0,22	0,21
15.57 Light rain	15.32 Bright	1,57	4,78	1,22	0,93	R1	0,12	0,12
						R2	0,08	0,06
						R3	0,23	0,10
Unit 2								
Time & Weather		Note						
03	09							
07.35 Bright	07.45 Bright	Room window R2 is not working						
11.35 Strong winds	11.06 Strong winds	Room window R2 is not working						
15.57 Light rain	15.32 Bright	Room window R2 is not working						

Time & Weather		Note
03	09	
08.27 Bright	08.05 Bright	The window can be opened maximally
12.17 Light rain	11.28 Strong winds	The window can be opened maximally
16.37 Windy rain	15.50 Bright	The window can be opened maximally

Then, in unit 2, a temperature, humidity and wind velocity measurement survey was carried out in 2 periods, namely in March and September, where in September it was carried out in the morning until the evening with high wind velocity, resulting in damaged windows. The results of temperature measurements from morning to evening were above normal. The results of humidity measurements in March felt damp, but in September it became normal/ideal again.

The temperature, humidity and wind velocity measurement survey was then continued on the 10th floor in tower B, in the unit marked with a red box as in the picture below:

In unit 1, a temperature, humidity and wind

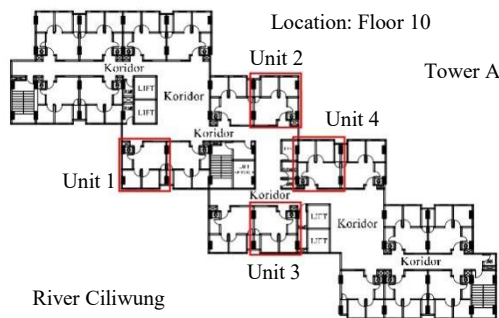


Figure 5. Plan of floor 10 in Tower B where a temperature, humidity and wind speed measurement survey was carried out (Source: Author, 2022)

velocity measurement survey was carried out in 2 periods, namely in March and September, where in September it was carried out in the morning until the evening with normal wind velocity so that it could be opened optimally. The results of temperature measurements from morning to evening were above normal. The results of humidity measurements in March felt damp, but in September it became normal/ideal again.

Table 9. Survey Results for Temperature, Humidity and Wind Velocity Measurements in Unit 1, 10th Floor

Unit 1							
Time & Weather		Temperature (°C)				Humidity (%)	
03	09	03	09	03	09		
08.27 Bright	08.05 Bright	30	30,7	66,7		64,9	
12.17 Light rain	11.28 Strong winds	30,4	31,6	66,1		59,2	
16.37 Windy rain	15.50 Bright	30,3	32,1	66,5		56,3	
Unit 1							
Time & Weather		Wind Velocity (m/s)					
		Outside Building		Window Sill		Room	
03	09	03	09	03	09	Rg	03
08.27 Bright	08.05 Bright	2,11	3,36	0,52	0,45	R1	0,17
						R2	0,19
						R3	0,33
12.17 Light rain	11.28 Strong winds	2,80	6,72	0,76	0,29	R1	0,11
						R2	0,15
						R3	0,33
16.37 Windy rain	15.50 Bright	4,27	5,09	--	0,67	R1	0,15
						R2	0,19
						R3	0,37

Table 10. Survey Results for Temperature, Humidity and Wind Velocity Measurements in Unit 2, 10th Floor

Unit 2								
Time & Weather		Temperature (°C)			Humidity (%)			
03	09	03	09	03	09	03	09	
08.39 Bright	08.12 Bright	30,1	30,7	65,4		65,6		
08.12 Bright	11.37 Strong winds	30,4	31,7	66,1		60,9		
16.55 Windy rain	15.58 Bright	30,2	32,2	66,3		54,8		
Unit 2								
Time & Weather		Wind Velocity (m/s)						
		Outside Building		Window Sill		Room		
03	09	03	09	03	09	Rg	03	09
08.39 Bright	08.12 Bright	2,43	2,41	0,71	0,56	R1	0,08	0,07
						R2	0,08	0,06
						R3	0,31	0,07
08.12 Bright	11.37 Strong winds	6,06	4,98	0,82	0,77	R1	0,15	0,12
						R2	0,13	0,07
						R3	0,60	0,24
16.55 Windy rain	15.58 Bright	6,75	12,18	--	2,30	R1	0,17	0,17
						R2	0,16	0,14
						R3	0,34	0,40
Unit 2								
Time & Weather		Note						
03	09							
08.39 Bright	08.12 Bright	Window is broken						
08.12 Bright	11.37 Strong winds	Window is broken						
16.55 Windy rain	15.58 Bright	Window is broken						

The temperature, humidity and wind velocity measurement survey was then continued on the 15th floor in tower B, in the unit marked with a red box as in the picture below:

In unit 1, a temperature, humidity and wind

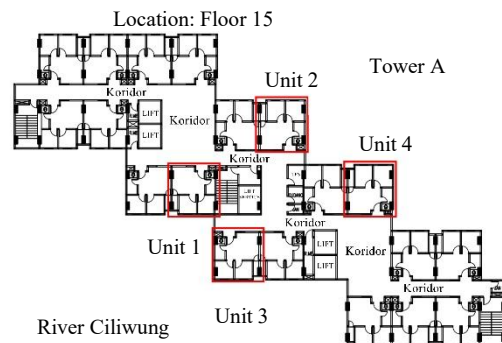


Figure 6. Plan of floor 15 in Tower B where a temperature, humidity and wind speed measurement survey was carried out (Source: Author, 2022)

velocity measurement survey was carried out in 2 periods, namely in March and September, where in September it was carried out in the morning until the evening with normal wind velocity so that it could be opened optimally. The results of temperature measurements from morning to evening were above normal. The results of humidity measurements in March and September were normal/ideal.

Table 11. Survey Results for Temperature, Humidity and Wind Velocity Measurements in Unit 1, 15th Floor

Unit 1								
Time & Weather		Temperature (°C)		Humidity (%)				
03	09	03	09	03	09			
09.17 Bright	08.35 Bright	31,2	30,9	63	63,6			
13.21 Strong winds	12.00 Strong winds	30,7	32	64,5	59,3			
17.23 Windy rain	16.17 Bright	30,8	31,9	64,3	53,1			
Unit 1								
Time & Weather		Wind Velocity (m/s)						
		Outside Building		Window Sill		Room		
03	09	03	09	03	09	Rg	03	09
09.17 Bright	08.35 Bright	3,17	3,11	0,76	0,26	R1	0,12	0,07
						R2	0,15	0,12
						R3	0,45	0,06
13.21 Strong winds	12.00 Strong winds	5,73	5,92	--	0,57	R1	0,21	0,05
						R2	0,22	0,07
						R3	0,47	0,11
17.23 Windy rain	16.17 Bright	5,89	3,49	--	0,55	R1	0,22	0,04
						R2	0,24	0,05
						R3	0,51	0,21
Unit 1								
Time & Weather		Note						
03	09							
09.17 Bright	08.35 Bright	The window can be opened maximally						
13.21 Strong winds	12.00 Strong winds	The window can be opened maximally						
17.23 Windy rain	16.17 Bright	The window can be opened maximally						

In unit 2, a temperature, humidity and wind velocity measurement survey was carried out in 2 periods, namely in March and September, where in September it was carried out in the morning until the evening with normal wind velocity so that it could be opened optimally. The results of temperature measurements from morning to evening were above normal. The results of humidity measurements in March and September were normal/ideal.

Table 12. Survey Results for Temperature, Humidity and Wind Velocity Measurements in Unit 2, 15th Floor

Unit 2					
Time & Weather		Temperature (°C)		Humidity(%)	
03	09	03	09	03	09
09.26 Bright	08.43 Bright	31,1	31,3	69,5	67,9
13.31 Strong winds	12.08 Strong winds	30,4	31,9	71,6	59
17.34 Windy rain	16.26 Bright	30,3	31,9	70,2	55,9
Unit 2					
Time & Weather		Wind Velocity (m/s)			
		Outside Building		Window Sill	
03	09	03	09	Rg	03 09
09.26 Bright	08.43 Bright	3,33	3,13	0,86	0,23
13.31 Strong winds	12.08 Strong winds	6,28	4,62	1,28	0,62
17.34 Windy	16.26 Bright	7,56	5,94	--	0,64

rain				R3	0,55	0,55
Unit 2						
Time & Weather		Note				
03	09					
07.35 Bright	07.45 Bright	Room window R1 is not working				
11.35 Strong winds	11.06 Strong winds	Room window R1 is not working				
15.57 Light rain	15.32 Bright	Room window R1 is not working				

Conclusion

The conclusions that can be drawn in this research are as follows:

1. Survey results measuring temperature, humidity and wind velocity were carried out in two periods, namely March and September.
2. Based on the results of temperature measurements in the two periods shown in the table above, the results of measuring the temperature range in each unit on floors 4, 10 and 15 in towers A and B are normal and above normal.
3. Based on the results of the humidity survey in the table above, the room in units 1 and 2 on floors 10 and 15 of tower A felt damp in March, the room in unit 1 on the 4th floor in March was damp and, in unit 2 on the 4th floor, it felt damp in March. March and morning in September. Units 1 and 2 on the 10th floor in March also felt damp.
4. Wind velocity in unit 2 on the 4th floor and units 1 and 2 on the 10th floor of tower A and units 2 10 of tower B, causing the windows to be damaged or even unable to function.
5. Apart from conducting surveys measuring temperature, humidity and wind velocity, researchers also conducted interviews with 36 residents in residential units where there were responses from residents as many as 8 respondents who felt uncomfortable living in flats and with an area of 30 m2 there were 7 residents who felt inadequate and 8 felt not enough.
6. From the results of interviews and thermal measurements, it was found that the worst conditions were rain and strong winds which caused the service area doors to make loud noises and window handles often broke. And if the dry season arrives, it causes high temperatures, so you need the help of a fan that is continuously turned on. The air humidity conditions inside the apartment are inadequate. High air humidity occurs after rain, which causes residents to feel hot in the unit

Based on the conclusions above, the researcher provides recommendations to increase room comfort in tower A and B units, as below:

1. Additional space is needed so that every activity can be accommodated so that it feels comfortable. However, current conditions do not allow for additional unit area, so it is necessary to arrange each room so that it is more compact and comfortable.
2. It is necessary to consider the type of opening material, the ratio of the opening area and the glass and frame materials used so that the window is not easily damaged, the handle is not easily broken and does not make a loud sound if there is a strong wind.
3. The air humidity in tower A and B flats is still not good so it does not support thermal comfort inside. Therefore, it is necessary to optimize air exchange in every room in the residential unit.

Acknowledgment

The author offers praise and gratitude to the presence of God Almighty, because thanks to His mercy and grace the author was able to complete the research entitled Evaluation of Space Comfort based on Occupant Satisfaction in West Jatinegara Flats Residential Units. The author would like to thank:

1. LPPM Universitas Kristen Indonesia who has funded this research.
2. Head of the Flat I Management Unit, thank you for being given permission to conduct research at the West Jatinegara Flats.
3. Research Team Mrs. Ulinata, ST.Ars., MT, Mrs. Sally Septania Napitupulu, ST., MT, Adinda Garda Merah and Kristoforus Dandy thank you for your cooperation.
4. Residents of the Jatinegara Flats who have become respondents in this research, thank you for your willingness to fill out the questionnaire.
5. Fellow lecturers in the Architecture Study Program at Universitas Kristen Indonesia who have supported the smooth running of this research.
6. Research Reviewers thank you for your input and suggestions so that the results of this research will be better.

Reference list/References

Aldrian, E., Karmini, M., & Budiman. (2011). *Adaptasi dan Mitigasi Perubahan Iklim*

di Indonesia, Pusat Perubahan Iklim dan Kualitas Udara. November, 174.

- Andiyan, Rachmat, A., & Kadir, Y. (2020). Post Occupancy Evaluation (Poe) Pada Bangunan Rusun Di Prov.Banten (Studi Kasus "Pembangunan Rusun Mbr Di Prov.Banten). *Jurnal Arsitektur Archicentre*, 4, 14–34. <https://journal.inten.ac.id/index.php/archicentre/article/view/41>
- Budiono, I. Z., Amira, L. N., Syafii, A. D., Farida, A., & Abdulhadi, R. H. wilman. (2023). Evaluasi Kenyamanan Aktivitas Kerja para pegawai Berdasarkan Indikator Kenyamanan Termal. *Jurnal Desain Interior*, 7(2), 99. <https://doi.org/10.12962/j12345678.v7i2.15367>
- Hendaryono, S. M. (2010). *Evaluasi Pengelolaan Rusun Pekunden dan Bandarharjo Semarang*. 1–208.
- Indonesia, U., & Timur, K. J. (2021). *Kajian Tingkat Kenyamanan Fisik Ruang Dalam Unit Hunian Rumah Susun Daan Mogot Jakarta Barat*. 12(01), 38–47.
- Kasus, S., Tebet, R., Abang, R. T., & Kalibata, R. (2016). *KAJIAN BESARAN RUANG PADA UNIT RUMAH SUSUN DI JAKARTA, Studi Kasus: Rusun Tebet, Rusun Tanah Abang dan Rusunami Kalibata*. 1(1), 93–112.
- Kendari, D. I. K. (2016). *EVALUASI PURNA HUNI RUMAH SUSUN SEWA PUDAI DI KOTA KENDARI ACHMAD SEPRYADI, Ir. Agam Marsoyo, M.Sc., Ph.D., Dr. Ir. Budi Kamulyan, M.Eng.* 2–3.
- Ketut, I., Jaya, P., Made, G., & Antara, Y. (2014). Pengaruh Terbatasnya Lahan Terhadap Intensitas Pembangunan Rumah Susun Di Dki Jakarta. *I Gede Made Yudi Antara*, 1(1), 22–27.
- Mandau, K. E. C. (2017). *SEKOLAH MENENGAH UMUM*. 7(2).
- Paryoko, V. G. P. J., Rachmawati, M., & Soemardiono, B. (2015). *Perancangan Rumah Susun dengan Pendekatan Simbiosis Ruang pada Tempat Tinggal Dulu dan Kini (Studi Kasus: Kediri)*.
- Ramawangsa, P. A. (2021). Perspesi Pengguna Terhadap Kenyamanan Termal Di Area Threshold Pada Iklim Mikro. *NALARs*, 20(2), 91. <https://doi.org/10.24853/nalars.20.2.91->

- Rubiati, B., & Padjadjaran, U. (2023). *KEPEMILIKAN RUMAH SUSUN UMUM YANG DIBANGUN DI ATAS TANAH BARANG MILIK NEGARA / DAERAH Pasal 28H ayat (1) Undang Undang Dasar Tahun 1945 Amandemen Keempat (Selanjutnya Undang-undang No . 20 Tahun 2011 tentang Rumah Susun (selanjutnya disebut UU Rumah r. 6, 206–220.*
- Sugini. (2014). *Kenyamanan Termal Ruang (Konsep dan Penerapan pada Desain)* (p. 251). [https://fcep.uir.ac.id/karya-ilmiah/SUGINI/Buku - Kenyamanan Termal Ruang Konsep dan Penerapan pada Desain.pdf](https://fcep.uir.ac.id/karya-ilmiah/SUGINI/Buku_-_Kenyamanan_Termal_Ruang_Konsep_dan_Penerapan_pada_Desain.pdf)
- Susilowati, M. H. D. (2016). *Perkembangan Permukiman Di Dki Jakarta*. 1–23.
- Suwandi, A. A., & Nur'aini, R. D. (2021). KAJIAN KONSEP ARSITEKTUR PERILAKU DAN TINGKAT KENYAMANAN PENGHUNI PADA HUNIAN VERTICAL DENGAN ANALISIS BEHAVIORAL MAPPING (Studi Kasus: Rusunawa Pinus Elok Tower C, Jakarta Timur). *Vitruvian Jurnal Arsitektur Bangunan Dan Lingkungan*, 10(3), 257. <https://doi.org/10.22441/vitruvian.2021.v10i3.009>
- Tomasowa, R. (2013). Mencermati Jendela Matahari di Atas Jakarta sebagai Dasar Perancangan Arsitektur. *ComTech: Computer, Mathematics and Engineering Applications*, 4(2), 1393. <https://doi.org/10.21512/comtech.v4i2.2677>
- Tondobala, L. (n.d.). *Jurnal Fraktal Vo. 6 No. 1 (30-37). 1(1).*
- Wati, T., & Fatkhuroyan, F. (2017). Analisis Tingkat Kenyamanan Di DKI Jakarta Berdasarkan Indeks THI (Temperature Humidity Index). *Jurnal Ilmu Lingkungan*, 15(1), 57. <https://doi.org/10.14710/jil.15.1.57-63>
- Wijaksono, S., & Galih Prawata, A. (n.d.). *Kenyamanan Termal Pada Rumah Susun Di Jakarta Barat*. <http://www.bmkg.go.id/>.
- Котлер, Ф. (2008). *No TitleМаркетинг по Котлеру*. 282.

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Manuscript ID (for office only): ARTEKS#

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