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Analysis of Supporting Resources for Residential Land in the Long-Term Economic Development Plan of Badung Regency 2025-2045

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ABSTRACT

The purpose of this study is to determine the status of the carrying capacity of residential land in the Regional Long-Term Development Planning of Badung Regency 2025-2045. This research is a documentary research using quantitative data sourced from the 2023 Badung Regency Strategic Environmental Assessment Document. The quantitative data was analyzed using the statistical analysis technique of carrying capacity and capacity of the Ministry of Environment 2014. The results of the documentary research found that: (a) Badung Regency for the years 2025-2045 has a surplus of settlement land of 1,976,077 residents. (b) However, if viewed based on the needs of residents per village/per sub-district for residential land needs, it can be seen that there are as many as three sub-districts with a deficit status of residential land, namely Kedonganan, Tuban, and Tanjung Benoa Villages. (c) Especially for Tuban Village, Kuta District, from 2023--2043 there is a deficit status of residential land. In addition, it can also be known that urbanization, industrialization, the absence of a Detailed Spatial Plan of the District, and inelastic permuliman land are the causes of the residential land deficit.

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1. INTRODUCTION

Development paradigms and indicators continue to evolve in line with new challenges and problems facing the world. World leaders agreed on eight specific and measurable global development goals called the Millennium Development Goals in 2000 and developed into the Sustainable Development Goals in 2015.

To ensure this commitment, Indonesia has issued Presidential Regulation Number 59, Year 2017 and Presidential Regulation Number 111, Year 2022 as the basis for the 2015-2019 and 2020-2024 medium-term development plans. The core of the development policy includes: (a) continuous improvement of the community's economic welfare, (b) sustainable social life of the community, (c) environmental quality and inclusive development, and (d) guaranteed governance to maintain and improve the quality of life from one generation to the next. The core of this policy is the basis for provincial and district/city governments throughout Indonesia in preparing their respective regional long-term development plans or RPJPDs.

Related to this, Badung Regency has also issued Regional Regulation Number 8, Year 2007 concerning Regional Long-Term Plans or RPJPD 2005-2025. Because the RPJPD will end in 2025, as a logical consequence of the Badung Regency Regional Government starting in early 2024 is obliged to prepare the 2025-2045 RPJPD.

The initial step in the preparation of the 2025-2045 RPJPD starts from a strategic environmental study or KLHS to ensure that development principles and goals have become the basis and are integrated in the 2025-2045 RPJPD. Aspects in the KLHS include: (a) geographical conditions, (b) hydrology, (c) demography, (d) land carrying capacity, (e) water carrying capacity, (f) food carrying capacity, (g) regional finance, (h) community welfare, (i) human development, and (j) several other important aspects.

One of the ten important aspects of the KLHS that is interesting to study is residential land resources. Land carrying capacity for settlements is the ability of an area to provide residential land to accommodate the number of residents and be able to live properly. Therefore, the analysis of land carrying capacity is very important in development planning or spatial planning, in order to estimate the availability of land in the Badung Regency area for settlements until the planning year.

Various studies on residential land in Badung Regency, including by Keswari et al. (2020) in their research entitled "Identification of Residential Characters in Three Development Areas of Badung Regency". They found that the characteristics of settlements in Badung Regency are divided into three characters, namely settlements in northern, central, and southern Badung. Settlements in northern Badung are arranged linearly along the main road, but houses tend to be separated by plantation areas. Settlements in central Badung are arranged linearly along the road, but with small access to the back of the house or rice fields. Meanwhile, settlements in southern Badung have shophouses along the main road and are interspersed with small alleys that are access to residents' houses.

Aryastana et al. (2023), in their research entitled "Analysis of Vegetation Index on Landsat Eight Imagery for Determination of Land Cover Change in Badung Regency, Bali Province". The study used the normalized difference vegetation index method from 2015--2021. The results of his research found that: (a) the problems that occur in urban areas are urbanization and industrialization which trigger changes in land use, urge green land to shrink, and building density that raises new problems, such as congestion, air pollution, and declining carrying capacity of residential land for the quality of life of the population; (b) there was a decrease

in land cover between 2015--2021 in vegetation class two, which was 57.26 km; (c) On the other hand, there was an increase in land cover for residential land classes covering an area of 47.38 km, land covering an area of km, 4.08 km, and water bodies covering an area of 5.80 km.

Lestari et al. (2024) in their research entitled "Regulation of Agricultural Land Conversion for Residential Land in Badung Regency". The research, using the approach of laws and regulations, legal facts, and analysis of legal concepts. The results of his research found that: (a) the regulation of land conversion that occurred in Badung Regency based on Law No. 26, of 2007 concerning Spatial Planning, Bali Provincial Regulation No. 16, of 2009 concerning the RTRW of Bali Province, and Badung Regency Regulation No. 26, of 2013 concerning RTRW; and (b) the accelerating factor or driving factor for the conversion of agricultural land for residential land in Badung Regency is that there is no legal umbrella for the detailed sub-district spatial plan.

Based on the description of the background of the research problem and the results of previous research on residential land in Badung Regency, it can be explained that the purpose of this research is to find out the status of the availability of residential land in the context of the preparation of the Regional Long-Term Economic Development Plan of Badung Regency 2025-2045. Because the purpose of the research has a wide scope, this research is designed as a documentary research, which is a research conducted by studying existing strategic environmental studies, especially related to the carrying capacity of residential land for a decent life.

2. Literature Review

The characteristics of a residential area are determined by biophysical factors, such as geology, soil shape, hydrology, vegetation, and animals, as well as human factors. The human factor includes socio-economic, cultural, population, and policy developments taken by the government. Human factors affect the characteristics of residential areas through infrastructure design, types of buildings erected, and historical features, all of which are material wealth (Black AE et al., 2003).

Humans affect the characteristics of a residential area through an increase in the number of population, an increase in housing needs, an increase in socio-economic needs, and other needs supported by the development of science and technology can lead to land conversion to meet the needs of the population for settlements occupying the highest proportion, especially in urban centers (Sarwar et al., 2016). This means that the high demand of the population for residential areas accompanied by technological and economic developments causes humans to be able to modify areas that were originally considered unsuitable for settlements into livable and economically valuable areas. However, policymakers need to realize that changes in land use can lead to changes in the characteristics of vegetation and animals, soil, and changes in related processes, which can ultimately affect biodiversity. This means that it can increase the potential risk of carrying capacity and environmental carrying capacity on the quality of the population (Elmhagen et al., 2015).

Wu et al., (2003) found that urbanization has made the Phoenix metropolitan area more structurally fragmented and complex, which can change the process of environmental ecosystems. Therefore, in building a residential area, it is necessary to consider several things, such as green open space and slope slope. Urban open space is a natural and cultural resource for the city. Open space is not always synonymous with parks, sleeping areas, or recreation. Open space encompasses all open areas in an urban area. Meanwhile, green open space is an area in the city for greening, plays an important role in maintaining air quality, groundwater supply, flood prevention, and lowering the temperature of the city, so that green open space must be maintained in the city (Febrianti and Sofan, 2014). On the other hand, the slope of the slope is one of the important factors to consider in the development of residential areas. A residential area is expected not to be built in an area with a slope of more than 25 percent. Because in addition to being prone to disasters, it can also reduce the quality of the environment.

Market Economy

Residential land economically is a basic necessity and has high economic value. Economic analysis involves the forces of supply and demand, as well as the concept of elasticity. Elasticity, is a measure used to measure how much buyers and sellers respond to changes that occur in a market. An understanding of the concept of elasticity will enable you to conduct supply and demand analysis with greater precision. In addition, through the concept of elasticity of several events or policies affecting a market, it is not only understandable about the direction of its influence, but also about the magnitude of the influence of an event or policy.

Regarding the conversion of land for settlements, it cannot be separated from the concept of elasticity of supply and demand for residential land. Many factors can affect the demand for residential land, including the availability of nearby substitute goods, the number and needs of the population. Normal goods, in general, have the nearest substitution, so consumers can easily switch from one good to another. On the other hand, residential land in Sampimng is needed by an increasing number of people, on the other hand, residential land does not have a nearby substitution. Based on the concept of elasticity, the demand of residents for residential land is classified as linear or has a demand elasticity value of less than one. This means that if the price of residential land rises by ten percent, the demand will drop slightly or less than ten percent. This will cause the demand for residential land to remain high, even though the price will rise (Mankiw, 2006).

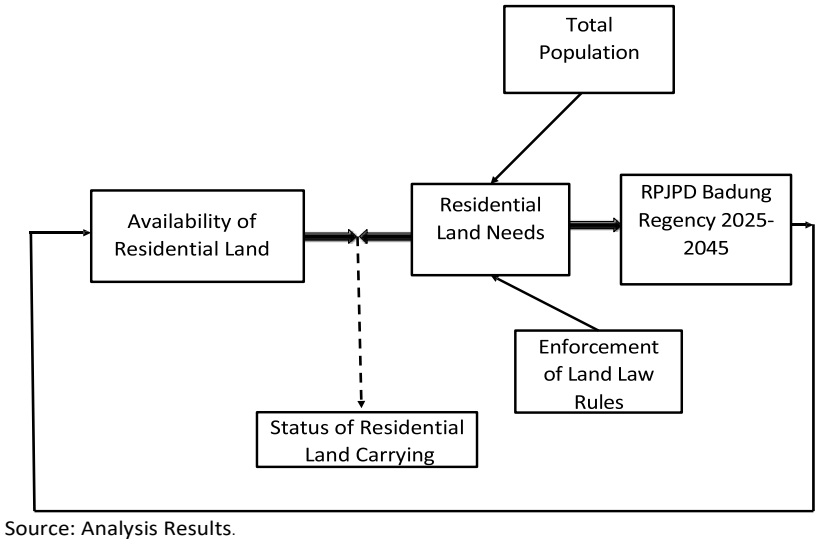
Law

The regulation of land use transfer in Badung Regency refers to Law No. 26 of 2007 concerning spatial planning, Bali Provincial Regulation No. 16 of 2009 concerning RTRW, Badung Regional Regulation No. 26 of 2013 concerning RTRW. However, the Regent and the Badung Regency DPRD in accordance with their authority have not yet issued a detailed spatial plan for the sub-district. In addition, the coordination relationship between Bappeda and BPN

is related to RTRW and the transfer of agricultural land functions. Bappeda has a spatial map, while BPN has a land ownership map. The two maps are interrelated and are a reference for the issuance of land change permits. In the case of granting a permit for land use change, the applicant submits to BPN, then the land technical consideration committee conducts a site review. If the land is applied for to be converted into agricultural land for the construction of a private residential house with an area of 5,000 m^2, a land use change permit is granted. If the land for which the use of agricultural land is applied for is non-agricultural to be built by a legal entity or developer with a land area of more than 10,000 m^2, the permit granted is a location permit.

The Regional Government through the relevant local government work units makes efforts to control licensing and supervision. If violations are found by the community, disincentive sanctions are imposed. On the other hand, if the violation is committed by the licensing official, criminal sanctions or disciplinary punishment are imposed (Dharma, 2003). In terms of legal sociology, land conversion is caused by law enforcement. Meanwhile, law enforcement factors are influenced by: (a) the legal factors themselves, namely the law; (b) law enforcement, i.e. the parties that form or apply the law; (c) facilities or facilities that support law enforcement; (d) community factors, namely the prevailing or applied legal environment; and (e) cultural factors as the result of human works, creations, and human taste (Soerjono Soekanto, 2011).

Research Concept Framework



Source: Analysis Results.

Based on the subject matter of the research, the objectives of the research, and *the rivew* on the literature of residential land, economics, and law, a framework of research concepts can be prepared, as follows. The status of residential land is determined by factors: (a) the amount of available residential land, (b) the number of population, (c) the number of

residential land needs, and (d) the application of applicable land law rules. Thus, if the availability of land is fixed, while the population grows, the need for residential land increases, and the enforcement of the rule of law is weak, it will determine the status of the settlement land surplus or slow deficit.

3. METHODS

The determination of the carrying capacity status of residential land is carried out through three stages, namely the stage of calculating the availability of residential land, the stage of calculating the area coefficient of space needs/capita, and the stage of determining the status of the carrying capacity of residential land. The status of carrying capacity is obtained by: the availability of residential land minus the number of residential land needs. If the reduction result is positive, it means a surplus. On the other hand, if the result is negative, it means a deficit. The formula for calculating the status of residential land based on the Ministry of Environment's 2024 ddtlh book, is as follows.

$$DDPm = \frac{L P m / J P}{\alpha}$$

Information:

DDPm = Residential carrying capacity

Lpm = Land area suitable for settlement within m2

α = Area coefficient of space requirement/capita (m2/capita). By SNI 03-1733-2004 is 26 m^2 while according to

= Regulation of the Minister of State for Public Housing No. 11/Permen/M/2008 explains that the need for settlements varies by region.

LPm can use several restrictions, including that the area that is suitable for residential land is outside the protected area and outside the flood-prone and landslide-prone area, so that the need for residential land can be calculated with the following formula.

LP = LW –(LKL + LKRB)

LW = Area

LKL = Area of LKRB protected area
= The area prone to disasters

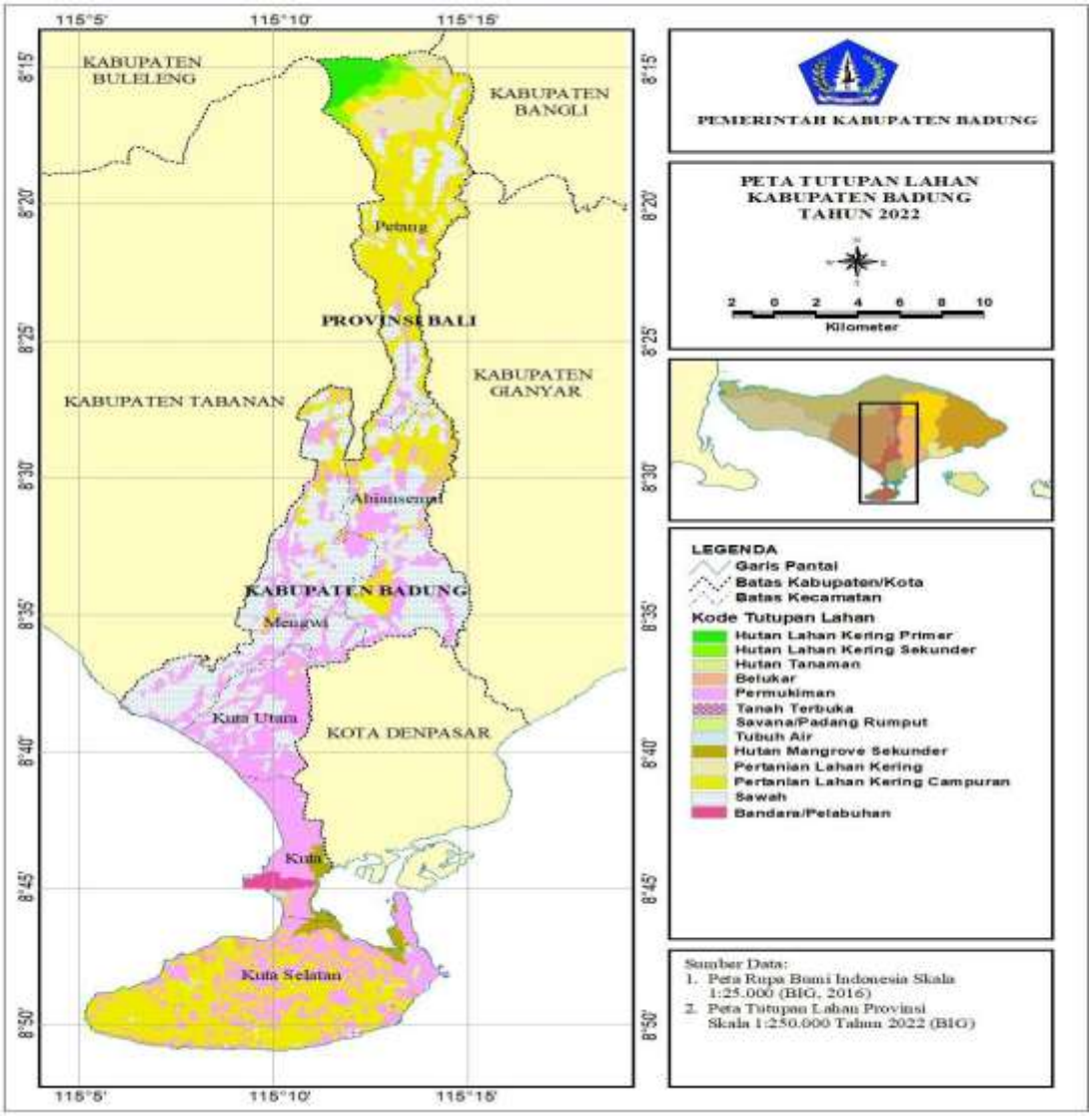
Or it can also use the limitation of land ability class, namely the ability of land in class I-IV to be used and suitable for settlements.

DDP	=	> 1	Able to accommodate residents to live
DDP	=	1	There is a balance between the residents who live or build a house and an existing area
DDP	=	< 1	Unable to accommodate residents to live or build a house in the area.

4. RESULTS AND DISCUSSION

Description of Badung Regency

Badung Regency is one of the nine regencies/cities in the Province of Bali. Badung Regency is located in the central part of the island of Bali longitudinal from the center to the South at $8^{014'20"-8050'48}$ South latitude and $115^{026'16"}$ East longitude, with an area of 418.52 km^2 or 7.43 percent of the island of Bali. This district administratively consists of six sub-districts and six Twenty-two villages/sub-districts. Abiansemal District consists of eighteen villages, Kuta District consists of five villages, South Kuta District consists of three villages and three villages, North Kuta District consists of three villages and three villages, Mengwi District consists of fifteen villages and five villages, and Petang District consists of seven villages.



Topographically and sloped, it is located at an altitude of 0--2,075 meters above sea level with three topographyes, namely lowlands, highlands, and hills. South Kuta District is at an altitude of 0--215 meters above sea level and there are more hilly areas. As for Kuta District, it is located at an altitude of 0--27 meters above sea level, North Kuta is at an altitude of 0--65 meters above sea level, Mengwi District is at 0--350 meters above sea level, Abiansemal District is at an altitude of 75--350 meters above sea level, and especially for Petang District is at an altitude of 275--2,075 meters above sea level with a slope of 15--40 percent which is a steep area. The topographic conditions and residential land in each sub-district can be seen on the Indonesian Terrain Map Scale 1: 25,000 (BIG, 2016) Badung Regency.

1. Analysis and Discussion

1.1 Carrying Capacity of Residential Land in Abiansemal District

Abiansemal District consists of eighteen villages, the population in 2023 is 97,710 people, estimated at 162,881 people in 2043. The total area of available residential land in 2023 is 4,893.83 m^3 with a population capacity of 489,683 people. Based on this data, it can be seen that Abiansemal District in 2043 has a surplus of residential land with 326,801 people or 66.74 percent (see Table 1.).

Table 1. Status of Residential Land in Abiansemal District

Village/Village	Availability of Residential Land (Ha)	Power Population Capacity (Soul)	Projected Population (Soul)		Difference in Population Capacity (Soul)		Power Status Support Residential Land	
			2023	2043	2023	2043	2023	2043
Abiansemal	265,42	26.542	8.018	13.336	18.524	13.176	Surflus	Surflus
Angantaka	216,4	21.640	4.140	6.901	17.500	14.739	Surflus	Surflus
Swing	164,74	16.473	2.516	4.194	13.957	12.279	Surflus	Surflus
Blahkiuh	415,96	41.596	6.320	10.535	35.276	31.060	Surflus	Surflus
Bongkasa	268,27	26.827	6.276	10.462	20.551	16.365	Surflus	Surflus
Bongkasa Pertiwi	201,12	20.112	2.633	4.389	17.479	15.723	Surflus	Surflus
Darmasaba	416,61	41.661	10.675	17.795	30.986	23.866	Surflus	Surflus
Dauh Yeh Cani	213,44	21.344	6.328	10.549	15.016	10.795	Surflus	Surflus
Jagapati	158,82	15.882	4.029	6.716	11.853	9.166	Surflus	Surflus
Mambal	223,1	22.310	5.353	8.923	16.957	13.387	Surflus	Surflus
Maker Bhuvana	145,27	14.527	5.193	8.657	9.334	5.870	Surflus	Surflus
Punggul	180,51	18.051	3.305	5.509	14.746	12.541	Surflus	Surflus
Sangeh	257,65	25.765	4.776	7.962	20.989	17.804	Surflus	Surflus
Keep	346,62	34.662	4.404	7.341	30.258	27.320	Surflus	Surflus
Selat	121,1	12.110	2.458	4.097	9.652	8.013	Surflus	Surflus
Sibang Gede	514,07	51.407	7.441	12.404	43.966	39.003	Surflus	Surflus
Sibang Kaja	296,89	29.689	6.836	11.396	22.853	18.293	Surflus	Surflus
Garden	490,84	49.084	7.009	11.684	42.075	37.400	Surflus	Surflus
Sum	4.893,83	489.683	97.710	162.881	391.973	326.801	Surplus	Surplus

Source: KLHS in the Badung Regency RPJPD 2025-2045.

1.2 Water Carrying Capacity of Kuta District

Kuta District, as a whole, consists of five villages, the population in 2023 is 50,678 people, estimated at 84,480 people in 2043. The number of available residential land in 2023 is 953.86 m^3 with a population capacity of 93,386 people. Based on this data, it can be seen that Kuta District in 2043 has a surplus status of residential land of 10,907 people or 11.68 percent, but there are two villages with a deficit status of residential land, namely Kedonganan and Tuban villages (see Table 2.).

Table 2. Status of Residential Land Carrying Capacity in Kuta District

Village/Urban Village	Availability of Residential Land (Ha)	Population Capacity (Soul)	Projected Population (Soul)		Difference in Population Capacity (Soul)		Land Carrying Capacity Status Settlements	
			2023	2043	2023	2043	2023	2024
Donganan	121,56	12.156	7.364	12.276	4.792	-120	Surflus	Defisit
Kuta	322,47	32.247	17.643	29.411	14.604	2.836	Surflus	Surflus
Legian	129,1	12.910	5.372	8.955	7.538	3.955	Surflus	Surflus
Seminyak	290,76	29.076	3.870	6.451	25.206	22.624	Surflus	Surflus
Investing	89,99	8.999	16.429	23.387	-7.430	-18.388	Defisit	Defisit
Sum	953,86	93.386	50.678	84.480	44.708	10.907	Surflus	Surflus

Source: KLHS in the Badung Regency RPJPD 2025-2045.

1.3 Water Carrying Capacity of South Kuta District

South Kuta District consists of three villages (Jimbaran, Kutuh, and Pecatu), and three sub-districts (Benoa, Tanjung Benoa, and Ungasan), with a population of 115,020 people in 2023, estimated at 191,737 people in 2043. The number of available residential land in 2023 is 6,391.1 m^3 with a population capacity of 639,109.53 people. Based on this data, it can be seen that South Kuta District in 2043 has a surplus status of residential land of 447,372 people or 70 percent, but there is one village with a deficit of residential land, namely Tanjung Benoa Village (see Table 3.).

Table 3. Status of Carrying Capacity of Residential Land in South Kuta District

Village/Village	Availability of Residential Land (Ha)	Population Capacity (Soul)	Projected Population (Soul)		Difference in Population Capacity (Soul)		Status of Residential Land Carrying Capacity	
			2023	2043	2023	2043	2023	2024
Benoa	1184,01	118.401	32.759	54.609	85.642	63.792	Surplus	Surplus
Jimbaran	1428,1	142.810	49.119	81.881	93.691	60.929	Surplus	Surplus
Kutuh	693,03	69.303	5.257	8.763	64.046	60.540	Surplus	Surplus
Pecatu	1843,74	184.374	8.235	13.728	176.139	170.646	Surplus	Surplus

Tanjung Benoa	96,19	9.619	5.815	9.694	3.804	-75	Surplus	Defisit
Ungasan	1146,02	114.602	13.835	23.063	100767	91.540	Surplus	Surplus
Sum	6.391,1	639109,53	115.020	191.737	524.090	447.372	Surplus	Surplus

Source: KLHS in the Badung Regency RPJPD 2025-2045.

1.4 Water Carrying Capacity of North Kuta District

North Kuta District consists of three villages (Canggu, Dalung, and Tibu Beneng) and three villages (Kerobokan, Kerobokan Kaja, and Kerobokan Kelod), with a population of 80,174 people in 2023, estimated at 133,649 people in 2043. The number of available residential land in 2023 is 266,017 m^3 with a population capacity of 266,017 people. Based on this data, it can be seen that North Kuta District in 2043 has a surplus status of residential land of 132,368 people or 49.76 percent (see Table 4.).

Table 4. Status of Residential Land in North Kuta District

Village/Village	Availability of Residential Land (Ha)	Population Capacity (Soul)	Projected Population (Soul)		Difference in Population Capacity (Soul)		Status of Residential Land Carrying Capacity	
			2023	2043	2023	2043	2023	2024
Canggu	423,81	42.381	6.976	11.629	35.405	30.752	Surflus	Surflus
Dalung	511,48	51.148	23.109	38.522	28.039	11.626	Surflus	Surflus
Kerobokan	325,82	32.582	10.062	16.773	22.520	15.809	Surflus	Surflus
Kerobokan Kaja	343,3	34.330	17.408	29.019	16.922	5.311	Surflus	Surflus
Kerobokan Kelod	619,99	61.999	10.768	79.950	51.231	44.049	Surflus	Surflus
Tibu Beneng	435,77	43.577	11.851	19.755	31.726	23.821	Surflus	Surflus
Sum	2660,17	266.017	80.174	133.649	185.843	132.368	Surflus	Surflus

Source: KLHS in the Badung Regency RPJPD 2025-2045.

1.5 Water Carrying Capacity of Mengwi District

Mengwi District as a whole consists of fifteen villages and five sub-districts (Abianbase, Kapal, Lukluk, Sading, and Sempidi), with a population of 127,389 people, estimated at 212,356 people in 2043. The number of available residential land in 2023 is 6233.23 m^3 with a population capacity of 623,323 people. Based on this data, it can be seen that Mengwi District in 2043 has a surplus status of residential land of 410,967 people or 65.93 percent (see Table 5.).

Table 5. Status of Residential Land in Mengwi District

Village/Village	Availability of Residential Land (Ha)	Population Capacity (Soul)	Projected Population (Soul)		Difference in Population Capacity (Soul)		Status of Residential Land Carrying Capacity	
			2023	2043	2023	2043	2023	2024
Abianbase	268,01	26.801	7.02	11.70	19.779	15.096	Surflus	Surflus
Baha	507,96	50.796	3.950	6.585	46.846	44.211	Surflus	Surflus
Buduk	262,64	26.264	8.553	14.258	17.711	12.006	Surflus	Surflus
Cemagi	415,78	41.578	5.271	8.787	36.307	32.791	Surflus	Surflus
Guliang	443,79	44.379	8.450	14.086	35.929	30.292	Surflus	Surflus
Ship	457,65	45.765	11.639	19.402	34.126	26.363	Surflus	Surflus
Tap	373,77	37.377	3.837	6.396	33.540	30.981	Surflus	Surflus
Kuwum	148,73	14.873	3.134	5.224	11.739	9.649	Surflus	Surflus
Luklukluk	372,25	37.225	8.025	13.378	29.200	23.847	Surflus	Surflus
Anonymous	184,22	18.422	8.087	13.481	10.335	4.941	Surflus	Surflus
Mengwitani	260,03	26.003	7.941	13.238	18.062	12.766	Surflus	Surflus
Munggu	510,6	51.060	2.255	12.094	43.805	38.966	Surflus	Surflus
Penarungan	388,62	38.862	7.126	11.879	31.736	26.983	Surflus	Surflus
Pererenan	292,14	29.214	3.268	5.448	25.946	23.767	Surflus	Surflus
Sading	211,25	21.125	8.293	13.824	12.832	7.301	Surflus	Surflus
Sembung	352,15	31.215	5.895	9.827	29.320	25.388	Surflus	Surflus
Sempidi	218,64	21.864	6.916	11.529	14.948	10.331	Surflus	Surflus
Contributions	220,92	22.092	3.942	6.571	18.150	15.521	Surflus	Surflus
Tumbakbayuh	157,92	15.792	3.423	5.706	12.369	10.086	Surflus	Surflus
Werdi Bhuwana	186,17	18.617	5.362	8.938	13.255	9.678	Surflus	Surflus
Sum	6233,23	623.323	127.389	212.356	495.934	410.967	Surflus	Surflus

Source: KLHS in the Badung Regency RPJPD 2025-2045.

1.6 Water Carrying Capacity of Petang District

Petang District consists of seven villages, with a total of 32,621 people in 2023, estimated at 54,379 people in 2043. The number of available residential land in 2023 is 6,999.96 m^3 with a population capacity of 699,996 people. Based on this data, it can be seen that Petang District in 2043 has a surplus status of residential land of 645,618 people or 92.23 percent (see Table 6.).

Table 6. Status of Residential Land in Petang District

Village/Village	Availability of Residential Land (Ha)	Population Capacity (Soul)	Projected Population (Soul)		Difference in Population Capacity (Soul)		Status of Residential Land Carrying Capacity	
			2023	2043	2023	2043	2023	2024
Belok/Sidan	2162,95	216.295	5.58	9.313	210.708	206.982	Surflus	Surflus
Carang Sari	529,77	52.977	6.011	10.020	46.966	42.956	Surflus	Surflus
Getasan	200,26	20.026	2.180	3.634	17.846	16.392	Surflus	Surflus
Pangsan	349,48	34.948	2.290	4.868	32.028	30.081	Surflus	Surflus
Pelaga	2205,2	220.520	6.649	11.084	213.871	209.436	Surflus	Surflus
Evening	703,65	70.365	4.435	7.393	65.930	62.972	Surflus	Surflus
Sulanges	848,66	84.866	4.839	8.067	80.027	76.799	Surflus	Surflus
Sum	6.999,96	699.996	32.621	54.379	667.375	645.618	Surflus	Surflus

Source: KLHS in the Badung Regency RPJPD 2025-2045.

The number of residential land available in 2023 is 28,132 hectares, with a population capacity of 2,811,515 people, while the number is 505,615 people in 2023 and is projected to continue to increase to reach 841,525 thousand people in 2043. The results of this analysis show that Badung Regency in 2043 as a whole has a surplus of residential land as much as

1,974,034 people, or 70.21 percent, but if you look at the needs of residential land, both villages and sub-districts, it can be seen that there are as many as three villages with a deficit status of residential land, namely Kedonganan, Tuban, and Tajung Benoa Villages. Especially for Tuban Village, Kuta District, the deficit of residential land, since 2023. The reasons for this deficit are The reasons for the deficit, especially in the South Badung area, are urbanization and industrialization (Aryastana et al., 2023), there is no legal umbrella on the Detailed Spatial Plan of the District, weak enforcement of public health (Lestari et al., 2024), and the factor of inelastic residential land needs (Mankiw, 2006). If this land conversion continues without adequate control, it is feared that there will be residential land use on land with a slope of more than 25 percent, changes in vegetation, animal and soil characteristics, and changes in related processes, which can ultimately affect biodiversity. This means that it can increase the potential risk of carrying capacity and environmental carrying capacity on the quality of the population (Elmhagen et al., 2015).

5. CONCLUSION

Based on the main problems of the documentary research, research objectives, literature review, and discussion of the research results of the 2023 RPJPD Strategic Environmental Study, it can be concluded that the status of the carrying capacity of residential land for the 2024-2045 Regional Economic Long-Term Development Planning of Badung Regency shows a surplus of residential land that is able to accommodate as many as 1,976,077 residents. However, several areas such as Kedonganan Village, Tuban Village in Kuta District, and Tanjung Benoa Village in South Kuta District, are predicted to experience a deficit of residential land in 2043. Especially for Tuban Village, Kuta District, the residential land deficit has occurred from 2023 to 2043.

The main factors that cause the deficit of residential land in these areas include rapid urbanization, the industrialization process, the absence of a Detailed Spatial Plan (RDTR) of the District, and the inelastic nature of residential land that is difficult to expand according to the needs of the population. As such, more comprehensive spatial planning policies are needed to address these challenges and ensure a balance between population growth, residential land needs, and environmental sustainability in the future.

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6. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. The authors confirmed that the paper was free of plagiarism.

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