Comings and Goings: the mobility of rural populations in protected areas in the Middle Solimões, in the Brazilian Amazon, between 2006 and 2010

Maria Isabel Figueiredo Pereira de Oliveira Martins *, Ana Claudeise Silva do Nascimento *, Dávila Suellen Souza Correa *, Heloisa Correa Pereira *, Hudson Cruz das Chagas *

* Instituto de Desenvolvimento Sustentável Mamirauá, e-mails misabel.oliveiramartins@gmail.com, ana.claudivela@gmail.com, davila@mamiraua.org.br, hcrvzdaschagas@gmail.com, heloisa.pereira@mamiraua.org.br

DOI: http://dx.doi.org/10.5380/raega.v55i0.79553

Resumo
A mobilidade populacional é um tema alvo de investigações que busca compreender as causas e as motivações para que esse processo ocorra. Em Unidades de Conservação da Amazônia brasileira, compreender a mobilidade populacional é importante para analisar as dinâmicas de indivíduos e a sua relação com a ocupação do território. Objetivamos com esse artigo analisar a origem e o destino da mobilidade populacional, as motivações que impulsionaram os deslocamentos e o perfil demográfico dos indivíduos que saíram e os que chegaram para morar na Reserva de Desenvolvimento Sustentável Amanã (RDS Amanã), localizada na região do Médio Solimões no estado do Amazonas. Organizamos as informações quantitativas coletadas em um censo demográfico realizado no ano de 2011. Identificamos que 73% das saídas se destinaram aos centros urbanos, enquanto a maioria das pessoas que chegaram para morar eram residentes de outras localidades rurais. Foram os jovens que protagonizaram as saídas, principalmente no grupo etário dos 15 aos 20 anos, representando 55%. Em relação às chegadas, foram as crianças e os jovens com idade igual ou inferior aos 14 anos que representaram o maior grupo, com 38%. A maioria dos deslocamentos foram ocasionadas por motivos pessoais, e a procura pelas cidades é maior quando os indivíduos vão estudar, representando 95% das saídas justificadas por esse motivo. Embora as migrações de saída tenham sido maiores que as de chegada, não houve diminuição da população da RDS Amanã entre os anos de 2002 a 2011.

Palavras-chave: Mobilidade populacional, Populações rurais na Amazônia, Reserva de Desenvolvimento Sustentável Amanã.

Abstract
Population mobility is a subject of investigation that seeks to understand the causes and motives for the occurrence of this process. Understanding population mobility in conservation units of the Brazilian Amazon is important when analyzing the dynamics of individuals and their relation with the occupation of the territory. The purpose of this article was to analyze the origin and destination of population mobility, the motives that prompted the displacements and the demographic profile of the individuals who left and those who arrived to live in the Amanã Sustainable Development Reserve (RDS Amanã), located in the Medium Solimões region in the State of Amazonas. We
organized the quantitative information collected in a demographic census conducted in 2011. We verified that 73% of the departures were destined for urban centers, while most of those who arrived to live in the RDS were previously residents of other rural locations. Young people were the principal actors in the departures, mainly in the age group 15 to 20 years old (55%). In terms of arrivals, children and adolescents aged 14 and underrepresented the largest group (38%). Most displacements were for personal reasons and the demand for towns or cities is greater when individuals leave to study, accounting for 95% of departures. Although outgoing migrations were greater than incoming migrations, there was no decrease in the population of the RDS Amanã between 2002 and 2011.

**Keywords:** Population mobility, Rural populations in the Amazon, Amanã Sustainable Development Reserve

---

**I. INTRODUCTION**

Studies on population mobility are conducted with the purpose of identifying the causes and conditions that influence people to move from one place to another, seeking to understand how this process affects local population structures (CUNHA, 2011). The analytical confluences for understanding these processes range from comprehending the personal reasons for displacements to the structural problems that are present in the places of origin and destination of these individuals (PEIXOTO, 2004; HOGAN, 2005; GHIZZO & ROCHA, 2008; MARANDOLA & GALLO, 2010; PARRY et al., 2010a; PARRY et al., 2010b; PEREIRA & FILHO, 2011; MELLO & SATHLER, 2015; PEREIRA, 2016). Generally, outgoing migrations are explained by the search for better living conditions, but it is important to broadly consider the particularities of population displacements in specific territories, like conservation units (HOGAN, 2005; SAQUET & MONDARDO, 2008; MARANDOLA & HOGAN, 2007; CUNHA, 2011).

In general, studies on population mobility in protected areas are essential to our understanding the effects of the dynamics of traditional populations and, consequently, they collaborate with instruments of territorial management (CORRÊA R. L., 1996). It is through such analyzes that it is possible to identify the main motives for the circulation of individuals within the territory, particularly if these are caused by the absence of public policies, such as those on education and health care (PARRY et al., 2010a; MOURA et al., 2016).

In this regard Parry et al. (2010a) identified that the main cause of population displacement in rural locations in the Amazon is the absence of public policies. This same cause was also identified by Alencar (2007) and Moura et al. (2016) regarding the Reserva de Desenvolvimento Sustentável (RDS) Mamirauá [Sustainable Development Reserve], located in the State of Amazonas.
One of the relevant contributions of these studies, in addition to understanding the motives for population mobility, is the collaboration they can bring to the management bodies of conservation units that accompany the arrival of new residents to these areas. This logic forms the basis of the perspective of monitoring population growth and identifying possible territorial conflicts involving the use of natural resources (Plano de Gestão RDS Amanã, 2020).

It is worth highlighting that the presence of rural populations, principally those in conservation units classified as areas of sustainable use (SNUC, 2000), has been presented as one of the main strategies for protecting resources. In terms of territory, the area analyzed here is the second largest sustainable development reserve in the State of Amazonas and is one of the largest protected areas of tropical forests in South America, considered to be a World Heritage Site by UNESCO (Plano de Gestão RDS Amanã, 2020).

Its environmental importance reinforces the need for systematic monitoring and a better understanding regarding what the comings and goings of the population in this territory represent. These relations also influence management effectiveness, which is based on the consolidation of management rules on which the zoning of areas is established, rules that determine the use of natural resources and the policies regarding occupation of the territory (Plano de Gestão RDS Amanã, 2020). Understanding this model of sustainable development reserves, considering the conditions and means necessary for the social reproduction of groups, their dynamics of internal mobility, and the dynamics with urban centers, enables further analysis of environmental policies in protected areas.

Thus, this article effectively contributes to reflections that involve the spatial mobility of the population in sustainable use conservation units in the Amazon context, considering that populations in these areas maintain spatial dynamics that incorporate much more than population exchanges. Based on these movements in the territory, networks are established that interconnect the rural-urban-rural through kinship relations, which involve interests beyond the economic sphere. These relations permeate access to natural resources in the place of origin, as well as public policies and the services offered in urban centers.

Thus, the purpose of this study was to characterize the population displacements that occurred in this territory from 2006 to 2010 based on analysis of the demographic profile of individuals who left the and those who arrived to live in the Amanã Sustainable Development Reserve (RDS Amanã) in search of new places and new territorialities, together with information on the origin, destination and motives that prompted this mobility. These displacements were analyzed from the perspective of population mobility in conservation units (PARRY et al., 2010b; Moura et al., 2016).
II. METHODOLOGY

The methodology used was derived from a proposal presented by Moura et al. (2016), to expound the quantitative information collected in a historical series of sociodemographic censuses through the application of a structured questionnaire. Such longitudinal studies are important for analyzing social processes in their historical dimensions, given that they are related to living conditions and their social reproduction.

The data presented were collected in 2011, in 86 rural locations inside the RDS Amanã from 2006 to 2010. The analysis is centered on individual population movements, in which the resulting information was shared through a second informant at the time of data collection in the home. The data pertain to a research project conducted over this period, together with the research group Territorialidades e Governança Socioambiental na Amazônia [Territorialities and Socio-Environmental Governance in the Amazon] in association with the Instituto de Desenvolvimento Sustentável Mamirauá [Mamirauá Institute for Sustainable Development], as part of the products that were to be generated following completion of the research.

The data resulting from these collections consist of information concerning the interviewee’s sex, age, motive for the departure or arrival, place of origin and destination. These data are organized considering two scenarios, departures and arrivals, and are presented separately as eight topics: 1, an overview of departures from the place of origin in RDS Amanã; 2, the reasons for these departures, according to age group; 3, the reasons for displacements between rural and urban destinations; 4, an overview of departures to towns and cities; 5, an overview of arrivals at RDS Amanã locations; 6, the reasons for these arrivals, according to age group; 7, the towns or cities of origin of individuals who arrived to live in the RDS Amanã; and 8, the reasons for the displacements between rural and urban origins.

Study area

The RDS Amanã is located in the central Amazon region, around 680 km (422 mi) from the state capital, Manaus, by waterway on the Middle Solimões River (Figure 1). This conservation unit is one of the largest protected areas of tropical forests in South America, and the second largest in size in the State of Amazonas, consisting of 2,348,962.9 hectares (23,489.63 km²; 9,069.40 mi²). Its population in 2011 was approximately 3,860 people living within the territorial limits of the conservation unit and its surroundings, distributed among 86 rural villages.
The way of life of populations living in protected areas is directly related to the conservation of natural resources and the effectiveness of sustainable development models (MACHADO, 2014). Research conducted in sustainable development reserves indicates the importance of the permanence of these populations on the management of natural resources, since they enable the conservation of local biodiversity (QUEIROZ & PROVIN, 2017) and traditional cultures (SILVA, 2005).

**Regarding comings and goings in the territory**

Population movements are able to demonstrate that leaving the place of origin is prompted by the search for better living conditions in other rural and urban areas (PEREIRA & FILHO, 2011; MOURA et al., 2016), which can be understood from the socioeconomic context that the individuals are embedded in. For Cunha (2011), population mobility represents a more complex view of the population movements in space, considering...
it is a phenomenon that can involve both migrations, changes in the place of residence, and daily or temporary movements. This comprises the social, cultural and environmental phenomena of population dynamics that surpass the concept of migration.

In many situations, when the individual decides to leave their place of origin, both these factors act in an interrelated manner, usually described by two groups of elements: low quality of life in the place of origin, and a better quality of life at the destination (GOLGHER, 2004).

Historically, urban areas have played an important role as the recipients of migrants (SANTOS, 2006). In tropical countries, rural-urban migration in recent decades has contributed to an 80% increase in urbanization, particularly in Latin America (UN-HABITAT, 2012). In the Amazon, the rural-urban migration process was also identified as the main factor for the increase in urban areas and the increase in population concentration in certain territories (CÔRTES, 2012). In the Northern region of Brazil, where largest part of the Brazilian Amazon is located, the population grew by 2.09% per year, while the mean rate in Brazil was 1.17%. The results of this growth meant that by 2010, 72.6% of the population lived in urbanized areas in the region (AMARAL et al., 2013).

In the context of regional scale, the conservation units play an important role in the spatial dynamics, since they establish a link between the rural and urban, demonstrating that these areas simultaneously guarantee territory for traditional populations, while also functioning as differentiated spatial scales that play an important role in the local urban network (ELOY et al., 2014; ELOY et al., 2017); moreover, they are not covered in formal studies on the regions of influence of these urban areas.

Studies conducted in rural communities in the Amazon have identified that the main cause of population displacement is access to education and health services. Parry et al. (2010a) determined that the majority (27%) of the reasons for moving to urban centers in eight watersheds in the State of Amazonas was to access education services. Alencar (2007) and Moura et al. (2016) also determined that access to education and healthcare was the main cause of population displacement from the RDS Mamirauá to urban centers.

Mobility, reflected in the socio-spatial dynamics of the population, forms part of the social reproduction strategies of these populations. These mobilities showed that going to and coming from urban areas play an important role in their dynamics, since this is where families must go to gain access to their pensions and other social benefits (PEREIRA, 2017).

In this sense, going to and coming from the territory concerns much more than the ability of populations to move from place to place, it involves factors in addition to those of attraction and expulsion. They constitute
aspects of spatial dynamics that are not included in official population statistics (PARRY et al., 2010b; D’ANTONA et al., 2013; PEREIRA, ZANATTO & NASCIMENTO, 2021) and demonstrate a relation of increasingly intense dependence between rural populations and urban centers in the Amazon, particularly in the last three decades. (PEREIRA, 2017; NASUTI et al., 2019).

III. RESULTS

Regarding the RDS Amanã, outgoing population displacements were higher than incoming displacements from 2006 to 2010. The departure of 138 individuals from 43 locations was recorded during this period, while 55 residents arrived to live in 29 rural locations. For both outgoing and incoming displacements, more men than women were engaged in these processes, comprising 52% of departures and 56% of arrivals.

The figures for population growth that occurred in RDS Amanã between 2002 and 2011, total populations of 2,720 and 3,860 inhabitants, respectively, demonstrate that these migrations did not result in population decrease in this rural area, in contrast to the national norm. Records of the departures of individuals in relation to the total population indicated that in 2002 and 2006, the percentage of departures was 3% to urban areas or other rural locations, while in 2011, the departures of individuals comprised 1% of the total population (NASCIMENTO et al., 2019).

At the national level, findings based on IBGE (2010) data showed the opposite trend, in which the rural exodus in Brazil resulted in the reduction of the rural population from 55.3% in the 1960s to 15.6% in the year 2010 (IBGE, 2017).

An overview of departures from the place of origin in RDS Amanã from 2006 to 2010:

- More men were involved in departures than women (56%);
- The principal age group engaged in these departures were young people, 15 to 20 years old (55%), followed by the 21 to 25 age group (19%). Those under 14 years old and those in the 31 to 50 age group each accounted for 9% of departures, followed by 6% for those over 50 years old. Finally, the 26 to 30 age group comprised the fewest departures (2%);
- The main departure destinations were for urban areas, comprising 73% of displacements;
- Other rural locations accounted for 27% of the destinations, with 30% going to locations within the RDS Amanã;
- “Getting married”, (29%), “studies” (19%) and “work” (20%) were the factors that most prompted these movements.
Reasons for departures, according to age group

Twelve reasons were indicated by the interviewees regarding what prompted people to leave their place of origin. Figure 2 shows the main reasons, organized according to age group.

Figure 2 – Proportion (%) of individuals who left the RDS Amanã, according to age group and reason for their departure (N=96).

Figure 2 shows that the majority of the departures of individuals under 14 years of age were to “study” (44%). In the 15 to 20 age group, young people left their place of origin to “get married” (42%). Another reason for displacement in this age group was to “study” (19%). In the 21 to 25 age group, young people mostly moved to “get married” (37%), followed by “work” (32%). In the 26 to 30 age group, all the departures were prompted by “work.”

Reasons for outgoing displacements between rural and urban destinations

In general, the reasons “death of a relative,” “disagreement,” “disliked living in the community” and “accompanying parents, husband or wife” were the ones that prompted all the departures to urban areas. Regarding rural destinations, “health problem” was the only reason mentioned for leaving. Figure 3 illustrates this differentiation between the reasons presented as factors that prompted departures.
Figure 3 – Relation (%) between the reasons for people leaving the RDS Amanã for other rural locations and urban areas, 2006-2010 - (N=109).

Figure 3 shows that “separation” (67%) and “getting married” (59%) were the reasons that led to the majority of departures to other rural areas, while the reasons “work” (77%) and “study” (95%) were the biggest cause of displacements to towns or cities.

**An overview of departures to urban areas**

More men moved to urban areas than women, comprising 54% of flows and repeating the pattern observed in outgoing migration as a whole. The map presented in Figure 4 shows the flow of people leaving, according to sex, from the places of origin in the RDS Amanã to towns and cities.
As indicated on the map, the cities of Tefé (51%) and Manaus (16%) (state capital of Amazonas) were the urban areas that most received these outgoing flows.

**An overview of arrivals in RDS Amanã locations:**

- The majority of individuals who arrived to live in the RDS Amanã came from other rural locations (54%); 26% of these locations form part of the RDS Amanã.
- Regarding displacements according to age group, children and adolescents under the age of 14 were the main actors in this scenario (38%). Regarding the economically active age group in this population, although the proportion was lower, it still showed a significant number of arrivals: 15 to 20 years old
comprised 27%. The 21 to 25 age group comprised 15%, followed by the 26 to 30 group (10%) and the 31 to 50 age group (8%). Arrivals of people aged 50 or over were not recorded.

**Reasons for arrivals, according to age group**

Figure 5 shows the reasons that prompted the arrival of individuals in each age group in locations within the RDS Amanã. A detail worth noting in this graph is that the main reason for the arrival of individuals aged 14 or under was “I couldn’t live in the city any longer” (37%). This reason is most likely linked to the migratory movement of the family group (CUNHA, 2011) to their place of origin.

![Figure 5](image_url)

**Figure 5 – Proportion (%) of individuals who arrived in RDS Amanã, according to age group and reason for their arrival (N=48).**


Regarding the 15 to 20 age group, the main explanation for their arrival was to “get married” (62%). When analyzing this motive in the remaining age groups, we observed a gradual decrease as the person’s age increases. The same pattern was repeated for “get married” when analyzing the 15 to 20 age group who left RDS Amanã, indicating that the majority of displacements for marriage tend to occur in this age group.
Towns or cities of origin of individuals who arrived to live in RDS Amanã

Following the same pattern of departures to urban areas, more men than women participated in the incoming flow (52%). These people originated from six urban areas: Tefé (44%), Alvarães (28%), Manaus (12%), Maraã (8%), Coari (4%) and Benjamin Constant (4%). Like the outgoing displacements, Tefé was the city with the greatest origin of flows.

Reasons for incoming displacements between rural and urban origins

The reasons “get married,” “live with family” and “I couldn't live in the city any longer” were the main motives for the displacement of individuals to locations in the RDS Amanã. It is worth mentioning that the majority of people who moved to “get married” came from urban areas (53%), while among those coming to “live with family,” 60% were from other rural locations. Figure 6 illustrates this relation.

A specific situation verified by this graph is that all the individuals who arrived in the villages explaining that their reason was to “study” originated from other rural locations. This same pattern was repeated for personal reasons, such as “separation” and to “be close to relatives.” Another reason that drew our attention is “I couldn't live in the city any longer.” Although the data analyzed present very little information to correlate this fact with a possible return to the place of origin, it does open premises for more in-depth analyzes regarding future data collection.
IV. DISCUSSION

In general, the majority of the outgoing movements from the RDS Amanã in which young people were the principal actors were concerned with “studying,” while the economically active population (26 to 30 years old) left in order to “work.” This information assists in the analysis of social status and the identification of factors that require greater attention from public policies.

In a recent study, Pereira et al. (2022) identified that population displacements in the RDS Amanã can be explained by the unmet educational demand in the villages, related to the absence of public policies that show greater contextualization with the reality of the populations that pursue rural living in the Amazon. This shows that the lack of services and adequate infrastructure in these locations is of great importance in the decision-making of migrants on whether they stay or move to other places. These results corroborate the reasons for displacements observed in this study, in which most rural-urban displacements result from factors related to “education” and “work.”

The destination most sought by people who indicated these reasons for leaving their place of origin was to towns and cities, corroborating the work of Nasuti et al. (2019) regarding the dependence of rural populations on urban centers. This process of seeking out larger urban centers as a destination for migration can be explained by the offer of a variety of service functionalities (SANTOS, 2006; LEFEBVRE, 1970) that are concentrated in urban rather than rural areas. In the RDS Amanã, leaving to live in a town or city may have a direct correlation with the search for the upper grades of secondary education and university, as well as the search for paid work and/or employment under contract.

Although Manaus is the state capital of Amazonas and has a historical tendency to receive rural flows (BECKER, 2013), Tefé is one of several urban municipalities in the central region of the State of Amazonas. In addition to being the most developed urban center closest to the RDS Amanã, this medium-sized city is considered to have territorial responsibility (RODRIGUES, 2011; TAVARES-PINTO, 2015). Cities with these characteristics are important commercial nodes in the State of Amazonas and exert a strong influence on the surrounding municipalities (TAVARES-PINTO, 2015).

Compared with other towns and cities in the Medium Solimões region, Tefé concentrates a greater offer of functionalities in the sectors of health and education, including higher education, with undergraduate courses in several areas. In addition, it is the most populous city in the region, with 61,453 inhabitants, 81% (50,069) of
whom live in urban areas (IBGE, 2010). This population distribution between rural and urban areas follows Brazil’s national pattern, which shows 84% of the population resides in towns or cities (IBGE, 2010).

Regarding urban growth, the process that is taking place in Tefé is also similar to growth in other urban areas of Brazil over the last few decades (BECKER, 2013; ROLNIK & KLINK, 2011). This perception is confirmed when comparing the results of the 1991 and 2010 censuses. The population grew from 53,970 to 61,453 individuals, or 22% growth over two decades.

Another issue worth noting is that the city of Tefé was the origin of the incoming flows to the RDS Amanã. This factor reinforces the idea of circularity in the territory, in which individuals who are either new residents or returning to their places of origin play an important role (BESSA, 2012). The latter assertion indicates the existence of a networked migration system that interconnects the city of Tefé with the rural villages of the RDS Amanã, which suggests that the city’s inclusion in future investigations that aim to analyze the residential multilocality of the population of the RDS Amanã and its relationship with the growth of the urban population of Tefé in recent years would be of some relevance.

Regarding the incoming movements of people in the villages of the RDS Amanã, the reason “to study” was the only one cited by people who left their place of origin, prompted by this motive. It seems likely that this situation is correlated with communities that offer the full educational cycle, and that there are educational centers in the regions where they are embedded (MOURA et al. 2016), thus these displacements seem to be correlated with the absence of public policies (GOLGHER, 2004; BOYLE, 2004). It also means that the family wants to offer their children better educational qualifications, usually for those in the under 14 age group.

Considering that the main destination for departures “to get married” are rural areas, this seems to demonstrate the practice of social reproduction of local domestic groups, which is generally linked to ensuring access to land for descendants of marriage, since they are patrilocal, that is, the women migrate to the husband’s location (MOURA et al. 2016). In contrast, the destination based on the reason “separation,” which also presented other rural areas as the main option, may indicate a return to the place of origin, where the individual is probably returning to live with parents or close relatives.

Regarding the arrival of new residents, the process of settling families in the territory can favor the management of these areas (Plano de Gestão RDS Amanã, 2020), through involvement in participatory decision-making processes, or cause conflicts, if older residents are not in common agreement with them living in the rural communities.
In general, intralocal mobility in the RDS Amanã occurs due to the formation of marital ties (ALENCAR, 2007; ALENCAR, 2010 and MOURA et al. 2016). Studies by Woortmann (2009) in the Brazilian Northeast show that population mobility is a determinant of kinship patterns and is articulated with social reproduction strategies.

The results obtained here corroborate studies in conservation units conducted by Alencar (2010), Moura et al. (2016), Parry et al. (2010a) and Pereira et al (2022), who concluded that most outgoing migrations are motivated by the absence of public policies. However, further research is required to analyze this context in greater depth, especially when we consider that, in addition to the aforementioned factors, we determined that migrations also occur for other motives, including, for example, the practice of marriage.

V. Conclusions

The variables used to represent the dynamics of displacements in the territory between 2006 to 2010 enabled us to illustrate the reasons that prompted displacements, the places of origin and destination, and the demographic profile of the individuals, which provided a profile of the situation of population movements in the territory during the period analyzed.

The results obtained showed that outgoing migrations are motivated by the absence of public policies in the area, realizations based on the reasons described in relation to education and health that demonstrate the need of residents regarding access to these services, which in turn are related to the precarious nature or absence of these services in the locations studied.

The pursuit of further studies in urban centers, presented as one of the main reasons for leaving the RDS Amanã, is closely related to attempts to reduce social asymmetries, often externalized in statements as improving the family’s living conditions.

Education has a fundamental role, since it enables the population to obtain qualifications with legal instruments that ensure the practice of management in the territory and, in particular, access to natural resources by the local population.

Taking this information as a whole, it seems reasonable to affirm that the absence of public policies is the main motivator behind individual displacements to urban centers, motives justified by the search for improvements in living conditions.

The motivation to seek certain destinations, a tendency of populations in rural areas throughout Brazil, and particularly in the Amazon, is due to this dependence on urban centers (PEREIRA, 2017; NASUTI, et al. 2019).
The city of Tefé stands out as a main center of attraction for the population of the RDS Amanã, since spatially it concentrates a range of services, such as educational services at infant, elementary, secondary and higher levels, as well as commerce, cultural and health services.

Concerning the permanence of residents in the RDS Amanã, this is understood due to the attractiveness that some processes provide, such as the natural resources management programs implemented for more than 20 years, which mainly promote improvements in income generation. Another factor that is closely related to permanence is the feeling of belonging to the territory.

Access to natural resources and the right to use the land guaranteed by the norms and rules of a sustainable use conservation unit are also factors that influence the decision to remain in the area. However, they indicate discussions not covered by this study, demonstrating the need for investigations that seek to understand how population displacements influence the management of conservation units.

This study makes important contributions to population studies in protected areas, by seeking to understand the role of these areas in rural-urban spatial relationships in the Amazon. The spatial relations of the Amazon population encompass different contexts that can be influenced by different forms of spatial occupation at distinct scales. Therefore, a broader panel of specific case studies is required.

Acknowledgements

The authors would like to thank the National Council for Scientific and Technological Development (CNPq) for granting an Institutional Training Program (Programa de Capacitação Institucional) scholarship to the first author, the Mamirauá Sustainable Development Institute for their support of this work, and Isabel Soares de Sousa for her collaboration in the construction of the article.

VI. References


