

## Domain change and ethnolinguistic vitality: Evidence from the fishing lexicon of Loloan Malay

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This paper reports a study on the vitality of the fishing lexicon in Loloan Malay. The study was aimed at finding the nature and pattern of domain change, its inter-generational transmission, and its significance for overall ethnolinguistic vitality. The data were collected from a representative group of fishermen through tests that were complemented by interviews. A simple quantitative analysis was undertaken to discover patterns of change, and the ethnographic method was also used to augment the analysis. This study contributes to the sociolinguistic research on language vitality, contact-induced change, and the endangerment of minority languages. The findings reveal a surprising paradox. Although it is still considered to have high cultural importance, the fishing domain is critically endangered. It is argued that the low vitality of the fishing domain does not affect the vitality of the Loloan Malay language in general. The reason is that the linguistic ideology that underpins the group identity of Loloan Malay at the macro-societal level is not tied to fishing, but rather, to religion. This paper also discusses the complexity of the variables involved in domain change, particularly the extra-linguistic factors that contribute to the changes in the fishing domain due to modern socio-economic and technological progress.

**1. Introduction**<sup>1</sup> The study reported in this paper was conducted to investigate the vitality of Loloan Malay, a minority language spoken by a group of Muslim people

<sup>1</sup>We thank the main Loloan Malay people who participated in our study (in alphabetical order): Arifin Maya, Ali Nasri, Ahmad Nuri, Ahmad Samsul Arif, Muztahidin, Imam Mahrus, Mustaqim, Muhamad Irfani, Nur Yasin, and Nurhadi. We are particularly grateful to our Loloan Malay consultant Muztahidin, who not only helped with the data collection but also provided additional information, including the pictures.

(2,538)<sup>2</sup> in western Bali, Indonesia. The study focuses on changes in the linguistic and knowledge domain of fishing, which is a culturally important domain of the Loloan Malay people in Bali. Language vitality is defined as the extent to which a language is passed on to the next generations (Pauwels 2016:37). The investigation into language vitality has been an important issue that has attracted much attention, particularly among the stakeholders concerned with language endangerment. Language vitality is part of the greater issues of the vitality of a speech community, which is also called *ethnolinguistic vitality*. The notion of ethnolinguistic vitality, which is defined as “that which makes a group likely to behave as a distinctive and collective entity within the intergroup setting” (Giles et al. 1977:308), provides a conceptual tool for analyzing the relative strengths and weaknesses of speech communities in dynamic multilingual settings.

Several scales have been developed for the assessment of vitality, such as the Graded Intergenerational Disruption Scale (Fishman 1991:87), the Language Vitality Assessment (UNESCO 2003:8), the Ethnologic Vitality Categories (Lewis & Simon 2010:104), and the Language Endangerment Index (Lee & Way 2016:281–285). Each scale consists of six categories, except the Ethnologic Vitality Categories, of which there are five. The graded Intergenerational Disruption Scale (GIDS) has then been expanded as the Expanded Intergenerational Disruption Scale, which consists of 13 categories. In the context of endangered languages, accurate assessments of ethnolinguistic vitality and understanding of the related variables involved are logical initial steps to be conducted before designing or undertaking any language revitalization program.

The key point is that the more vital a language or a speech community is, the more likely it is to survive and thrive as a linguistic and collective entity in a multilingual and intergroup context. However, a language and its speech community are complex entities in a dynamic ecology. As a system, language consists of evolving subdomains (e.g., grammar and lexicon, which consist of fine-grained subdomains). In addition, several socio-politico-economic and demographic variables affect whether individuals or speech communities maintain their languages, switch to different languages, or become bilingual in intergroup settings. Previous studies found that individuals or communities stopped transmitting their native languages to the next generation(s) for economic reasons. For example, Ladefoged (1992:810) reports that his Indian colleague and his wife decided to stop using their native language so that their son would speak English like a native speaker because of the importance of native English fluency for his son’s employment.

Demographic factors, such as the number of speakers and the population growth and dispersal, have been known to play important roles in the competition dynamics that determine language vitality and shift. The language spoken by a small number of speakers tends to be at risk. A small language group has the tendency to merge with

<sup>2</sup>This figure is based on the current information as recorded in *Profil Desa 2017* (the 2017 Village Profile): It refers to the number of local people who are ethnically (Loloan) Malay and primarily living in East Loloan. A small group of them live in West Loloan. Note that there are other Muslims in East and West Loloan who are ethnically Javanese, Sundanese, and Madurese. They have often intermarried with the local Loloan Malay people, and they are semi-speakers of the Loloan Malay language.

a neighboring bigger language group, which leads to the loss of the former's language and culture (UNESCO 2003:8). Demographically, the number of Loloan Malay people is small. There are only 2,538 speakers, which is far less than the number of Balinese speakers in the regency of Jembrana in western Bali. Most Loloan Malay people live in the village of East Loloan, which has 2,445 speakers, and 93 speakers live in West Loloan.<sup>3</sup> Furthermore, with respect to the fishing domain, which is one of the identities of the Loloan Malay group, only 49 of the East Loloans are identified as fishermen. This small number of Loloan Malay fishermen could be one factor affecting the low vitality of the fishing domain, which is discussed further in §4.2.1–2. However, it could be argued that the vitality and sustainability of Loloan Malay as a language is not dependent on the fishing domain, which is an issue discussed in §4.2.3.

Previous studies on language maintenance and shift in multilingual contexts have revealed that language shift involves a gradual process in which the children of the speakers of the weaker language (i.e., unequal bilinguals) no longer acquire and use their language in certain core domains. Fishman (1971; 1972) identified the following important domains: family, friendship, religion, education, and employment. Studies on the acquisition of bilingual competence have revealed how domains of knowledge are acquired and constructed through language and cultural practices. Children in multilingual settings have different linguistic and cultural resources to choose for their (symbolic) use. The acquisition of linguistic and cultural knowledge is closely related, as acquiring a language involves gaining not only the knowledge of the language and its use but also the knowledge of the cultural beliefs and values that shape that language (see e.g., Fairclough 1989; Kramsch 1993; Hoff et al. 2012).

The present study was set in the context of the knowledge acquisition of culturally important domains in relation to the vitality of Loloan Malay in Bali, Indonesia. We focused on the traditional domain of fishing because it is an important cultural domain of employment for both symbolic and historical reasons:

The Loloan Malay people are very proud of being the descendants of the Buginese, who are famous for their seafaring skills.

Because fishing is still claimed to be one of their salient identities, we hypothesize that fishing, like religion, is an identity domain with high symbolic value for the Loloan Malay people. Previous studies have recognized that symbolic identity is inextricably linked to language ideology, and it is highly significant in language socialization, language contact, and language maintenance and endangerment in multilingual settings (Riley 2012:494–495; Léglise & Chamoreau 2013). Although the power of symbolic identity and language ideology has been scrutinized in the research on second language acquisition and the pedagogical research on major languages, such as English (De Costa 2016), their positive and negative effects have not been identified in much of the research on the acquisition and maintenance of minority languages.

<sup>3</sup>Compiled by the Badan Pusat Statistics, Indonesian Central Bureau of Statistics (BPS) (<https://sp2010.bps.go.id/index.php/site/tabel?tid=321&wid=5101000000>), the total population of Jembrana Regency is 261,638: 186,319 (71.20%) are Balinese Hindus, 69,608 (26.60%) are Muslims, 1,865 (0.71%) are Protestants, 2,860 (1.10%) are Catholics, and 1,031 (0.39%) are Buddhists. Some Balinese are Christians, particularly in the villages of Blimbingsari and Palasari.

We argue that symbolic identity and ideology indeed constitute a powerful link and potent capital, which have significant effects on language domain vitality and maintenance. However, the link varies across levels (i.e., micro-personal and macro-societal levels) and domains. Such variations are discussed in §4.2.2.

The paper is structured as follows. After providing a brief socio-historical background of Loloan Malay in §2, we review Sumarsono's (1993) study of language vitality in Loloan in §3. We then outline the rationale and methodology of our present study in §4.1, which is followed by the presentation and discussion of our findings in §4.2. We show the general collective vitality across different generations and the specific vitality across fishing subdomains (§4.2.1–4.2.2), and we discuss the domain change in the context of the interconnections among group identity, linguistic ideologies, and ethnolinguistic vitality (§4.2.3). The conclusion is given in the last section of the paper (§5).

**2. Loloan Malay: Socio-historical background** The Loloan Malay people are a minority in western Bali at even the most local level. They are surrounded by the Balinese Hindus, who speak Balinese. Although it is a minority language, Loloan Malay surprisingly has been reported to show high vitality (Sumarsono 1993; Sosiowati et al. 2017). For example, it is still used as the means of communication in the family domain, and young children acquire it as their first language.

There are good socio-cultural, historical, and geographic reasons for the strong vitality of Loloan Malay. The first reason is socio-cultural, which is associated with symbolic identity and belonging. Loloan Malay serves as an important means of group identity through which the group is distinguished from the neighboring majority of Balinese. Apart from the Malay language, Loloan Malay have a strong ethno-religious identity and the Loloan Malay people consider themselves ethnically distinct from the Balinese. In addition, they consider that their identity as Muslims separates them from the Balinese, who are Hindus (Sumarsono 1993). The complex and close connection of language, ethnicity, and religion with identity, which provides a sense of belonging, is well known in the literature (see e.g., Naber 2005; Oppong 2013; De Costa 2016; Murdock 2016). Obeng & Adegbiya (1999) report the importance of language in group identity in Africa, which has many ethnicities and languages. According to them, every African language is an instrument of self-representation and intra-ethnic communication. Therefore, each language serves as a binding force that links families (both nuclear and extended), lineages, clans, and entire ethnic groups. Thus, language constitutes a storehouse of ethnicity, which each ethnic group expresses and identifies itself by the language spoken.

The second reason is socio-historical. Loloan Malay carries with it a positive image and a sense of pride because of the heroic oral histories of the Loloan Malay people. First, they are immensely proud of their ancestors, the Buginese, who they regard as a brave seafaring people. The Buginese people arrived from South Sulawesi and settled in the coastal village of Loloan around 300 years ago as fishermen and traders (Paauw 2008:23). Malay was then already a *lingua franca* for communication between different ethnic groups, primarily for the purpose of trade and colonial

policy making. Loloan Malay therefore was originally a “contact” variety of Malay.<sup>4</sup> However, it has been passed down across generations as a first language and is now known as Loloan Malay or *Bahasa Kampung* (Sumarsono 1993).

The pride in the Loloan Malay language is also associated with the history of their heroic ancestors as warriors who helped to save the Balinese kingdom of Jembrana. This oral history is kept alive among the younger generations, and their pride in it has contributed to the positive image and prestige of this language. Cross-linguistically a positive attitude and prestige, which are often associated with literacy, supported by the socio-historical and political-economic predominance of the speakers have been identified as contributing factors to the strong vitality of a language. For example, the Russian spoken by minority Russians in former Soviet Union states, such as Estonia, still enjoys high prestige and vitality (Grenoble & Whaley 2006:25; Mufwene 2006:118–119). In contrast, negative perceptions of a language have been reported to have a detrimental effect on its vitality. An example is the shift of Native Americans from their native languages to the languages of the European colonizers, which has been attributed to a lack of pride and lack of prestige, although the factors that produce language endangerment and vitality are arguably much more complex than simply a lack of pride or prestige (Mufwene 2003; 2006:118–120).

Loloan Malay has become a symbolic identity, distinguishing the Muslim Loloan Malays from not only the Balinese but also other Malays. Although linguistically Loloan Malay is definitely a variety of Malay, our language consultant, Muztahidin, for example, has insisted that it is a ‘language’ distinct from other varieties of Malay in Indonesia, such as the one spoken in Sumatra. He describes it this way:

*Bahasa melayu kami dengan Sumatra, Malaysia, Pontianak, dan lain-lain beda Pak, karena banyak menyerap bahasa Bali, Bugis, dan lain-lain [...] beberapa kosa kata dasar sama, seperti dimane, siape, kemane, ade, ape dan lain-lain [...] persepsi umum Pak, karena bahasa Melayu kami Melayu serapan.*<sup>5</sup>

Our Malay language and the Malay language in Sumatra, Malaysia, Pontianak and elsewhere are different Sir, because our Malay language has absorbed (words) a lot from Balinese, Buginese and other languages [...] even though certain basic words are the same such as *dimane* (‘where (at)’), *siape* (‘who’), *kemane* (‘where to’), *ade* (‘exist’), *ape* (‘what’) and so on [...] (that’s) the common perception, Sir, because our Malay language is an ‘absorbing language’.

By *Melayu serapan* he seems to mean what we call a contact variety of Malay. He capitalizes the distinct features of Loloan Malay, with unique loan words particularly

<sup>4</sup>Paauw (2008:19) distinguishes three different types of Malay(ic) varieties: (i) National languages (e.g., Standard and Colloquial Indonesian), (ii) inherited varieties (e.g., Malay(ic) varieties in Borneo and Sumatra), and (iii) contact varieties (e.g., Loloan Malay). Modern/standard Indonesian and its colloquial varieties have been well studied (see e.g., Dardjowidjojo 1978; Purwo 1989; Wouk 1996; Musgrave 2001; Gil 2002; Ewing 2005; Sneddon 2006; Kroeger 2007; Cole, Hermon, & Yanti 2008; Sneddon et al. 2010). There is a growing body of studies on the inherited type of Malay (see e.g., Adelaar 1992; Gil 2001; Adelaar 2004; Collins 2005) and on contact Malay varieties, especially those with established communities such as Ambon Malay (Minde 1997), Kupang Malay (Jacob & Grimes 2006), and Papuan Malay (Kluge 2017).

<sup>5</sup>Interview with Muztahidin on 23 December 2018.

from Balinese, such as *dengél*<sup>6</sup> ‘beautiful’, and even English, e.g., *jampéng* ‘jump’ (< *jumping*). He, of course, recognizes certain lexical items and salient phonological feature shared by Loloan Malay and other Malay varieties, which distinguishes Malay varieties from Indonesian: For example, Indonesian word-final /a/ corresponds to /ə/ in Loloan Malay.

The third reason is geographic. The Loloan Malay people have occupied a hamlet, now called Loloan Timur (East Loloan) for centuries, which is well-defined territory of the Loloan Malay community. Historically, in 1803, their ancestors were granted a special territory separate from the Balinese villages in return for their service in helping the kingdom. This geographic separation has continued since then, which was augmented administratively when Loloan Timur formed a separate traditional sub-village unit called *banjar*, or currently *lingkungan* (the smallest unit of societal government) in Bali. The separation has resulted in a territorial-based space that forms a so-called “closed social network” (Gumperz & Hymes 1972; Milroy 1987; Milroy & Milroy 1992:5), thus providing a healthy ecological context for the intensive use of Loloan Malay among the members of this speech community. This geographic and administrative separation appears to have contributed to the maintenance of Loloan Malay.

At the local level in western Bali, the name Loloan has been closely identified with fishing. Fishing is also strongly associated with the Loloan Malay people, whose ancestors (the Buginese) are known as skillful fishermen. Traditionally, fishing has been the main source of their livelihood. However, there has been a shift in the employment domain among the Loloan Malay people, and fishing is no longer an attractive type of employment. In fact, the proportion of fishermen in Loloan has been consistently low in the past three decades. Sumarsono (1993) reports that in the late 1980s only 2.7% of the Loloan people worked as fishermen. Our recent demographic statistics, which are based on our fieldwork, show that only 49 of the 1,258 (3.89%) East Loloan Malay people are fishermen.

Nevertheless, fishing in East Loloan village has remained an important employment domain. It is still associated with the historically inherited identity of the Loloan Malay people. According to our Loloan Malay consultant Muztahidin,

*Nelayan adalah sumber mata pencarian kami masyarakat Loloan dimasa dulu sampai sekarang [...] Sejarah kami bercerita, salah satu asal usul kata Loloan [...] yang artinya ‘banyak pelabuhan’, ‘lubuk yang alam’. Dan juga identitas kami sebagai keturunan Bugis adalah berlayar/melaut*<sup>7</sup>

Fishing has been the source of livelihood for the people of Loloan since the old time up to now. Our oral history says that the word Loloan means ‘many ports’, ‘deep estuary’. And our identity as the descendants of the Bugis people is that we are well known for being sailors

<sup>6</sup>There is no standard orthography for Loloan Malay. In this paper, we follow the standard Indonesian orthography (e.g., in representing consonantal phonemes of /ŋ/, /dʒ/, and /tʃ/ with <ng>, <j>, and <c> respectively), except for the representation of the mid front vowel /e/ as <é> and schwa /ə/ as <e>. The distinction between these sounds is not represented in the Indonesian orthography.

<sup>7</sup>Interview with Muztahidin on 25 February 2018.

However, fishing is now done mainly by non-Loloan Malay people. The livelihoods of the people living in the surrounding villages of Loloan are still very dependent on fishing (see Figure 1). Fishing remains a promising source of income and business, which has attracted outsiders to come to Loloan to earn their living.

**Figure 1.** The usual busy activity of unloading the fishing catch in Loloan



Because the fishing business is conducted by both non-Loloan and Loloan Malay people, a space for language contact has been opened, in which non-Loloan Malay people have acquired Loloan Malay. Conversely, Loloan Malay has absorbed new words that have replaced native Loloan Malay words, which is clearly observed in the fishing lexicon further exemplified in the following discussion. Our study of the fishing lexicon in Loloan highlights that the economy is an important driving factor in people's mobility, which results in language contact and possibly language change or shift (Sallabank 2010:56).

Discussions of the economy usually lead to the question of the gendered nature of fishing activity, which is often assumed to be a predominantly male activity. However, fishing and related activities in Loloan (and other areas in Bali) are not exclusively carried out by males. Traditionally, females are also actively involved, which was confirmed by our local respondent, Mohammad Jovan (25 years old). According

to him, Loloan women participate widely in fishing activities, such as unloading fish, fixing nets, maintaining other fishing equipment, and selling fish. However, there also appears to be a division of labor in fishing-related activities. For example, wives help with other duties to give their husbands enough rest to go out to sea on the following day. This division is also related to in-group and out-group communication, in which certain fishing terms are more widely used than others in daily communicative events. The gendered nature of fishing and the related in-group and out-group use of fishing terms appear to contribute to vitality, which is addressed in §4.2.2.

In the next section, before providing further details of our study on the domain change in the fishing lexicon of Loloan Malay, which has been affected by intergroup contact, we review Sumarsono's (1993) previous study.

**3. Sumarsono's (1993) study of language maintenance in Loloan** The research reported in this paper builds on Sumarsono's 1993 research. Hence, it is important to briefly review his study and findings, and to outline the nature of our study compared to his study. His research on Loloan Malay was a PhD project that he undertook in the late 1980s. His dissertation was published in 1993. It is mainly a descriptive and sociolinguistic study of Loloan Malay, and provides a grammatical sketch of Loloan Malay and a description of the language maintenance by the Loloan Malay people in the late 1980s. Using a sociological research design and data collected through different techniques (interviews, questionnaires, and participative observations), he concluded that both internal and external factors contributed to the relatively stable maintenance of Loloan Malay. The external factors included the following: 1) the physical geographical concentration of Malay speaking people separated from non-Malay speaking people, and 2) the tolerance of neighboring Balinese people towards the Loloan Malay language spoken in their inter-ethnic group communication. These external factors were then augmented by three inter-related internal factors: 1) language attitude related to the Islamic religion of the Loloan Malay people, which did not accommodate Balinese Hindus, 2) high loyalty to their Loloan Malay language, as it served as their symbol of ethnicity, and 3) relatively healthy intergenerational language transmission.

Sumarsono (1993) investigated eight domains of language use (i.e., family, friendship, neighborhood, education, religion, economy, arts and government), and he identified frequency patterns of the language(s) (Loloan Malay, Balinese, and/or Indonesian) used in the relevant domains determined by questionnaires based on subjective reporting from Loloan Malay speakers. Although he recognized the socio-historical significance of fishing and seafaring for the Loloan Malay people, Sumarsono did not specifically investigate language use in the fishing domain, nor did he investigate the kind of vitality considered in this paper. That is, Sumarsono did not investigate whether the Loloan speakers had (or did not have) active knowledge of certain lexical items that were uniquely associated with the eight domains of his research. Fortunately, however, he collected a range of native Loloan Malay lexical items. We extracted fishing-related words from his word list and used them in our current study. However, our study differs significantly from Sumarsono's research in the topic of in-



quiry (i.e., the degree of vitality as evidenced in native speakers' current knowledge of lexical items rather than patterns of daily use), the domain of language use (i.e., the socio-culturally salient domain of fishing rather than the eight domains of use), and the methods used in the investigation (i.e., tests and interviews rather than subjective reporting via questionnaires).

Our study was motivated by the intriguing fact of the overall high vitality of Loloan Malay (Sumarsono 1993; Sosiowati et al. 2017). That is, although it is a minority language that has been in intense contact with its more powerful neighbor (Balinese), Loloan Malay has shown a surprisingly high degree of resilience against marginalization and endangerment. This contrasts with Lucas' idea (2015:520) that intensive contact is associated with rapid and profound change. However, our present study has revealed that the intense language contact which has taken place since the early 1980s has not endangered the Loloan Malay language.

Because of the perceived overall vitality of Loloan Malay in the sociolinguistic context of intensified contact, several questions have arisen regarding the nature of such vitality and/or change within the language. Based on the understanding that language is a complex system with different subsystems and subdomains, we are interested in the vitality and changes across various levels and domains: Does strong vitality at the macro language level correlate with similar vitality across different domains at lower levels? In this study, we aimed to answer this broad question by examining the socio-culturally important domain of fishing in Loloan Malay.<sup>8</sup>

#### 4. Domain change and vitality: Fishing

**4.1 Our study: rationale and methods** Because of the socio-historical significance of fishing to the Loloan Malay people (i.e., it forms part of their identity), we examined the fishing domain in order to understand how ethnolinguistic vitality at the macro-level relates to vitality in traditional (sub)domains, such as fishing. For this purpose, we investigated the nature of knowledge acquisition of fishing through the lexicon because local knowledge in any domain, including fishing, is stored and transmitted across generations and, among other means, through the lexicon. For this investigation, as mentioned earlier, we used Sumarsono's (1993) native Loloan Malay lexicon, which provided a window for our study of domain change within the span of 30 years.

Our investigation was aimed at answering the following specific questions: (a) What domains, subdomains, and semantic fields in fishing are well transmitted, or which ones are not and therefore endangered, and why? (b) What patterns of domain change are attested? (c) What can we learn from our findings in terms of ethnolinguistic vitality?

The analysis is based on data collected during several fieldwork visits to Loloan in the period 2017–2018. The data, which reflect native speakers' domain knowledge, were collected through testing of word meaning, followed by interviews. The

<sup>8</sup>We are planning a parallel investigation of other salient domains in our future research.

main purpose of this study was to examine the vitality of the fishing lexicon. From Sumarsono's (1993) list, we extracted native Loloan Malay words in the domain of fishing, which are representative of the lexicon as known by native Loloan Malay speakers in the late 1980s at the time of his research (see Appendix 2).<sup>9</sup> We identified 62 fishing items among 442 native words used in various other domains, such as social activities, education, culture, and religion.

We used the following procedure in testing word meaning and for the interviews. Because all of the Loloan Malay participants were bilingual, the tests and interviews were conducted in Indonesian. Because we were interested in the participants' knowledge of fishing-related words (i.e., their ability to recognize the words and provide their meanings), participants were first asked to recognize the words with yes/no answers. They were then interviewed to find out more about their knowledge. For example, if they did not understand a word, the interviewer told them its meaning in Indonesian. Then they were asked whether they could find the Loloan Malay words in use currently with the same meanings (i.e., their synonyms), and/or the equivalent words in Balinese (or other languages).

With the help of our local consultant, Muztahidin, nine native speakers of Loloan Malay were selected among the 49 fishermen in East Loloan for testing and extended interviews. They represent three age groups or generations of fishermen: young (group 1, 17–30 years old), middle aged (group 2, 31–50 years old), and elderly (group 3, over 51 years old). Each age category was represented by three speakers.<sup>10</sup> Interviewing all of the 49 Loloan Malay fishermen would have been the ideal option. However, because of the unavailability of most potential participants, only nine (almost one-fifth) were interviewed in our study. We considered that nine participants would be sufficient for this study to provide a good indication of any domain change. Moreover, because of the participants' limited availability for the interviews, it was the most practical option. This condition is in accordance with Freedman's (2005) idea that a small sample is easier to manage, and fewer errors are made.

The data were collected using more than one method, which is in line with Creswell (2009:251) who highlights that data collections using multiple methods are better. Research using multiple and mixed methods produces data and analytical results that are more robust and compelling than that of a single method. Moreover, the strengths of each approach can complement each other, as Hall & Preissle (2015) and Tashakkori & Teddlie (2003) point out. In our study, we complemented our data collected through tests and interviews with first-hand ethnographic data, which

<sup>9</sup>Sumarsono's (1993) list of native Loloan Malay words includes the meanings in Indonesian. The total number of words is 442. The list consists of words used in different domains such as social activities, religious activities, animals, plants, house, clothing, particle pronouns, education, human, house utility, food and beverages, and fishing and other occupations.

<sup>10</sup>In the present study, we are particularly interested in the transmission of the fishing lexicon, particularly among the fishermen. Hence, all nine respondents were fishermen. However, as noted in §2, there is a division of labor in fishing-related activities, in which men mainly go to sea to fish, and women are involved in other activities on land. In our present small-scale study, our ethnographic and interview data also allow us to slightly extend the description and analysis of the fishing lexicon beyond the fishermen group. Further in-depth research involving more representative speakers in terms of gender is definitely needed, which we recommend for future research.

were processed for analysis using a mixed quantitative–qualitative methods approach. The number of words in the fishing lexicon known by each informant is presented in Appendix 2. The words known by each group of informants are shown in Table 2 (§4.2.1).

**Table 1.** Language endangerment and vitality scale

	Vitality Status	Total Score (in %)
safe	Grade 5	83.40–100
unsafe	Grade 4	66.72–83.39
definitely endangered	Grade 3	50.04–66.71
severely endangered	Grade 2	33.36–50.03
critically endangered	Grade 1	16.68–33.35
extinct	Grade 0	00.0–16.67

**Table 2.** Transmission of the fishing lexicon by the participants

group	the age of the respondents	numbers of words known	percentage of words known	status	grade
1	17 years	10	16.13%	extinct	0
	24 years	27	43.55%	severely endangered	2
	28 years	29	46.77%	severely endangered	2
2	36 years	19	30.65%	critically endangered	1
	39 years	24	38.71%	severely endangered	2
	42 years	27	43.55%	severely endangered	2
3	56 years	22	35.48%	severely endangered	2
	63 years	18	29.03%	critically endangered	1
	73 years	24	38.71%	severely endangered	2

In the present analysis of changes in the vitality of the knowledge domain, UNESCO’s (2003) language endangerment scale was used. Importantly, language vitality and language endangerment are closely linked. For example, a highly endangered language has critically low vitality. We interpret UNESCO’s scale as the scale of language endangerment and vitality shown in Table 1. Because our study is focused on language vitality, we simply refer to the scale as the “language vitality scale”. Furthermore, to enable a comparative analysis of vitality across domains and languages, we propose the quantified grading of UNESCO’s six-point scale (Grade 0–Grade 5) within the percentage range of 0–100%, which is shown in the right-most column in Table 1. For the purpose of the present study, the degree of domain vitality was determined based on the simple percentage of the words known by the native speakers within the six-level scale using equal intervals of 16.67% (i.e., 100% ÷ 6).<sup>11</sup> This simple calculation yielded individual and collective vitality scores across speakers and lexical items. For example, when a respondent knew 22 of the 62 native Loloan Malay words, she or he obtained a score of 35.45% (i.e., (22 ÷ 62) × 100). Interpreted in terms of the

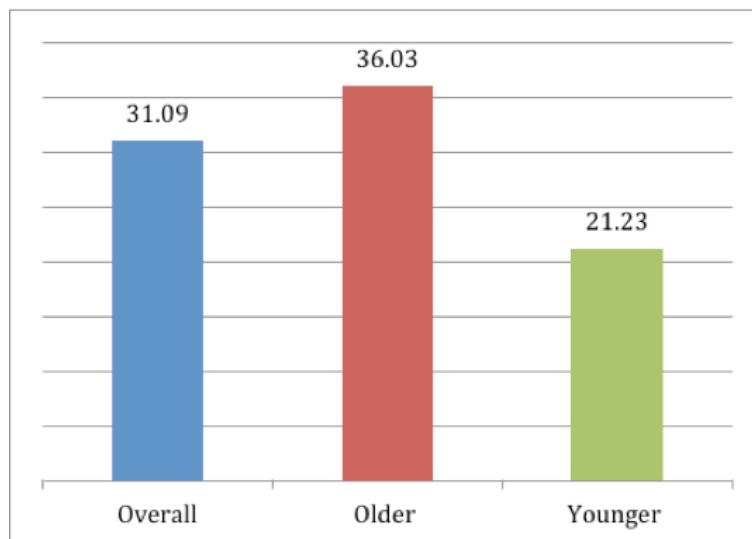
<sup>11</sup>It remains an open question for future research whether there is indeed evidence for unequal intervals across the vitality levels.

scale shown in Table 1, this participant's fishing domain vitality was categorized as "severely endangered" (Grade 2). When all the individual scores had been obtained, the collective vitality was determined; that is, the average of the individual vitality scores in the group were placed on the scale, as shown in Table 1.

## 4.2 Findings and discussion

**4.2.1 The general trend to collective vitality across generations** The general findings of the vitality of the fishing domain in Loloan Malay across generations are shown in Figure 2. These graphs indicate the degrees to which the participants (in different generations) knew the Loloan Malay fishing lexical items. Two patterns are noteworthy. Indicated by the first graph, the first pattern reflects their knowledge of the lexicon, which was 31.09%. According to UNESCO's endangerment and vitality status, this percentage was categorized as critically endangered (Grade 1).

**Figure 2.** General trend of fishing domain vitality



Our analysis revealed two related reasons that most of the fishing words were currently unknown: insufficient intergenerational transmission and the effects of modern technology. Insufficient intergenerational transmission is an outcome of a complex process that involves several extra linguistic variables. Our study identified that the parents' awareness and modern life-style were important variables. The older generation of Loloan Malay fishermen did not seem to be fully aware of the importance of maintaining the fishing lexicon, and when they were aware of it, they did not seem to know how to transfer the lexicon systematically to the younger generation. This poor intergenerational transmission is also related to job-related preferences in modern life. The interviews revealed that members of the younger generation nowadays were not interested in becoming fishermen. For example, fishing at sea for an entire night was

considered unhealthy, and the occupation of fishermen did not have prestige in the modern context. Their parents share this negative attitude toward the profession of fisherman. The low level of the younger generation's knowledge of the fishing lexicon, which was only 21.23% (Figure 2), is not surprising.

The insufficient transmission is worsened by contact-induced competition against equivalent words in other languages (in this case, Indonesian and Balinese) in multilingual communication. The analysis of the data collected in the interviews revealed that loan words entered the Loloan Malay lexicon through contact with fishermen who were non-native Loloan Malay people. In such contact situations, Indonesian is typically the language of communication, and Indonesian fishing words are increasingly more frequently used than native Loloan Malay words, even among native Loloan Malay fishermen. Over time, the native words were replaced by the loan words. The donor or source language of the loan words was mainly Indonesian. However, a small number of loan words were identified as originating from Balinese. Examples of the replacement of native words by loan words include *kelimat* 'paddle', which was replaced by *dayung* (Indonesian); *ampén* 'fishing line', which was replaced by *senar* (Indonesian); and *jolung* 'octopus', which was replaced by *kakia* (Balinese). In short, contact-induced competition appears to be a factor in the loss of words in the fishing domain.

The development and introduction of new cultural concepts, including new technology, are known to play pertinent roles in lexical borrowing and language change (Myers-Scotton 2006:212–213; Haspelmath 2009). Our results support these previous findings: new fishing technology contributed to lexical borrowing, resulting in the endangerment of the native fishing words in Loloan Malay. For example, the Loloan Malay native word *kadinan* specifically refers to a traditional wooden boat that is driven by two skippers. It was replaced by the Balinese word *jukung*, which does not have the restricting sense of 'two drivers' as part of its meaning. In addition, *jukung* refers to a modern engine-powered boat. Thus, the word *kadinan* has become obsolete, replaced by the generic Balinese word *jukung*. The reason is that nowadays, the fishing boats typically have engines, so they need only one skipper and no paddles. Similarly, the native word *ronggeng* 'traditional fishing net drawn from the land' has been replaced by the Indonesian *jaring pakis*. The loan word *jaring pakis* refers to a modern fishing net, which is operated by using a boat and is no longer traditionally drawn from the sea by a fisherman on the beach. This new, more sophisticated way of fishing with bigger nets results in more fish being caught than by the traditional method.

The second important point to note in Figure 2 is the declining trend in vitality, which is indicated by the second and third bars in the diagram. The findings show a categorical decline in vitality from Grade 2 (36.03%, severely endangered) in the older generation group to Grade 1 (21.23%, critically endangered) in the younger generation group. It should be noted that 30 years ago, half of those in the older group were children, and those in the younger group were not yet born.

The decline in vitality reflects the problem of intergenerational transmission in the fishing domain, which is explainable in terms of contact-induced extra-linguistic cul-

tural change. That is, new fishing tools (and related fishing activities) with new and better technology have been adopted, rendering traditional tools and technology obsolete. Consequently, the native words associated with the obsolete technology have gradually disappeared from the lexicon. As these words are no longer used by the speech community, children grow up without acquiring them. Our findings revealed that loan words signifying modern fishing tools were mainly Indonesian, although some were identified as Balinese. For example, the native Loloan Malay word *pembaon* ‘the frame of the screen board’ was replaced by the Indonesian *sangkar layar*; the Loloan Malay *tembérang* ‘boat pole’ was replaced by the Indonesian *pengikét*; the Loloan Malay *kelimat* ‘paddle’ was replaced by the Indonesian *dayung*; *ampén* ‘fishing line’ was replaced by the Indonesian *senar*; and the Loloan Malay *jerambah* ‘big boat’ was replaced by the Balinese *jukung/jukung*.

The new technology and modernized tools have rendered nouns referring to the old fishing tools obsolete. Moreover, verbs referring to fishing events have become out of date and gradually replaced by loan verbs. Thus, native action verbs related to fishing, such as *(ng)eres pandan* ‘move fast’, have been replaced by *melaju* (Indonesian) and *nyelirit* (Balinese); *banginan* ‘getting luck’ has been replaced by *beruntung* (Indonesian) and *aged* (Balinese); and *(ng)area* ‘stall the sail’ has been replaced by *ngulur* (Indonesian).

Our findings also revealed that a socio-economic factor has affected the vitality of fishing words in Loloan Malay. That is, the replacement of native words appears to have happened in the context of, and therefore is the result of, intergroup social interactions with outsiders in the modern market economy, which is primarily evidenced by the names of fish. Fish are of great economic value, and they are in high demand in the surrounding local markets. The local Loloan Malay people have gradually adopted Indonesian fish names in their daily trading activities instead of native words. The following native fish names have been replaced by Indonesian names: *bengkawa* ‘carp fish’ was replaced by *karper* (Indonesian), and *dadag* by *belanak* (Indonesian).

As shown in Figure 2, the overall individual achievement in Grades 2 and 1 provides evidence that the vitality of the fishing domain of Loloan Malay among our Loloan Malay participants was critically low.

Importantly, in this knowledge domain, endangerment was found to be ongoing. In comparing the results of the three informants in the youngest group with those in the older groups, the transmission was found to be random. The results showed that it was not necessarily the case that the older generation knew more than the younger generation did. In the youngest generation (Group 1), the grades varied from extinct to severely endangered. The participant who knew the fewest words was the youngest (17 years old) in Group 1 and the youngest of all the participants in the study. This finding was expected. It was unexpected, however, that the participant who knew the greatest number of words was also in Group 1, the youngest group (28 years

old, highlighted by shading in Table 2).<sup>12</sup> In short, the results did not show a gradual or proper gradation in language transmission across the groups (i.e., the member of the youngest group [28 years old] knew more words than the older groups did and even more than the oldest participant did). This finding was unexpected. Our study was based on a very small sample of only nine participants. Therefore, no clear conclusion could be drawn from this finding regarding the nature of the transmission of the fishing domain in Loloan Malay at the societal level.

Although evidence of the subgroup's knowledge transmission suggests ongoing attrition, we can nevertheless conclude that the general trajectory of the attrition of the fishing knowledge is negative, and overall, it is diminishing toward Grade 0.

Our results therefore confirm previous findings in that endangerment is a gradual process (Grenoble & Whaley 2006; Austin & Sallabank 2011; Grenoble 2011). It often starts with attrition in particular domains where native words and related knowledge are not well transmitted to the next generations. In the worst scenario, the number of endangered domains increases over time until the language itself is no longer transmitted.

The present case of the fishing lexicon in Loloan Malay could be thought of as a kind of paradox: The language domain reflects the identity of its speech community, yet the fishing lexicon and knowledge are not transmitted to their children. Typically, the non-transmission of a language is attributed to negative attitudes toward the native language and culture, and to political and economic reasons (Sallabank 2010). However, fishing is still an important cultural domain for the Loloan Malay people. The nature of the low vitality of this important domain raises the issue of interconnection between ethnolinguistic domain and identity, which is discussed in §4.2.3.

**4.2.2 Vitality across fishing subdomains** In this subsection, we report the results of our investigation of the characteristics and vitality of the fishing subdomains in Loloan Malay. Our findings showed the negative vitality of the fishing domain, and there was no correlation between the domain size and its vitality.

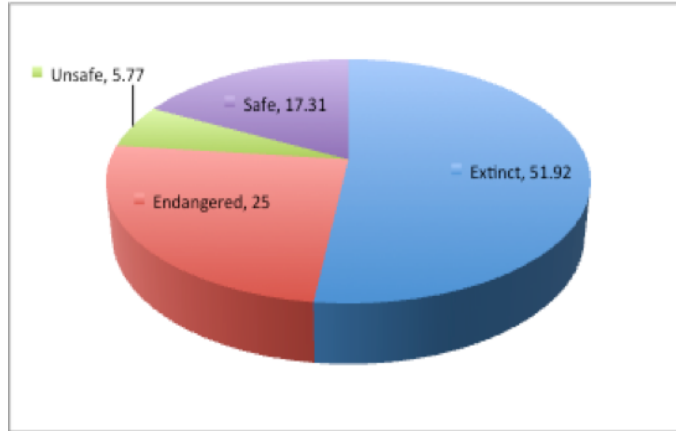
The overall degree of vitality of the fishing domain in Loloan Malay is shown in Figure 3. More than half of the fishing lexicon (51.92%) belonged to the “extinct” (Grade 0) category, and one-quarter (25%) was categorized as endangered (i.e., Grades 1–3 combined). The two categories of “extinct” and “endangered” comprised more than three-quarters (76.92%) of the total fishing lexicon. The proportions of safe and unsafe categories are small (5.77% and 17.31%, respectively). In short, an extremely high proportion of fishing lexical items showed negative vitality.

Regarding the characteristics of the fishing subdomains, we identified four subdomains in the 62 items of the Loloan Malay fishing lexicon: fishing tools, fishing activities, fish names, and fishing professions. As shown in Figure 4, fishing tools constituted the predominant subdomain with 35 words (55.77%), followed by fishing-

<sup>12</sup>The participants Nurhadi (39 years old) and Mustaqim (28 years old) appear to have acquired fishing knowledge because of their hobby of fishing and their regular mingling with fishermen, both East Loloans and non-East-Loloans.

related activities with 13 words (21.15%), fish names with 12 words (19.23%), and fishing professions with 2 words (3.85%).

**Figure 3.** Overall vitality of the Loloan Malay fishing lexicon



**Figure 4.** The proportion of the sub-domains of the fishing lexicon in Loloan Malay



The four subdomains exhibited different degrees of vitality. In order to enable a clear diagnostic means of assessing the vitality and stability of each fishing sub-domain, the six grade vitality categories were simplified into three categories (Table 3): “extinct (or total loss),” “unstable” (encompassing the earlier “endangered” and “unsafe” categories), and “safe.” This calculation and interpretation allowed us to identify the relative degrees of loss and retention of the lexical items and their relevant subdomains in the current dynamics of the lexical knowledge of the speakers. In Table 3, the figures shown in the cells across the four fishing subdomains are the calculated percentages of the vitality and stability of the fishing lexical items in their respective domains, ranging from 0% to 100%. For example, 100% “safe” in the



fishing profession category indicates that all participants knew all the items in this subdomain. The figure of 50%, indicating “extinct/loss” in the fish name category, indicates that about half of the total number of words in this category were unknown by all speakers.

**Table 3.** Vitality and stability in fishing subdomains in Loloan Malay

loss vs. retention	fishing tool	fish name	fishing activity	profession
<b>extinct: loss</b>	48.28	50.00	72.73	0
<b>unstable</b>	37.93	30.00	18.18	0
<b>safe: retention</b>	13.79	20.00	9.09	100.00
<b>total (%)</b>	100.00	100.00	100.00	100.00

The “extinct” category included the most negative findings regarding vitality. The lexical items in this category included words that were unknown by any of the participants as well as those that were almost extinct or known by only one respondent. The words in this category were *menggal* ‘boat with one driver’ (tools category), *dolang* ‘ready to go fishing’ (activity category), and *munsing* ‘shark’ (fish names category) (see Appendix 1 for a complete list of examples). Table 3 shows that 48.28% (17 items) of the fishing tool terms were (almost) no longer known by the respondents; the proportion of fishing activity terms unknown by the respondents was even greater (72.73%, 9 items).

In contrast, the words that indicated the most positive vitality were in the “safe” category. The “safe” items were known by (almost) all participants. These words included *angsog* ‘the boat already anchored on land’ (tools), its corresponding verb *ngangsog* ‘to anchor a boat on land’ (activity), *sempenit* ‘Lemuru fish’ (fish name), and *belantik* ‘fish seller and buyer’ (profession). As shown in Table 3, the proportion of fish names that were still known by all respondents was the highest (20%, 2 out of 10 items).

The items between the extremes of positive and negative vitality were classified as “unstable”. They included fishing items currently known by several speakers, which over time could drift toward the negative end of vitality. They also included items currently known by two to five participants, which were classified as “endangered” (see Appendix 1). Examples are *(peng)giling* ‘bamboo fastener of the bottom part of the sail’ (tools), *ngerébék* ‘floating’ (activity), and *jolung* ‘octopus’ (fish name). Included in this unstable category were items such as *baton* ‘tin on the hook’ (tools) and *sedu* ‘whale’ (fish name), which were known by two-thirds of the respondents.

Overall, the patterns exhibited in Table 3 showed surprisingly different dynamics of subdomain vitality. One extreme case was demonstrated by the fishing profession category. In this case, 100% retention indicated 0% loss, which was exceptional. Words representing the fishing profession (100%, 2 out of 2 items), such as *belantik* ‘fish vendor’ and *gadangan* ‘fisherman’, have been well transmitted over the last 30 years. Despite having the smallest number, the subdomain of fishing profession was highly vital. A possible explanation for this finding is that these words are frequently used in daily communications because they are related to the local economy and daily

needs. Based on our ethnographic fieldwork, we can confirm that the local Loloan people still sell fish at the beach. They wait for buyers on big ships to come ashore. They buy fish from the local boats, which they then sell to the villagers.

However, the findings in the fishing profession category showed that degrees of loss and retention do always correspond. For example, as shown in Table 3, the fish name category indicated a 50% loss (5 out of 10 items) but a 20% retention (2 out of 10), whereas the fishing activity category showed a 73% loss (9 out of 13) and a 9% (1 out of 13) retention.

Finally, the question remains regarding how we determined the relative vitality of the identified subdomains. We wanted to reveal two related characteristic patterns: First, a measure showing the overall vitality of each subdomain; Second, the relative ranking among the subdomains. Regarding overall vitality, we wanted to answer the following question: What does it mean for the items in a subdomain, such as the fishing tool domain, to be classified as 48% “loss”, 38% “unstable”, and 14% “safe”? One way of interpreting these figures is to use the vitality Grades 0 to 5 shown in Table 1, where 0 represents extremely negative vitality (i.e., no vitality), and 5 represents the highest positive vitality. However, because the proportional figures in the “loss” and “unstable” categories were interpreted from the perspective of positive vitality, the category labels of 0–5 were applied in the opposite direction, as shown in column A in Table 4. That is, a remarkably high percentage of loss (e.g., 83%–100%) was interpreted as having an extremely low degree of vitality and therefore was given a category label or score of 0. It should be noted that the proportional figures of the “safe” items were interpreted and labeled in the usual way (e.g., a retention of 83%–100% was given a score of 5).

**Table 4.** Scores of degrees of loss and retention

(A) loss/unstable	total score (in %)	(B) safe/retention
Grade 0 (-)	83.40–100	Grade 5 (+)
Grade 1	66.72–83.39	Grade 4
Grade 2	50.04–66.71	Grade 3
Grade 3	33.36–50.03	Grade 2
Grade 4	16.68–33.35	Grade 1
Grade 5 (+)	00.00–16.67	Grade 0 (-)

Based on the interpretation and labeling shown in Table 4, we converted the percentages shown in Table 3 to the vitality status shown in rows (1)–(3) in Table 5. Thus, the fishing profession showed 0% “loss” and “unstable”; both received a vitality score of 5, and the retention of 100% also received a vitality score of 5. Fishing tools showed an “extinct/loss” of 48.28%, “unstable” of 37.93%, and “safe/retention” of 13.79%, which yielded vitality scores of 3, 3, and 0, respectively.

We then calculated the average vitality score to obtain the overall vitality of each subdomain, which is shown in row 4 of Table 5. The fishing tools domain showed

**Table 4.** Relative vitality and stability of the fishing subdomains ranked relative to each other

	fishing tools	fish names	fishing activities	fishing profession
(1) extinct: loss	3	2	1	5
(2) unstable	3	4	4	5
(3) safe: retention	0	1	0	5
(4) average vitality score	2	2.33	1.66	5
(5) overall vitality ranking	3	2	4	1

an average vitality of 2, indicating low vitality (i.e., “severely endangered”; see Table 1).

Finally, we determined the relative ranking of the vitality of the subdomains. These results are shown in row 5 of Table 5, where 1 indicates the “first rank.” In Table 5, the overall vitality ranking showed that the fishing profession subdomain was the most vital (i.e., maximum score of 5, rank 1), and the fishing activity subdomain was the least vital (i.e., score of 1.66, rank 4). Fish names and fishing tools were ranked second and third, respectively.

The average vitality scores also provided clear evidence that three of the four fishing domains (i.e., activities, fishing tools, and fish names) showed extremely low vitality: Their vitality scores of 1–2 were classified as “endangered.”

The fact that the fishing profession was the most vital subdomain is perhaps not surprising because it is explained in terms of the in-group and out-group specialization of fishing terms in daily communication. Fishing profession words are used by people in the wider community even if they are not fishermen themselves because they know and talk about neighbors who are. Similarly, the names of fish were also known by the members of the community because they bought and consumed fish. In short, fishing professions and fish names were less specialized lexical items, and they were used more often in out-group communication. Hence, it could be hypothesized that the wider community of people who used the terms in a wider context support the vitality of the fishing lexicon. This finding is in contrast with tools and especially activities, which are used and performed by an increasingly diminishing community of fishers. Therefore, there is less community-wide support for maintaining the fishing tool and fishing activity terms in Loloan Malay.

Another point worth noting is that the domain size was not correlated with the degree of vitality. For example, fishing tools was the largest domain, but it was neither the least nor the most vital domain. Although the fishing profession was both the smallest and most vital domain, a smaller size did not always correlate with higher vitality. For example, the fishing activity domain (11 items) was much smaller, but it was less vital than the fishing tool domain (29 items).

There are viable reasons why fishing activities and fishing tools were the two least vital subdomains. We mentioned earlier that modern technology has been a contributing factor. The introduction of new technology has caused traditional fishing tools

and related words referring to the tools and associated activities to become obsolete. Non-native words that convey new fishing-related concepts, including new more sophisticated ways of fishing, have been adopted by the local Loloan Malays, and they have become part of the contemporary fishing lexicon. The problem has been exacerbated by the increased mobility of people in Indonesia in general and in western Bali in particular, which has resulted in the increased contact of the Loloan people with outsiders. Hence, intergroup communications at sea or on the beach in relation to fishing have become increasingly multilingual. This multilingual contact has had a negative effect on the use of native Loloan Malay words. For example, the native word *dolang* ‘ready to go to the sea’, is now extinct, and it has been replaced by the loan word *pegi* (Indonesian *pergi*).

The low vitality can also be attributed to socio-economic dynamics and the demographic characteristics of the Loloan Malay society. As mentioned earlier, historically, the number of local Loloan fishermen has always been rather small. They are now out-numbered by non-Loloan fishermen. Moreover, the economic progress in contemporary Indonesia has resulted in a diversity of jobs that are now available to the locals, which has resulted in the low number of native Loloans who engage in fishing as a profession. The young generation appears to have been reluctant to work as fishermen. Other jobs are more appealing, such as working for the government, private businesses, or even starting their own small businesses either in East Loloan or outside the village. In short, the number of native Loloans who have become fishermen in the past three decades has been critically low.

Our findings, based on the small sample of nine speakers, indicate that the fishing lexicon has become severely endangered, and that it is highly unstable across its subdomains, except the domain of the fishing profession. We consider that this low vitality indicates a transmission issue, which is a complex phenomenon involving several sociolinguistic and extra-linguistic variables. We also consider that based on our observations and field experience in Loloan and elsewhere in Bali, the negative vitality could be attributed to extra-linguistic forces, such as modern developments in the fishing technology and people’s mobility in the multilingual settings of modern Indonesia.

**4.2.3 Domain change, group identity, and ethnolinguistic vitality** The study on fishing domain change in Loloan Malay reported in this paper highlighted the complexity of the many variables involved in ethnolinguistic vitality. In particular, increased multilingualism is a significant factor because it leads to intensified contact-induced domain change. The close connection between the presence of bi- and multi-lingualism in the speech community and contact-induced language change has been discussed in the literature (see e.g., Matras 2010; Légise & Chamoreau 2013; Lucas 2015). Our findings revealed that the most pervasive type of bilingualism and its contact-induced effects was “borrowing”, which Lucas (2015) termed “convergence”.<sup>13</sup> Our findings

<sup>13</sup>Lucas (2015) distinguished four types of contact-induced change from the acquisition perspective, depending on the speaker’s (language) competence dominance: borrowing, convergence, imposition, and restructuring. Only the first two types are discussed in this paper, as we are interested in Loloan Malay

on the fishing domain showed ample evidence of borrowing. The striking pattern of borrowing was that it occurred primarily from the source language of Indonesian (50% of the total borrowings). This finding was unexpected because Balinese is the closest neighboring language with which Loloan Malay is in contact. As the source language, Balinese contributed to only 20% of the total number of borrowings.

The term “convergence” refers to the types of changes that occur in the recipient language (in our case, Loloan Malay was the recipient language acquired as the native or first language [L1]) whose speakers are also the L1 speakers of the source language (in our case, Indonesian). This convergence has occurred in Loloan Malay because the young generation of Loloans are now native speakers of both Loloan Malay and Indonesian. Thus, the lexical stock in the fishing domain in Loloan Malay and Indonesian are converging and becoming similar. This convergence is in progress; some native and Indonesian words currently co-exist (e.g., *tuding* ‘hook container’ and *ladung* ‘weight hook’). Because of the negative vitality of the Loloan Malay fishing lexicon, it is expected that we would find a negative trajectory toward greater convergence in the near future at the expense of native Loloan Malay words.

However, the patterns of change within the fishing domain found in our study also showed that change may not always be clearly identified as having been induced by contact. We encountered new fishing words that were neither recorded by Sumarsono (1993) nor identified in the two source languages we are familiar with (i.e., Indonesian and Balinese). In the present study, we considered them Loloan Malay words. These words include, for instance, *nyalé* (replacing *ngelepok*) ‘fishing from the beach’, *kelam* (replacing *jeropéljeripi*) ‘gunwale’, and *godong* (replacing *angkerog*) ‘fish basket’ (see Appendix 1 for the complete list of Loloan Malay words). Their number is comparatively small (25%). Further research is needed to determine whether these words have been coined and spread recently, whether they are loan words from unknown SLs (i.e., neither Indonesian nor Balinese), or whether they are words that simply escaped Sumarsono’s (1993) attention.

Our study contributes to the research on ethnolinguistic identity, language vitality, and language endangerment in multilingual settings. We particularly wish to highlight that the findings of our study are in relation to the existence of related multiple identities: the religious Muslim identity and the traditional profession identity as fishermen. The religious identity of the Loloan people as Muslims is highly important. Religion is generally a sensitive issue in Indonesia. For many Muslims, Islam needs to be defended. In Loloan, and elsewhere in Indonesia and beyond, there has been a growing movement to promote the religious group identity of being Muslim, such as through the *dakwah*, a preaching activity about Islam typically led by a *da’i* (Sosiowati et al. 2017). The Islamic religion is widely practiced in Loloan, and it underpins all aspects of daily life, including fishing activities and related fishing rituals. For example, in the ritual called *Ngaji Perau*, the local Loloan Malay people recite the Quran together on a boat to ensure the safety of the fishermen on the sea in their journey home with a heavy catch.

as the recipient language and in the speakers of the dominant language. The imposition and restructuring types are the language change types from the perspective of the speakers’ dominance in the source language (i.e., in our case, Indonesian and Balinese native speakers).

As discussed earlier, fishing is traditionally an important domain in the group identity of the Loloan Malay people. However, while fishing (or being a fisherman) is still regarded as a part of Loloan Malay's identity, this activity or profession has not been accorded a privileged social status among the local Loloan Malay community. Moreover, it does not serve as a salient collective identity marker in the broad regional inter-ethnic context which needs to be defended like the religion.

The fact that the native lexicon of this identity domain is now highly endangered and that its endangerment does not seem to be of serious concern to Loloans at first seemed paradoxical and surprising. There appeared to be no individual and/or collective efforts by Loloan Malay community members to socially enforce the maintenance of the fishing lexicon or fishing practices. For example, although the Loloan Youth Organization (*Gerakan Pemuda Loloan*) has been active in organizing a range of socio-cultural programs, specific programs in the domain of fishing have not been included in their agenda.

Nevertheless, the paradox is understandable and expected based on the Peircean perspective, in which language is viewed as a set of ideologically defined semiotic resources that circulate unequally in social networks and discursive spaces (Heller & Duchêne 2008). In this semiotic-oriented perspective, the linguistic ideologies that underpin the group identity of the Loloan Malay people at the macro-societal level are tied to religion, not fishing. In other words, the language used in fishing and fishing identity has little or no symbolic significance as far as the group identity of the Loloan Malay people is concerned. By "linguistic ideologies", we mean "any set of beliefs about language articulated by the users as a rationalization or justification of perceived language structure and use" (Silverstein 1979:193). Unlike fishing (which is associated with a very small subset of the Loloan Malay community), religion (in this case, Islam and being Muslim) is of significant symbolic value in the collective identity of the Loloan Malay people. The Islamic religion and the Loloan Malay language serve as broad ideological means of distinguishing the Loloan Malay community from the neighboring Balinese, who speak Balinese and whose religion is Hinduism. This distinctive symbolic power is only possible within the domain of religion, not within the fishing domain because some Balinese are also fishermen. In addition, Islam provides a cross-ethnic racial identity (Naber 2005), thus allowing the easy recruitment of new members (e.g., through inter-ethnic marriages).

As part of the Loloan Muslim identity, the use of the Loloan Malay language in the domain of religion is socially enforced at familial and societal levels. For example, there is a deliberate effort to maintain the tradition of using Loloan Malay in the religious domain of *dakwah* in local mosques, where Indonesian is also used when outsider guests are present. However, *dakwah* is never delivered in Balinese, as expected.

In brief, the sociolinguistics and ethnolinguistics of Loloan Malay in relation to the fishing domain differ from those in the religious domain. The distinct symbolic values and linguistic ideology attached to these two domains at the macro-societal level account for the difference in attitudes and therefore the differences in the socio-cultural enforcement of the use of native Loloan Malay in the two domains.

**5. Conclusion** The study reported in this paper was conducted to determine the vitality of the Loloan Malay fishing lexicon, which is perceived as a culturally important domain by the Loloan Malay people. Overall, the findings showed that the vitality is critically low: three of the four subdomains in the native fishing lexicon (i.e., fishing activity, fishing tools, and fish names) were categorized as either critically or severely endangered. The patterns of change across individual lexical items and subdomains revealed that “borrowing” was pervasive and that Indonesian was the main donor of loan words that have replaced the native Loloan Malay items. We analyzed the domain changes showing negative vitality as the natural and unavoidable effect of increased multilingualism and intensified language contact between Loloan Malay and its more powerful superstratum, Indonesian (the national language), and the neighboring Balinese in the diglossic context of modern Indonesia. If the current sociolinguistic situation persists, we expect an increased negative trajectory of diminished vitality toward the increased “convergence” of the Loloan Malay and the Indonesian fishing lexicons.

Some of our findings are in line with those of Sumarsono (1993), who explored other domains of language use 30 years ago. For example, our study confirmed that Indonesian and Balinese are the main source languages of loan words in Loloan Malay.

At first, the critically low vitality of the fishing domain found in the present study appeared to contradict both Sumarsono (1993), who concluded that Loloan Malay was stable, and Sosiowati et al. (2017), who reported similar findings about the overall healthy vitality of Loloan Malay. However, our findings of the low vitality of the fishing domain arguably do not contradict these two prior studies. In fact, the findings of our study illuminate the complexity of the notion of language vitality. Language is a complex system that consists of different domains of varying degrees of complexity. Language vitality is part of the vitality of the speech community as a cultural group (Kramsch 1993; Obierro 2010; Wamalwa & Oluoch 2013).

In the domain of fishing, the evidence found in our study supports that language and domain changes are driven by the socio-cultural-economic ecology. However, the literature shows that language change can also be driven by an internal natural change, such as regular sound changes that are differentiated by lexical and grammatical conditioning (Labov 1999:542–543). This area of research was not discussed by Sumarsono (1993). This area could be explored in future research.

The present study is a significant contribution to the sociolinguistic and ethnolinguistic research on language ecology, language maintenance, and ethnolinguistic vitality, particularly the significance of the power of group identity and linguistic ideologies. The notion of vitality as observed in Loloan Malay was applied across different (sub)domains in the language, showing different degrees and associations with different symbolic and ideological values. Based on our findings, we expect that the trajectory of the increased negative vitality of the fishing lexicon in Loloan Malay will have no or little effect on the overall vitality of Loloan Malay, even though fishing is still perceived as having social, cultural, and historical significance by the Loloan Malay people. The reason is that unlike religion, fishing is a domain that does not

embody highly charged linguistic ideologies as far as the collective identity of the Loloan Malay people is concerned.

The present research comprised a small-scale study of domain vitality. Further in-depth research is needed to assess the vitality of the entire Loloan Malay language in the contemporary context. Future research should include an investigation of the acquisition of lexical items across culturally salient domains beyond the fishing lexicon by different generations, particularly children. This investigation could be undertaken, for example, by multimedia testing comprehension tasks (e.g., showing two objects on a computer monitor and assuming that the children will point to the correct object after hearing the name of the object). This research method has already been undertaken to investigate the acquisition of the passive voice (Allen & Crago 1996; Ambridge et al. 2016; Aryawibawa & Ambridge 2018). The application of a similar method across linguistic, grammatical, and extra-linguistic domains in Loloan Malay would yield comprehensive results and confirm the relative strengths of the vitality of different domains as well as the entire language. Such results could reveal the domain that is the strongest contributor to the overall vitality of Loloan Malay, hence providing an in-depth analysis that would answer the intriguing question of how Loloan Malay, a minority language, has so far remained in a relatively safe and stable condition despite its intense contact with and constant pressure from powerful dominant languages, such as Indonesian and Balinese.

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## Appendix 1. Endangered and loan fishing lexicon in Loloan Malay

	Sumarsono's (1993) (Subdomain/status)	Corresponding current (2018) words		
		Indonesian loan words	Balinese loan words	Loloan Malay words distinct from Sumarsono's list
1	<i>dolang</i> 'ready to go fishing' (Action/Critical Endangered)	<i>pegi</i>		
2	<i>ngelepok</i> 'fishing from the beach' (Action/Critical Endangered)			<i>nyale; nyotok</i>
3	<i>seroang</i> 'strong west wind' (Tool/Critical Endangered)	<i>angin barat daye</i>		
4	<i>Bengkawa</i> 'carp' (Fish/Critical Endangered)	<i>karper</i>		
5	<i>Dadag</i> 'milkfish' (Fish/Critical Endangered)	<i>bandeng</i>		
6	<i>Munsing</i> 'shark' (Fish/Critical Endangered)		<i>kakie</i>	
7	<i>jeropé, jeripi</i> 'gunwale' (Tool/Critical Endangered)			<i>kelam; tilip</i>
8	<i>menggal</i> 'a boat with one driver' (Tool/Critical Endangered)		<i>jukung / jukung</i>	
9	<i>meturut</i> 'tail wind' (Tool/Critical Endangered)	<i>angin malam; angin darat; angin utara</i>		
10	<i>pembaon</i> 'the frame of the screen' (Tool/Critical Endangered)	<i>sangkar layar; cagak layar</i>		
11	<i>temberang</i> 'boat pole' (Tool/Critical Endangered)	<i>pengiket</i>		
12	<i>angkerog</i> 'fish basket' (Tool/Critical Endangered)			<i>godong</i>
13	<i>caplak</i> 'a place to tie the fishing net after catching fish' (Tool/Critical Endangered)			<i>serokan jegong</i>
14	<i>limbe-limbe</i> 'the part of rope where the tin is hooked' (Tool/Critical Endangered)			<i>ngilimbet; tengkirian</i>
15	<i>aréa; ngaréa</i> 'stalling the sail' (Action/Nearly Endangered)	<i>ngulur</i>		
16	<i>banginan</i> 'lucky' (Action/Nearly Endangered)	<i>beruntung</i>	<i>aged</i>	
17	<i>eres; -pandan</i> 'sail away' (Action/Nearly Endangered)	<i>laju</i>	<i>nyelirit</i>	
18	<i>kelimat</i> 'paddle' (Tool/Nearly Endangered)	<i>dayung</i>		
19	<i>tadah; menadah</i> 'zig zag against the wind' (Action/Nearly Endangered)			<i>ngagal</i>

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	Sumarsono's (1993) (Subdomain/status)	Corresponding current (2018) words		
		Indonesian loan words	Balinese loan words	Loloan Malay words distinct from Sumarsono's list
20	<i>bedepung</i> 'mullet' (Fish/Nearly Endangered)	<i>belanak</i>		
21	<i>Biengkoris</i> 'mackerel tuna' (Fish/Nearly Endangered)	<i>tongkol</i>		
22	<i>ampen</i> 'fishing line' (Tool/Nearly Endangered)	<i>senar</i>		
23	<i>cecek</i> 'the wood boat balancer' (Tool/Nearly Endangered)			<i>berayungan; katir</i>
24	<i>jerambah</i> 'big boat' (Tool/Nearly Endangered)		<i>jukung / jukung</i>	
25	<i>kadina</i> 'aboard with two driver' (Tool/Nearly Endangered)	<i>perahu</i>	<i>jukung; jukung</i>	
26	<i>plas</i> 'fishing rod pulled by a boat' (Tool/Nearly Endangered)			<i>ngancep</i>
27	<i>tuding</i> 'hook container' (Tool/Nearly Endangered)	<i>tempat pancing</i>		<i>betekan</i>
28	<i>ngerébék</i> 'floating' (Action/Endangered)		<i>kambang</i>	<i>dungdungan; ngosong; anggal</i>

**Appendix 2. Proportion of fishing words known by each participant**

		Informants and the lexicon known								
		Group 1			Group 2			Group 3		
		1	2	3	4	5	6	7	8	9
		17 years	24 years	28 years	36 years	39 years	42 years	56 years	63 years	73 years
1	<i>ampén</i>									√
2	<i>angkerog</i>									
3	<i>angsog, ngangso</i>		√	√	√	√	√	√	√	√
4	<i>aréa; ngaréa</i>	√								√
5	<i>bakalan</i>		√			√	√	√	√	
6	<i>banginan</i>									√
7	<i>bantal-bantal</i>		√	√			√		√	
8	<i>bantol</i>		√	√	√	√	√	√	√	
9	<i>baton</i>		√	√		√	√	√	√	
10	<i>bedepung</i>	√					√			
11	<i>beje</i>							√	√	
12	<i>belantik</i>		√	√	√	√	√	√	√	√
13	<i>bengkawa</i>	√								
14	<i>biengkoris</i>						√			
15	<i>caplak</i>									
16	<i>cecek</i>					√				
17	<i>cipu-cipu</i>						√		√	
18	<i>dadag</i>									
19	<i>dolang</i>									
20	<i>eres; -pandan</i>					√				
21	<i>gadangan</i>		√	√		√	√	√	√	√
22	<i>gelang-gelang</i>	√	√	√		√	√	√	√	√
23	<i>giling; penggiling</i>		√			√				
24	<i>Jalaran</i>		√	√	√	√				√
25	<i>jerambah</i>		√							
26	<i>Jeropé, jeripi</i>									
27	<i>Jolung</i>			√		√	√			√
28	<i>kadinan</i>					√				
29	<i>kelimat</i>									√
30	<i>kiper</i>			√	√	√	√	√	√	√
31	<i>laber</i>		√	√	√	√	√	√	√	√
32	<i>ladung</i>	√	√	√						
33	<i>lendrong</i>		√	√						
34	<i>limbe-limbe</i>									
35	<i>menggal</i>									
36	<i>meturut</i>									
37	<i>musing</i>									
38	<i>ngelepok</i>									
39	<i>Ngerébék</i>					√				√
40	<i>pelak</i>		√	√	√	√	√	√	√	√
41	<i>pelantéan</i>	√	√	√	√	√	√	√	√	√
42	<i>pembaon</i>									
43	<i>penali</i>			√		√				√
44	<i>penggiling</i>		√							√
45	<i>peniangan</i>		√	√	√	√	√	√	√	√
46	<i>penunggul</i>		√	√	√	√	√	√	√	√
47	<i>piles</i>		√	√	√	√	√	√	√	√

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Loloan Malay List (Sumarsono 1993)	Informants and the lexicon known								
	Group 1			Group 2			Group 3		
	1	2	3	4	5	6	7	8	9
	17 years	24 years	28 years	36 years	39 years	42 years	56 years	63 years	73 years
48 <i>plas</i>									√
49 <i>Rawé</i>		√	√	√		√		√	√
50 <i>ris</i>		√		√		√	√		
51 <i>ronggeng</i>				√					√
52 <i>sedu</i>		√	√	√	√			√	√
53 <i>seleng</i>	√		√				√		
54 <i>sempenit</i>		√	√	√	√	√	√	√	√
55 <i>seroang</i>	√								
56 <i>sotok; nyotok</i>			√	√					
57 <i>tadah; menadah</i>			√						
58 <i>takat</i>		√	√	√	√	√	√	√	√
59 <i>tankoan</i>		√	√	√	√	√	√	√	
60 <i>temberang</i>	√								
61 <i>tengkiri</i>		√	√		√	√	√		
62 <i>tuding</i>	√		√						
Lexicon known (in %)	16,13%	43,55%	46,77%	30,65%	38,71%	43,55%	35,48%	29,03%	38,71%