

## **Colour Names in Madurese Through Semantic and Sociolinguistic Analysis for Language Policy and Planning**

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### **ABSTRACT**

Languages divide colour into named categories, yet the Madurese system has received little systematic attention. The only available classification places Madurese at stage IV of the sequence of Berlin and Kay and treats the terms for blue and brown as Dutch loans. This study aimed to document how Madurese speakers name gradations of colour, to identify the Berlin and Kay stage that the system supports, and to consider the implications for corpus planning in schools. A descriptive qualitative design was used. The data came from interviews with Madurese speakers in Bangkalan, Sampang, Pamekasan, Sumenep, and the Tapal Kuda region, from the traditional verse *meggha' bhalabbhar*, and from the native competence of the author. Each colour name was interpreted through its dictionary meaning and the semantic triangle, ordered by brightness and saturation, and placed on the Berlin and Kay sequence before a sociolinguistic reading was made. The analysis identified 42 colour names built on nine base terms, in which physical terms such as *dará*, *bucco'*, and *lange'* mark differences in brightness and saturation. The overlap of blue and green in *bhiru* is a pattern found in many languages, and the system is consistent with stage VII and not stage IV. The physical terms come from cooking, planting, fishing, breeding, and crafting, which supports a moderate reading of the Sapir-Whorf hypothesis. The colour names offer material for dictionaries and teaching materials, and a less familiar term such as *eju* could be revitalised through corpus planning.

**Keywords:** Colour Terms, Madurese, Semantics, Berlin And Kay, Corpus Planning, Language Planning And Policy

### **INTRODUCTION**

The traditional Madurese verse known as *meggha' bhalabbhar* (see Appendix A) is a celebrated work of Madurese oral culture. According to Rifai (2007), the title means "breaking the barrier". For centuries the verse has been performed during the traditional Madurese wedding ceremony. It contains seven colours, and each colour carries a distinct meaning, so the verse shows the richness of colour knowledge in the Madurese language. Although these meanings draw on Madurese perceptions, experiences, and local wisdom, each of them also shows how a linguistic symbol is connected with reality through human thought.

In the verse, the colours are interpreted as human dispositions. Black stands for desire or bad habit, red for brutal violence, purple for greed, blue for spite, yellow for envy, pink for arrogance, and white for sincerity. In the ceremony, a representative of the bride performs the verse first, and a representative of the groom follows immediately. The performance ends when all seven coloured threads have been cut. The six negative meanings are expected to be cast

away from the habits of the new couple, while the sincerity associated with white is expected to cover them in building a new family. These meanings refer to human character, and the link between colour and character is not accompanied by an explicit rationale. As a traditional verse, *meggaha' bhalabbhar* conveys advice from Madurese ancestors to a couple who intend to marry and raise a family. This form of marriage solemnization has become uncommon in recent years. Even so, the colour meanings in the verse show that Madurese speakers recognise colour in their culture and language. A fuller analysis is still needed, because a colour system comprises primary, secondary, and tertiary colours, and it remains unclear whether Madurese identifies all of them. Such an analysis would also allow Madurese to be compared with other languages and cultures worldwide.

The study of colour terms has long been guided by Berlin and Kay (1969), who proposed that languages acquire basic colour terms in a partially ordered sequence of seven stages, as summarised by Palmer (1983). This proposal has since been tested, refined, and challenged. Conway et al. (2020) analysed colour naming in Tsimane' and in the World Color Survey and argued that the evolution of colour terms is less stereotyped than the original sequence suggests, because cultures differ in how useful colour is for communication. Brosa-Rodríguez and Jiménez-López (2024) examined 136 corpora from 57 languages and refined the hierarchy through the concept of salience, while their results broadly matched the original stages. Bochkarev et al. (2023) traced the Russian terms for brown and showed that an emerging colour term first combines with nouns for artefacts and later extends to natural objects. This finding is relevant to Madurese, where many colour names are built from the names of physical referents. Martinovic et al. (2020) reported evidence for the limits of linguistic influence on colour discrimination, which keeps the Sapir-Whorf question open for any language under study. Within this body of work, the Madurese colour system has received little systematic attention. The main classification available is that of Rifai (2007), who places Madurese at stage IV and regards the terms for blue and brown as Dutch loans. The gradation of Madurese colour names has not been analysed in detail.

This study addresses that gap by examining how Madurese speakers recognise primary, secondary, and tertiary colours through differences in colour naming. A comparable pattern appears in the Javanese of central Java, where *abing* denotes the most intense red and differs from *abang*, and *iji* denotes the most intense green and differs from *ijo*. The study also responds to the perception that Madurese has no separate term for green, and it does so through traditional colour principles and the partial ordering of colour terms proposed by Berlin and Kay (1969). Three research questions guide the analysis. The first asks which colour names Madurese uses for basic, secondary, and tertiary colours and how these names are graded by brightness and saturation through physical terms. The second asks which stage of the Berlin and Kay sequence the resulting system supports and how this result relates to the claim of Rifai (2007). The third asks what the findings imply for corpus planning and for the teaching of Madurese in schools.

The specific terms analysed in this article, such as *mera dárá* (blood red), *koneng bucco'* (rotten yellow), and *bhiru lange'* (sky blue), are referred to as Colour Names (CN). The data come from field research in Madura, which combined interviews with the author's own competence as a native speaker of Madurese. Each colour is represented by one or more CN. For example, *mera* is distinguished from *mera dárá* by adding *dárá* as a physical term that marks brightness and spectrum level. In the same way, *koneng* is distinguished from *koneng bucco'* through the physical term *bucco'*, and *bhiru* is distinguished from *bhiru lange'* through

the physical term *lange'*. The function of *dará*, *bucco'*, and *lange'* raises a further question that is addressed in the analysis.

The analysis rests on semantics and sociolinguistics. The semantic part follows the view that physical terms refer to differences in colour level through a linguistic symbol (Palmer, 1983). The sociolinguistic part draws on Sapir (1929), who treated language as the medium of expression of a society, and on Whorf (1956), who argued that language acts as a filter that shapes how speakers perceive and organise the world. These positions matter for education because Madurese is still taught in primary schools in Madura and in some parts of Java. Misnadin and Yulawati (2023) surveyed 150 respondents in Bangkalan, Sampang, Pamekasan, and Sumenep and found positive attitudes toward learning, mastering, and using Madurese, Indonesian, English, and other foreign languages, which may offer a favourable setting for vocabulary development in schools. The study therefore contributes a documented gradation system of Madurese colour names, a re-evaluation of the stage assigned by Rifai (2007), and a basis for corpus planning. The following sections review the literature, describe the method, present the findings through dictionary meaning, semantic analysis, and sociolinguistic interpretation, and link the results to language planning and policy.

## LITERATURE REVIEW

### COLOUR TERMINOLOGY

Colour is a visual perceptual property that humans associate with categories such as red, green, and blue. It derives from the distribution of light energy across wavelengths, which the eye and brain interpret through the spectral sensitivities of the light receptors. Colour is a continuous variable, and humans can distinguish more than a million colours, yet the lexicons of the world's languages contain no more than a dozen basic colour terms (Lindsey & Brown, 2021). Colour categories are also associated with objects, materials, and light sources, whose colour depends on how they absorb, reflect, or emit light. A colour can be located in a colour space and identified numerically by its coordinates. Because words and physical specifications are distinct, speakers can build colour names from familiar objects. English *orange* derives from a fruit and *salmon* from a fish, and many languages also borrow colour terms from other languages (Conway et al., 2020). Other colour words refer to physical properties or physical terms. Indonesian uses *hijau daun* for a light green as part of *hijau*, and Madurese uses *pote kapor* for a pure white as part of *pote*.

Colour theory encompasses a variety of definitions, concepts, and design applications. Its modern history begins with Newton, whose prism experiments started in 1666 and whose circular arrangement of the spectral colours appeared in *Opticks* (Newton, 1704). Scientists and artists have since designed numerous colour diagrams and circles, and Kuehni and Schwarz (2008) report that the number of colour order systems developed throughout history is unknown but ranges in the hundreds. In the traditional colour wheel used in art, which is based on red, yellow, and blue, three pigment colours cannot be formed by mixing any other colours and are named primary colours. All other colours are derived from these three hues. Secondary colours are green, orange, and purple, and they are formed by mixing two primary colours. Tertiary colours comprise six colours that are formed by mixing a primary and a secondary colour, which is why their names have two words, such as yellow-orange, red-orange, red-purple, blue-purple, blue-green, and yellow-green. Figure 1 shows the arrangement of these groups in the colour wheel.

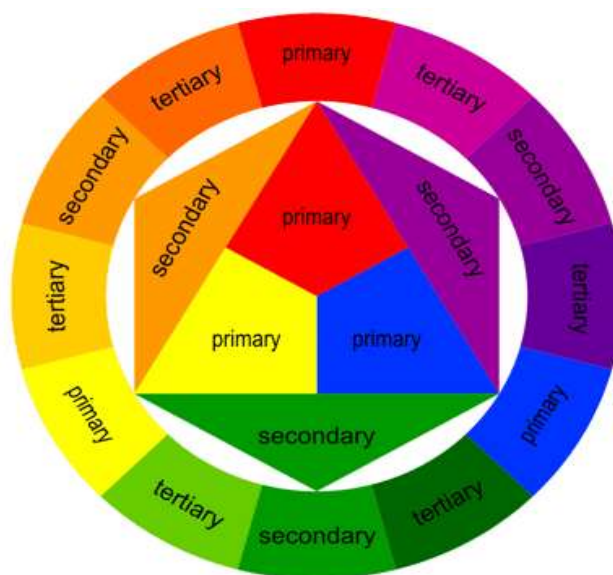


Figure 1 Traditional colour wheel with primary, secondary, and tertiary colours  
Note. Diagram prepared for this article on the basis of the traditional artists' colour wheel

In physical terms, visible light is electromagnetic radiation with wavelengths between about 400 and 750 nm ( $10^{-9}$  m), and it can be split into a spectrum of red, orange, yellow, green, blue, indigo, and violet. Red has the longest wavelength and violet the shortest. White light, as emitted by the sun, contains all these wavelengths, a point that Newton (1704) established through his prism experiments. The colour of an opaque object corresponds to the wavelengths that it reflects, while it absorbs all other wavelengths. Its apparent colour also depends on the colour of the incident light, so a blue object in red light looks black because no blue light is available to reflect. Coloured lights can be mixed to produce other colours. Red, blue, and green lights together produce white light, and for this reason additive mixing treats these three as primary colours. Such white light does not contain the full range of wavelengths present in sunlight, yet the human eye perceives it as white, and different combinations and intensities of red, blue, and green light can produce almost any colour sensation. The pigment-based and light-based systems of mixing therefore define primary colours differently. For linguistics, the central point is that speakers divide these continuous physical dimensions into a small number of discrete lexical categories (Lindsey & Brown, 2021), and the following sections ask how Madurese does so.

### SEMANTIC PRINCIPLES

Semantic analysis of colour terms commonly rests on the triangle of meaning proposed by Ogden and Richards (1923, as cited in Adisutrisno, 2008). In this model, a symbol, which is the word, and its referent in the world are mediated by a concept in the human mind, which is called the reference. The mentalistic approach treats meaning as a relationship among words, their referents in the real world, and their references in long-term memory (Adisutrisno, 2008). Conceptual meaning covers the basic components that a word conveys through its literal use (Yule, 2001). Colour terms illustrate this relationship clearly because the concept of a colour is anchored in experience with objects. Palmer (1983) observed that speakers do not always treat colour as hue, as in the description of the sea as wine-coloured, and that English colour

words do not always match their scientific definitions. These observations show that cultural experience shapes how colour is expressed in language.

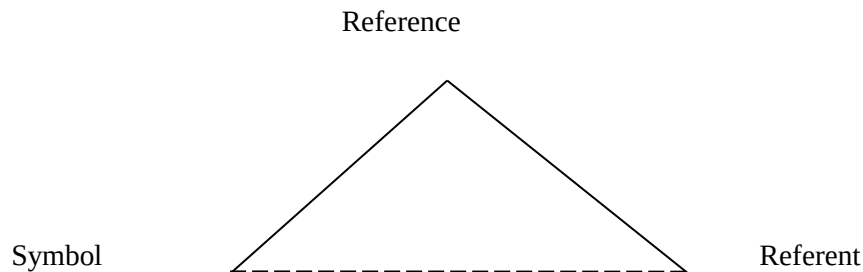


Figure 2 Semantics Triangle

Recent studies support this view. Golda et al. (2022) examined six basic colour terms in English, French, Italian, Polish, and Japanese through denotation, connotation, and collocation, on the premise that social and cultural factors shape the linguistic perception of colour. This distinction is useful for Madurese, because the moral meanings in *meggha' bhalabbhar* are connotative, while the physical terms in the colour names refer to objects in the speakers' environment. Bochkarev et al. (2023) found that a new Russian term for brown first combined with nouns for artefacts and later extended to natural objects. Their finding shows that the referents attached to a colour term can change over time. In Madurese, the physical terms include natural objects such as the tamarind seed and artefacts such as the roof tile. The present study applies the triangle of meaning to Madurese by treating the colour name (CN) as the symbol, the concept of colour gradation as the reference, and the physical term as the referent.

### COLOUR SYSTEM IN LINGUISTICS

Hjelmslev (1953, as cited in Palmer, 1983) compared the colour systems of English and literary Welsh and argued that colour cannot be accounted for through a single dimension. It involves three variables, namely wavelength, brightness, and saturation. Pink differs from red in saturation because pink contains a large amount of white. The levels of colour differ from one language to another, and this difference can also relate to cultural factors. Hjelmslev therefore argued that physical variables and colour systems are closely related, and this relation extends to the physical terms that speakers use to refer to colour gradation. Different cultures also assign colour names to slightly different parts of the spectrum.

Conklin's (1955, as cited in Palmer, 1983) analysis of Hanunóo in the Philippines identified four colour categories, which are black, white, red, and green. Three contrasts distinguish them. The first is lightness against darkness, which separates white from black. The second is the contrast between the light brown of bamboo shoots and the colour of living plants, which separates red from green. The third is deep and indelible colour against weaker colour, which separates black and red from white and green. English also departs from scientific definitions. Dried peas are green in colour but are not called green peas, while green often describes unripe fruit. White refers to brown in white coffee, to yellow in white wine, and to pink in the description of people (Palmer, 1983). These cases suggest that colour categorisation

is neither arbitrary nor random, because speakers are constrained by shared perception and experience.

Berlin and Kay (1969) investigated the basic colour terms of 98 languages, with detailed research on 20 of them, and proposed that the kinds of basic terms a language has can be predicted from the number of terms it has. They described seven stages, which are summarised in Table 1. The sign < in the implicational order means that a language with a term to the right also has all the terms to the left (Palmer, 1983). A language that has green therefore has red, and a language that has brown has blue. Languages with only two basic terms distinguish dark or cool colours from bright or warm colours. Even where languages share terms, they may apply them to different ranges of colour. The traditional Japanese terms for red and blue correspond to orange and turquoise in English, and the Navaho system of white, black, red, blue-green, and yellow is related to objects and colours used in ceremony (McNeill, 1972, as cited in Palmer, 1983).

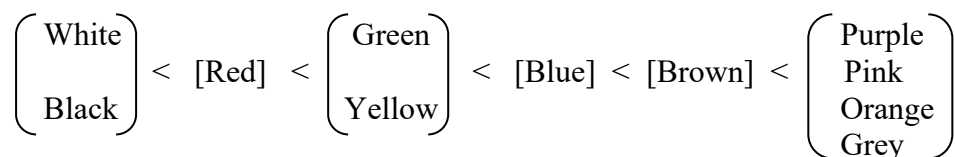


Figure 3 Basic Colour Terms

Source: [http://en.wikipedia.org/wiki/Basic\\_Color\\_Terms:\\_Their\\_Universality\\_and\\_Evolution](http://en.wikipedia.org/wiki/Basic_Color_Terms:_Their_Universality_and_Evolution)

Table 1. Stages of basic colour term evolution

| Stage | Basic colour terms                                                  |
|-------|---------------------------------------------------------------------|
| I     | Dark-cool and light-warm, a larger set than English black and white |
| II    | Red                                                                 |
| III   | Either green or yellow                                              |
| IV    | Both green and yellow                                               |
| V     | Blue                                                                |
| VI    | Brown                                                               |
| VII   | Purple, pink, orange, or grey                                       |

Note. Adapted from Berlin and Kay (1969), as summarised in Palmer (1983, p. 73).

## CRITICAL PERSPECTIVES ON THE BASIC COLOUR TERM MODEL

The Berlin and Kay model has stimulated more than fifty years of testing, and the literature now shows both support and revision. Lindsey et al. (2024) note that most languages draw their basic terms from a universal set of named categories, with a term often called *grue* that covers both blue and green. In a study of Somali and English speakers, they compared colour-sorting behaviour with the stages of Kay and McDaniel's model and with optimal sorting patterns based on perceived colour similarity. Brosa-Rodríguez and Jiménez-López (2024) analysed 136 corpora from 57 languages and obtained results that matched the original hierarchy well, although they refined it through the concept of salience. Conway et al. (2020) took a more critical position. They analysed colour naming in Tsimane' together with the World Color Survey and argued that colour terms do not evolve in a stereotyped sequence, because cultures

differ in how useful colour is for communication. In their analysis, communication efficiency rose first for yellow, then brown, then purple.

A related debate concerns how far colour terms influence cognition. Martinovic et al. (2020) re-examined the earlier finding that Russian speakers discriminate dark and light blues faster than English speakers do, and they reported evidence for limits on the influence of language on colour discrimination. In the present study, the Sapir-Whorf hypothesis is therefore held in a moderate form. Sapir (1929) regarded language as the medium through which a society expresses itself, and Whorf (1956) argued that language acts as a filter that shapes how speakers perceive and organise the world. The evidence reviewed above does not support a strict deterministic reading, yet it leaves room for the view that vocabulary reflects what a culture finds useful to distinguish. Taken together, these studies suggest that the stage model is a useful yardstick and not a fixed law. They also show that grue terms, referent-based names, and borrowed terms are expected in the world's languages, which is directly relevant to the Madurese terms *bhiru* and *sokklat*.

### CONCEPTUAL FRAMEWORK

The studies reviewed above leave a gap for Madurese. Stage models classify languages mainly through the inventory of basic terms, and the grading of a single colour through physical terms, as found in Madurese, calls for an additional semantic lens. Rifai (2007) assigned Madurese to stage IV on the basis of its basic terms alone. The present study therefore combines two frameworks. The first is the triangle of meaning, which treats the colour name as the symbol, the concept of colour gradation as the reference, and the physical term as the referent. The second is the Berlin and Kay partial ordering, which serves as an analytic yardstick for placing the Madurese system and for testing the claim of Rifai (2007). Brightness and saturation, following Hjelmslev, are the criteria for ordering the gradations within each colour. The Sapir-Whorf hypothesis frames the sociolinguistic interpretation in the moderate sense described above. Together, these elements allow the analysis to move from the colour name, through its physical referent, to the stage of the system and its relevance for corpus planning.

### METHOD

This study used a descriptive qualitative design to document and interpret Madurese colour names and the physical terms attached to them. Three sources supplied the data. The first was the traditional verse *meggha' bhalabbhar*, which is reproduced in Appendix A and was treated as a cultural text in which seven colours carry moral meanings. The second was interviews with Madurese speakers, which provided the primary data. The third was the competence of the author as a native speaker of Madurese, which allowed the data to be developed and checked from within the language. The field data came from the Madurese community on Madura Island. Because the phenomenon belongs to Madurese speakers in Bangkalan, Sampang, Pamekasan, Sumenep, and the Tapal Kuda region, the data are not tied to a single locality.

The data consist of Madurese colour names, here called Colour Names (CN), together with the physical terms that mark differences in brightness and saturation, such as *dará* in *mera dará*, *bucco'* in *koneng bucco'*, and *lange'* in *bhiru lange'*. Each CN was written in Madurese, with the apostrophe marking the glottal stop, and was glossed in English. The meaning of each CN and of its physical term was checked against the Madurese-Indonesian dictionary of

Pawitra (2009). The same spelling convention was applied to every example in the article so that the data could be read consistently.

The analysis followed four steps that match the order of the Findings. First, each CN was interpreted through its dictionary meaning. Second, each CN was analysed through the semantic triangle, in which the CN is the symbol, the concept of colour gradation is the reference, and the physical term is the referent (Palmer, 1983). The names within each colour were then ordered by brightness and saturation, following the variables described by Hjelmslev (1953, as cited in Palmer, 1983). Third, the colour inventory was placed on the sequence of Berlin and Kay (1969) and compared with the classification of Rifai (2007). Fourth, the results were interpreted from a sociolinguistic perspective through the Sapir-Whorf hypothesis and related to corpus planning for Madurese in schools.

## FINDINGS AND DISCUSSION

The data comprise 42 colour names (CN) that are built on nine base terms. These are *celleng* (black), *pote* (white), *mera* (red), *eju* (green), *koneng* (yellow), *bhiru* (blue and green), *sokklat* (brown), *bungo* (purple), and *bu-abu* (grey). Each CN consists of a base term and a physical term, and the names of each colour are arranged in a series from the lowest to the highest brightness and saturation. Table 2 summarises the data. The subsections that follow interpret each colour through its dictionary meaning and the semantic triangle, in which the CN is the symbol, the concept of colour gradation is the reference, and the physical term is the referent. Rifai (2007, p. 57) states that Madurese has ten basic colours, which are *pote* (white), *celleng* (black), *mera* (red), *bhiru* (green), *koneng* (yellow), *balau* (blue), *sokklat* (brown), *ennyat* (pink), *bungo* (purple), and *bu-abu* (grey), and he considers *balau* and *sokklat* to be borrowed from Dutch. The data of this study show that this account leaves out a number of colour names that remain in use among Madurese speakers.

Table 2. Madurese colour names, physical terms, and gradation

| Colour | CN                          | Physical term                 | Gradation                                     |
|--------|-----------------------------|-------------------------------|-----------------------------------------------|
| Black  | <i>celleng leceng</i>       | lampblack                     | darkest black                                 |
|        | <i>celleng areng</i>        | charcoal                      | next in the series                            |
|        | <i>celleng magi'</i>        | tamarind seed                 | brightest black, with a brown sense           |
| White  | <i>pote labay</i>           | oil-stove wick of cotton wool | darkest white                                 |
|        | <i>pote koddhu' or pace</i> | not glossed                   | white with a green sense                      |
|        | <i>pote pelay</i>           | reed                          | pale white with a reed sense                  |
|        | <i>pote susu</i>            | milk                          | white with a cream sense                      |
|        | <i>pote tolang</i>          | bone                          | purest white                                  |
|        | <i>pote kapor</i>           | lime                          | brightest white                               |
|        | <i>pote bu-abu</i>          | grey                          | border with grey                              |
|        | <i>mera ate</i>             | heart                         | darkest red                                   |
| Red    | <i>mera dárá</i>            | blood                         | red                                           |
|        | <i>mera cabbhi</i>          | chili                         | red                                           |
|        | <i>mera mejjal</i>          | red-eyed                      | red, regarded by some speakers as the reddest |

| Colour                    | CN                       | Physical term            | Gradation                                |
|---------------------------|--------------------------|--------------------------|------------------------------------------|
|                           | <i>mera dhalima</i>      | ruby or pomegranate      | brightest red, with white saturation     |
|                           | <i>mera nyat</i>         | not glossed              | pink                                     |
|                           | <i>mera jhambu</i>       | love apple or Java apple | pink                                     |
|                           | <i>mera bhata</i>        | brick                    | orange                                   |
|                           | <i>mera gantheng</i>     | roof tile                | orange                                   |
|                           | <i>mera pacar</i>        | henna                    | orange                                   |
| Green                     | <i>nyor eju</i>          | young coconut            | brighter than the greens of <i>bhiru</i> |
| Yellow                    | <i>koneng bucco'</i>     | rotten                   | darkest yellow                           |
|                           | <i>koneng tellor</i>     | egg yolk                 | brighter yellow                          |
|                           | <i>koneng kala'</i>      | not glossed              | similar to <i>koneng tellor</i>          |
|                           | <i>koneng emmas</i>      | gold                     | yellow                                   |
|                           | <i>koneng ghadhing</i>   | ivory                    | brighter than <i>koneng janor</i>        |
|                           | <i>koneng janor</i>      | young coconut leaf       | whitest composition                      |
|                           | <i>koneng konye'</i>     | turmeric                 | orange                                   |
| Blue                      | <i>bhiru terose</i>      | indigo plant             | darkest blue                             |
|                           | <i>bhiru dhalau</i>      | blue laundry powder      | blue                                     |
|                           | <i>bhiru tase'</i>       | sea                      | blue                                     |
|                           | <i>bhiru lange'</i>      | sky                      | blue                                     |
|                           | <i>bhiru tellor etek</i> | salted egg               | brighter blue                            |
| Green within <i>bhiru</i> | <i>bhiru lomot</i>       | moss                     | darkest green                            |
|                           | <i>bhiru buthol</i>      | bottle                   | green                                    |
|                           | <i>bhiru daun</i>        | leaf                     | green                                    |
|                           | <i>bhiru ompos</i>       | not glossed              | brightest green, darker than <i>eju</i>  |
| Brown                     | <i>sokklat tana</i>      | soil                     | darker brown                             |
|                           | <i>sokklat drill</i>     | drill fabric             | lighter brown                            |
| Purple                    | <i>bungo terrong</i>     | eggplant                 | purple                                   |
|                           | <i>bungo lange'</i>      | sky                      | border with blue                         |
| Grey                      | <i>abu tomang</i>        | ash of a wood stove      | grey                                     |

## BLACK

Black is rendered by *celleng*, which the Madurese dictionary also lists as *etem* and defines through comparison with charcoal (Pawitra, 2009, p. 560). Three CN were found for this colour. Speakers ordered them from the darkest, *celleng leceng* (lampblack), through *celleng areng* (charcoal), to the brightest, *celleng magi'* (tamarind seed), which carries a brown sense. In terms of the semantic triangle, the CN is the symbol, the concept of a black gradation is the reference, and lampblack, charcoal, and tamarind seed are the referents. *Leceng* is a deep black powdery substance that is produced by the incomplete burning of organic matter, and the dictionary lists the variants *lenges*, *lamos*, *langes*, and *leseng* (Pawitra, 2009, p. 364). This points to the familiarity of Madurese speakers with cooking over wood. *Areng* is a dark charcoal (Pawitra, 2009, p. 29), and *magi'* is the tamarind seed (Pawitra, 2009, p. 396), a plant that grows well in Madura and is used as a cooking spice. The physical terms in the CN of black therefore refer to objects in the daily activity and environment of the speakers.

## WHITE

The Madurese dictionary describes *pote* as a basic colour that corresponds to cotton (Pawitra, 2009, p. 561). Seven CN were found. From the darkest to the brightest white they are *pote labay*, *pote koddhu'* or *pace*, *pote pelay*, *pote susu*, *pote tolang*, and *pote kapor*, and *pote bu-abu* marks the border with grey. In this series the physical terms *labay*, *koddhu'*, *pelay*, *susu*, *tolang*, and *kapor* are the referents, the concept of white gradation is the reference, and *pote* is the symbol. *Pote bu-abu* refers to the concept of grey and is a mixture of white and black, which differs from *pote labay* because the latter is mostly white with a dark sense. This CN is best seen as part of *pote* in the special circumstance of fabric, and it does not form a different category of white in the way that the data discussed below do.

Madurese speakers have used these physical terms to distinguish *pote* for a long time, and the six kinds of white show that Madurese holds a heritage meaning for this colour. Most Madurese people are Muslim, and they interpret white as purity, which was also a favoured colour of the Prophet Muhammad (peace be upon him). This perception is in line with the meaning of white in *meggha' bhalabbhar*, where it stands for the sincerity that is advised to a newly married couple.

## RED

Red is linked mostly with blood. Etymologically, English *red* comes from an Indo-European root *r(e)udh* meaning ruddy, which is close to the Sanskrit word *rudhira* meaning blood (Paterson, 2003, p. 325). The Madurese dictionary defines *mera* as a primary colour that occurs with blood (Pawitra, 2009, p. 423). This similarity between the concept of red (reference) and its physical term, blood (referent), underlies the gradation of red in Madurese CN (symbol).

The data for red fall into three groups that are separated by two borders. The first group contains the CN of red in the strict sense. From the darkest to the brightest they are *mera ate* (heart), *mera dárá* (blood), *mera cabbhi* (chili), *mera meṭṭal* (red-eyed), and *mera dhalima* (ruby or pomegranate), which has a white saturation. Some Madurese speakers regard *mera meṭṭal* as the reddest of these. The second group follows the border between red and pink and contains *mera nyat* and *mera jhambu* (love apple or Java apple), which refer to pink. The third group follows the border between pink and orange and contains *mera bhata* (brick), *mera gantheng* (roof tile), and *mera pacar* (henna), which refer to orange. Madurese therefore places red, pink, and orange in one category of CN and distinguishes them through physical terms. Pink and orange are tertiary colours, and a language that recognises them would be placed at stage VII (Table 1). The case needs further analysis, however, because pink and orange appear here as gradations of *mera*.

Most physical terms in the red series come from the surroundings of the speakers. *Cabbhi*, *dhalima*, and *jhambu* are fruits that Madurese people plant, and *ate* and *dárá* are known from breeding activities. Some places in Madura are famous for producing *bhata* and *gantheng* as a craft occupation. Red is also a sensitive colour in Madurese culture, because *carok*, a duel fought with the sickle known as *celurit* that can end in death, shapes how people of other ethnic groups perceive Madurese people. This is supported by the contextual meaning of red in *meggha' bhalabbhar*, where it refers to brutal violence, while speakers of Indonesian interpret red as bravery.

## GREEN

The Madurese dictionary gives a simple definition, stating that *aju* is green and not blue, although it is also known through *bhiru* (Pawitra, 2009, p. 152). Only one CN of this kind was found, *nyoraju* (young coconut). It may be doubted as a CN of green, because *nyoraju* (green coconut) is a kind of *nyor* (coconut) that differs from *nyor koneng*, also called *nyor gadhing* (yellow coconut). The concept of green (reference) in Madurese thus refers to the colour of the coconut (referent), which is distinguished through the CN *aju* (symbol) from the other greens. The green of *nyoraju* is brighter than the greens in *bhiru*.

In the basic colour term pattern of Berlin and Kay (1969), green is placed in the middle of red and blue together with yellow. A language that recognises blue must therefore also recognise green and yellow, and a language that recognises only one of green or yellow is placed at stage III (Palmer, 1983). *Nyoraju* is used in Madurese traditional medicine and is believed to cure poisoning. It is now difficult to find, because Madurese culture distinguishes *nyoraju* from *began* (young coconut) by a much brighter colour. This cultural distinction can serve as a basic reference for identifying green in the Madurese colour system. The coconut *nyoraju* also differs from *nyor gadhing*, which is used in traditional ceremonies such as weddings.

## YELLOW

The Madurese dictionary describes *koneng* as pure gold and turmeric (Pawitra, 2009, p. 322), and Madurese speakers recognise yellow as a primary colour. Seven CN were found. *Koneng bucco'* is the darkest yellow. *Koneng tellor* and *koneng kala'* are almost similar in gradation, and *koneng tellor* is brighter than *koneng gadhing* and *koneng janor*. *Koneng gadhing* is brighter than *koneng janor*, and *koneng janor* has the whitest composition among them. After the border between yellow and orange, *koneng konye'* is interpreted as orange in Madurese perception, because the physical term *konye'* (turmeric) refers to a gradation between yellow and orange.

Berlin and Kay place yellow beside green, and a language is placed at stage III or IV when it identifies yellow. As one of the three primary colours, yellow takes part in building other colours, which may explain why most languages distinguish it. In the present data, the CN of yellow support a stage higher than stage IV for Madurese.

The physical terms in the yellow series are things from the daily life of the speakers. *Tellor*, *janor*, and *emmas* are known from breeding, planting, and cultural practice. The familiarity of *emmas* (gold) is supported by the heritage proverb *reng lake' emmas pa'lekor karat*, which means that a man is as valuable as pure gold of 24 carats. For this reason, yellow in *meggha' bhalabbhar* stands for envy or jealousy toward the possessions or qualities of others.

## BLUE AND THE GREENS OF BHIRU

The dictionary states that *bhiru* is green, except for *bhiru lange'* and *bhiru tase'* (Pawitra, 2009, p. 69). The gradations of *bhiru* split into two concepts in the data, in accordance with their physical terms in the real world. This is why the concept of blue overlaps with green in Madurese. Within *bhiru*, the blue group runs from *bhiru terose* (indigo plant), the darkest blue, through *bhiru dhalau* (laundry blue powder), *bhiru tase'* (sea), and *bhiru lange'* (sky), to *bhiru tellor etek* (salted egg), the brighter blue. *Terose* is a plant that yields a blue much darker than that of *dhalau*, *tase'*, *lange'*, or *tellor etek*.

The second concept in the *bhiru* series relates to green. After the border between blue and green, the green group contains *bhiru lomot* (moss), *bhiru buthol* (bottle), *bhiru daun* (leaf), and *bhiru ompos*. The physical term *lomot* gives the darkest green, followed by *buthol* and *daun*, while *ompos* gives the brightest. Even this brightest green is much darker than the *ēju* of *nyor ēju*, which Madurese speakers recognise as green. The green concept in the *bhiru* series therefore differs from the green concept of *ēju*.

The physical terms in this series also come from the environment of the speakers. *Terose*, *lomot*, and *daun* come from farming or planting. *Tase'*, *lange'*, and *tellor etek* come from fishing and breeding, and *dhalau* is a blue dye powder that is used to make white cloth look brighter in laundering. The use of familiar things to build gradations of colour shows the ability of Madurese speakers to express colour through their cultural experience.

### BROWN, PURPLE, AND GREY

The dictionary recognises *sokklat* as a colour in Madurese (Pawitra, 2009, p. 660) but gives no physical term for it. In the data, the concept of brown (reference) is related to the physical terms *tana* (soil) and *drill* (a kind of fabric) as referents in the CN *sokklat tana* and *sokklat drill* (symbols). *Sokklat tana* is much darker than *sokklat drill*. Brown is placed at stage VI of the Berlin and Kay pattern, which a language reaches after it identifies blue and before it identifies purple (Table 1). Rifai (2007, p. 57) regards brown as borrowed from Dutch. The data show that even if Madurese borrowed brown from another colour system, speakers still differentiate it by brightness and saturation through physical terms. Speakers recognise brown most readily when it is connected with *tana*, *drill*, or *kajhu* (wood), and some appear unsure about the relation between *sokklat* and chocolate.

The dictionary describes *bungo* as part of the colour purple or blue (Pawitra, 2009, p. 92), so *bungo* is only partly separated from *bhiru* (blue). Two CN were found. *Bungo terrong* (eggplant) refers to true purple, and *bungo lange'* (sky), after the border between purple and blue, refers to blue. The concept of purple (reference) is shown in *terrong*, a vegetable-fruit that Madurese people plant (referent), and it is represented by the CN *bungo* (symbol). Madurese recognises purple in the same way that English does, which places it at stage VII.

The last colour found is grey, a mixture of black and white. The dictionary also lists *abu* as a kind of colour, in addition to the reduplicated form *bu-abu*. The CN *abu tomang* corresponds to grey through its physical term, the ash of a stove that burns wood, which comes from the mixing of black and white. Madurese speakers recognise *abu tomang* culturally through *tomang* in their real world and experience.

Table 3. Madurese colour names by stage of Berlin and Kay (1969)

| Stage | Basic colour terms            | Madurese CN found                                                                                       |
|-------|-------------------------------|---------------------------------------------------------------------------------------------------------|
| I     | Dark-cool and light-warm      | celleng, pote                                                                                           |
| II    | Red                           | mera                                                                                                    |
| III   | Either green or yellow        | ēju, koneng                                                                                             |
| IV    | Both green and yellow         | ēju, koneng, and the greens of bhiru                                                                    |
| V     | Blue                          | bhiru terose, bhiru tase', bhiru lange', and the borrowed balau                                         |
| VI    | Brown                         | sokklat                                                                                                 |
| VII   | Purple, pink, orange, or grey | bungo, mera nyat, mera jhambu, mera bhata, mera gantheng, mera pacar, koneng konye', bu-abu, abu tomang |

#### PLACEMENT OF MADURESE IN THE BERLIN AND KAY SEQUENCE

Rifai (2007, p. 57) places Madurese at stage IV, the level of Javanese, because he finds no Madurese term for blue, and he regards *balau* and *sokklat* as Dutch loans. The present data lead to a different reading. Madurese has CN for blue within the *bhiru* series, a separate CN for green in *uju*, a CN for brown that is differentiated through *tana* and *drill*, and CN for purple, pink, orange, and grey. In the implicational order of Berlin and Kay, a language that recognises blue also recognises green and yellow (Palmer, 1983), so the evidence of blue within *bhiru* is difficult to reconcile with stage IV. The data are therefore consistent with stage VII, the stage of English. The eleven colours are present, although several of them are expressed as gradations within one base term and not as separate basic terms. Rifai (2007) also points to a lack of red-orange, but the series *mera bhata*, *mera gantheng*, and *mera pacar* and the term *koneng konye'* show that Madurese distinguishes orange.

This reading needs care, because the Berlin and Kay stages have been refined and challenged in recent work. Conway et al. (2020) argue that colour terms do not evolve in a stereotyped sequence, Brosa-Rodríguez and Jiménez-López (2024) refine the hierarchy through corpus salience, and Lindsey et al. (2024) note that a term covering both blue and green is common across languages. In this light, the overlap of blue and green in *bhiru* is not a deficiency of Madurese. It is a pattern found in many languages. The perception that Madurese lacks green reflects the dual use of *bhiru* and the lesser fame of *uju*, which makes the green CN less useable among Madurese speakers. The borrowing of *balau* and *sokklat* does not weaken the case, because many languages borrow colour terms (Conway et al., 2020), and Madurese speakers still grade *sokklat* through physical terms. Because the claim of stage VII rests on CN that include composite forms such as *mera nyat* and *mera bhata*, the placement is best read as an indication of the richness of the Madurese colour system and not as a fixed classification.

#### PHYSICAL TERMS AND THEIR CULTURAL SOURCES

The physical terms in the CN come from the activities and the environment of Madurese speakers. They cover cooking (*leceng*, *areng*, *labay*, and *abu tomang*), planting (*magi'*, *koddhu'*, *cabbhi*, *dhalima*, *jhambu*, *nyor*, *bucco'*, *janor*, *konye'*, *terose*, *lomot*, *daun*, *tana*, and *terrong*), fishing (*tase'* and *lange'*), breeding (*susu*, *tolang*, *ate*, *dará*, *tellor etek*, and *tellor*), crafting (*kapor*, *bhata*, *gantheng*, *emmas*, *dhalau*, *buthol*, and *drill*), and a few abstract things (*meŋŋal*, *nyat*, *kala'*, and *ompos*). This distribution shows the complexity of Madurese culture, and it supports the moderate view of the Sapir-Whorf hypothesis that this study adopts. Vocabulary reflects what a community finds useful to distinguish (Conway et al., 2020), whereas the present data cannot show that vocabulary changes how speakers perceive colour, a claim that has received limited support elsewhere (Martinovic et al., 2020). The presence of both natural referents, such as tamarind seed, egg yolk, and coconut, and artefacts, such as brick, roof tile, bottle, and drill fabric, is relevant to the pattern that Bochkarev et al. (2023) describe for Russian, where an emerging colour term first combines with nouns for artefacts and later extends to natural objects. The diachronic evidence needed to test this pattern for Madurese is not available.

The cultural meanings also operate at the level of connotation. In *meggha' bhalabbhar*, black stands for desire, red for brutal violence, purple for greed, blue for spite, yellow for envy, pink for arrogance, and white for sincerity. Some of these meanings differ from those of other cultures, as in the case of red, which speakers of Indonesian interpret as bravery. These

connotations show how colour terms help to build the linguistic image of the world of a community (Golda et al., 2022).

#### LANGUAGE PLANNING AND POLICY IN MADURA

Madurese is one of the largest regional languages in Indonesia, and it has shown uniqueness and continuity. It has been taught from the elementary level through junior high school, and its provision at the senior high level has varied across regions. Misnadin and Yuliawati (2023) surveyed 150 respondents in Bangkalan, Sampang, Pamekasan, and Sumenep and found positive attitudes toward learning, mastering, and using Madurese, Indonesian, English, and other foreign languages. The provincial government has since given the language a firm legal basis. East Java Governor Regulation Number 36 of 2024 makes Javanese and Madurese a compulsory local content subject in senior high schools, vocational schools, and special education, with two lesson hours per week, and it revokes Regulation Number 19 of 2014 (Gubernur Jawa Timur, 2024). At the regency level, Sumenep and Pamekasan have introduced policies to learn and use the language under certain circumstances, Sampang is progressing with a plan, and Bangkalan appears to be the least active in preserving the language through education. The Besuki Raya area, a group of regencies in East Java, follows Sumenep and Pamekasan with the support of universities that research the language.

Language planning is a government-authorised, long-term, sustained, and conscious effort to alter the function of a language in a society in order to solve communication problems (Weinstein, as cited in Wardhaugh, 2006, p. 356). Many efforts by academics, teachers, practitioners, and enthusiasts to raise the standing of Madurese would achieve little without the support of policies from stakeholders. Policies that place Madurese on a par with Javanese and Indonesian, or even English and Mandarin, as a school subject would help to attract the interest of students. Language policy concerns the selection and use of a language, whether through status planning or corpus planning.

This study operates at the level of corpus planning, which seeks to develop a variety of Madurese that can be standardised and used in education. In a broad sense, corpus planning may involve the development of orthography, new sources of vocabulary, dictionaries, and literature so that the use of the language can be extended. The colour data are relevant to these tasks. The 42 CN could be added to dictionaries and teaching materials, and the verse *meggha' bhalabbhar* offers literary material for the classroom. The green term *ēju*, which has become less familiar, is an example of vocabulary that corpus planning could revitalise. The regulation of 2024 supports this direction, since it makes the provincial government responsible for preparing teachers and facilitating teaching materials and states that learning outcomes should be drawn from local culture and values and emphasise pragmatic and communicative competence (Gubernur Jawa Timur, 2024). Colour vocabulary fits these provisions because it is concrete and rooted in local activities. Although the regulation covers senior secondary and special education, the same vocabulary could serve earlier stages, where enriching vocabulary is especially important beside pronunciation and grammatical structure.

#### CONCLUSION

This study set out to document how Madurese names gradations of colour and to test the classification of Madurese in the sequence of Berlin and Kay (1969). The data comprised 42 colour names (CN) built on nine base terms, and speakers graded each colour by brightness and saturation through physical terms such as *leceng*, *labay*, *dará*, and *terose*. Madurese

recognised primary colours such as red and yellow, secondary colours such as green and purple, and tertiary colours such as pink, orange, brown, and grey, although pink and orange were expressed as gradations of *mera*. This result differs from the classification of Rifai (2007), who placed Madurese at stage IV, noted a lack of red-orange, and considered blue and brown to be borrowed. The data are consistent with stage VII, and the overlap of blue and green in *bhiru* reflects a pattern found in many languages and does not indicate a missing green. Because several CN are composite forms, the placement is best read as an indication of the richness of the Madurese colour system and not as a fixed classification.

The physical terms came from cooking, planting, fishing, breeding, crafting, and a few abstract things, which shows that Madurese speakers build their colour vocabulary from cultural experience. This supports a moderate reading of the Sapir-Whorf hypothesis, in which vocabulary reflects what a community finds useful to distinguish, and the connotative meanings of *meggha' bhalabbhar* add a cultural layer to the same system. The findings also carry implications for language planning. The CN offer material for dictionaries and teaching materials, and the term *eju*, which has become less familiar, is vocabulary that corpus planning could revitalise. Colour words are concrete and suitable for early language learning, where vocabulary enrichment matters beside pronunciation and grammar. These uses fit the provisions of East Java Governor Regulation Number 36 of 2024 on teaching materials and on learning outcomes drawn from local culture (Gubernur Jawa Timur, 2024).

Several limitations should be acknowledged. The data came from interviews and the native competence of the author, so they may not capture the full variation among the Madurese varieties of Bangkalan, Sampang, Pamekasan, Sumenep, and the Tapal Kuda region. The study described the lexicon without testing how speakers perceive or discriminate colour, and it had no diachronic evidence on the loan terms *balau* and *sokklat*. Future research could elicit colour names systematically across regencies and age groups, compare the Madurese gradation system with Javanese and other regional languages, test colour discrimination among Madurese speakers to examine the limits of linguistic influence, and evaluate the use of colour vocabulary in classroom teaching.

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## APPENDIX A

*Meggha' Bhalabhar (Mokka' Labang Petto')*

*Eologha Empo Kelleng  
 Epakaja ma' sane' kaso  
 Panyenggha rabet se **celleng**  
 Sopaja ejhauana napso.*

*Bhettok kampong Aengmera  
 Etete e palangnga para  
 Kettok bennang se **mera**  
 Pamaste elangnga angkara.*

*Angka'aghi biddhang jharango  
 Tekka'a banya' bujana  
 Jha' obu dhang-addhang **bungo***

*Ma 'le ta' dhakka ka dhunya.*

*Tabbhuwan bharenteng aru-giru  
Tre-potre pas eatore lengghi,  
Buwang deng-andeng se **biru**  
Nopre serna batek dengghi.*

*Ajhulu ta' duli ngenning  
Margha egersa panassa are,  
Pajhau tale se **koneng**  
Kaangghuy manyenggha rassa ere.*

*Ajhajha ghangang tarnya'  
Ebuwang eghanteana bhako,  
Oja pangalang **ennyat** ngeras  
Mowang sepat angko.*

*La neggha; dhalko' e tete  
Pas pasdha ja' buddhak bulu guluna,  
Papeggha' labay se **pote**  
Patandha sadaja tendhak saduhuna.*