Government of the Democratic Republic of Timor-Leste

Ministry of Public Works, Transport and Communications

Directorate General for Public Works

National Directorate for Roads, Bridges and Flood Control

Roads for Development Program (R4D)

Women and Rural Roads

Australian Aid

International Labour Organization

Jully 2015

ABBREVIATIONS AND ACRONYMS

CDO	Community Development Officer, staff of R4D and NDRBFC
CVTL	Cruz Vermelha Timor-Leste (Red Cross Timor-Leste)
IADE	Instituto de Apoio ao Desenvolvimento Emprezarial (Institute of Business Support and Development)
M&E	Monitoring and Evaluation
MIS	Management of Information System
MPWTC	Ministry of Public Works, Transport and Communications
NDRBFC	National Directorate of Roads, Bridges and Flood Control, Ministry of Public Works, Transport and Communications
PAKSI	Planu Aksaun Komunidade Sanaemento no Ijiene (Community Action Plan for Sanitation and Hygiene), programme implemented by the Ministry of Public Works, Transport and Communications, National Directorate for Basic Sanitation
R4D	Roads for Development Program
SEM	Secretary of State for the Support and Socio-Economic Promotion of Women
SISCa	Integrated Community Health Services
WASH	Water, Sanitation and Hygiene

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EXECUTIVE SUMMARY

The Women and Rural Roads Report explores the social-economic outcomes for women who live on R4D-rehabilitated roads. The qualitative section looks at how improved road access links with: health, safety and security, livelihoods, access to training, WASH and social participation. **28 women** were interviewed for the qualitative study. This report also provides a gender perspective on the data outlined in the R4D Labourers' Survey Report, specifically on income, skills development and changes to decision making in the household. For the Labourers' Survey **194 men** and **162 women** were interviewed.

From the qualitative study key changes to women's lives can be seen in many of the thematic areas covered. In terms of health, five women experienced reduced travel times to health posts, two new health posts have been built on R4D roads and **14 women now have regular consultations with mobile health services** (that now directly visit their home or aldeia centre). Four women could reliably access the ambulance service previous to the road rehabilitation, now **23 have a reliable day/night ambulance service.** Also **8 women demonstrated an improvement in household nutrition.**

16 women's income increased since the road rehabilitation. In all of these cases income had more than doubled. Income spending generally fell into three categories, children's schooling (four), household spending (11) and reinvestment into their livelihoods activities (five). **Four women had accessed training** since the road rehabilitation. **In two of these cases training had a direct impact on their income.** In terms of social participation, four women have joined self-help livelihoods groups since road access improved.

21 women reported to have increased dust in the home and **four women reported an accident** had occurred on the road, linked with the higher traffic flow; constituting the only negative impacts reported during the qualitative study.

The R4D Labourers' Survey outlines that the **30% quota for women's participation in the works has been achieved.** However the 50% target will take time. Women are usually employed for shorter durations than men. This is predominantly explained by preclusion of women from *'skilled'* tasks during the works due to a **disparity in skill and previous experience. Competing priorities on women's time** was not a major barrier for the respondents' initial employment, however can partly explain their short durations of work.

Of the women respondents who participated in the Labourers' Survey **45% indicated they are more confident in expressing opinions** in the household since participating in R4D works. However there has only been negligible changes in the division of household tasks, administering household finances and making financial decisions.

1. METHODOLOGY AND INSTRUMENTS

The impact on women from the rehabilitation of rural roads has been explored through the collection and assessment of qualitative data. Semi-structured interviews were carried out, and these were augmented by field observations. A gender assessment has been applied to quantitative data from relevant R4D M&E instruments.

1.1 Semi-structured interviews

Qualitative data was collected with the aim of determining the impact that road rehabilitation has had on women living in the catchment areas of R4D-rehabilitated roads. The study covered certain thematic areas: health, WASH, social participation, personal security, livelihoods and training. Questionnaires were used in semi-structured interviews to collect women's stories of change. The sample was 28 women. Respondents were chosen by randomly selecting homes along the R4D-rehabilitated road applying the following criteria:

a. Two women from each Suco where an R4D-rehabilitated road covers the entire length of that Suco.

b. Women living adjacent to R4D-rehabilitated roads where works have been completed at least six months prior (this means not all districts where R4D operates could be sampled in 2015).

c. Women living towards the middle of the R4D-rehabilitated road (or end if it is not a through-road), far from major intersections and town centres.

d. Women who had not participated in any other R4D monitoring and evaluation activities.

e. Where possible diversity of respondents has been applied regarding age, marital status, profession and ethnic group.

f. Half of the women were labourers on the R4D rehabilitation works.

Where appropriate, information from field observations was used to supplement the information provided during the interviews regarding gender-related impacts e.g. construction of maternal health centres or improvement in water infrastructure adjacent to R4D rehabilitated roads.

In-depth case studies were also carried out for two individual women who have experienced significant impact from R4D road rehabilitations. These cases show the potential benefits that can be experienced by women when various aspects of rural development are facilitated by the improved road access.

1.2 Women-specific data from other R4D M&E instruments

A desktop review of the R4D Management of Information System (MIS) regarding available gender-related data was carried out, specifically from the Community Snapshots, Local Business Activity Survey, Transport Survey and Labourers' Survey.

The majority of data generated by R4D's M&E instruments are sex-disaggregated. As the first batch of rural road rehabilitation works was only completed in mid-2014, often only low impact can be seen for both sexes. With low impact, in most cases it is also difficult to identify *difference* in impact between women and men. An exception can be seen regarding female and male labourers' of R4D works. Therefore the major source of information for the gender assessment of R4D quantitative M&E instruments is the Labourers' Survey.

1.3 Limitations

All efforts were made to interview women in a location free from distractions or potential elements of bias, such as men attempting to observe the discussion. On a small number of occasions, due to constraints in available interview locations, this was not possible. In these cases a check was carried out to determine if responses were inconsistent compared to those of other respondents. No major inconsistencies were identified, therefore it is unlikely that *false* information was provided. Rather some potential elaborations may have been discouraged.

The qualitative interviews focused solely on women to assess the impact they experienced from improved road access. While some responses may suggest impact uniquely experienced by women, the qualitative study shouldn't be viewed as sex-disaggregation of impact, that is, the *differences* between men and women from improved rural road access. This is not the case with the quantitative study. In section 4 a sex-disaggregated assessment is provided regarding the impact of labouring for R4D in terms of salaries earned, work durations and effects of women's income on household decision making.

As the qualitative case study was not carried out as a baseline and end-line, questions were asked of women regarding their perceptions of developments that occurred *before* the road rehabilitation and *after* the road rehabilitation. A general constraint exists when interviewing rural people in Timor-Leste about time and the order of events. For the more intangible interview questions such as exploration into women's feelings of security or social participation, responses were consistent with this general constraint. These areas are discussed in sections 2.2 and 2.5 respectively.

2. IMPACT OF IMPROVED RURAL ROAD ACCESS ON WOMEN

2.1 Health, water and sanitation

2.1.1 Access to hospitals, health posts, traditional healers and mobile clinics

Major impacts were identified relating to increased access to health service facilities. Women were asked about the health services they accessed if they or their children were sick pre and post the road rehabilitation – local health post, district or national hospital and/or traditional healers? The time taken to travel there, the availability of health workers/medicine and quality of the service provided were also explored.

Three women responded to have visited traditional healers before the road rehabilitation. Of these three, Marsiana from Lianai-Grotu, Manufahi was the only one who continued to visit the traditional healer after the road was rehabilitated. On both occasions she reports to have travelled there by foot, taking two hours. She did not comment on the quality of treatment she received.

Jasinta from Mahata-Kusi, Oecusse was treated in her home by a traditional healer prior to the road rehabilitation. After the road was rehabilitated, she discontinued seeing the traditional healer and started visiting the health post, walking four hours to get there. This indicates more about her changing treatment preferences than the impact of improved road access. Jasinta affirmed her satisfaction with the service at the health post and reports that health professionals and medicines were available. It could not be verified whether this availability was present before and/or after the road rehabilitation.

Fatima from Mahata-Kusi walked two hours to the traditional healer previously. After the completion of the rehabilitation works she travelled by motorbike for one hour to the health post. As this was not possible previous to the rehabilitation, improved road access represents a possible influence on her treatment decision. Because of the small sample of women who visited traditional healers, it is not possible to say with certainty that improved rural road access has an impact on women's changing preferences regarding medical treatment.

25 of the interviewed women had visited a health post or municipal hospital in the years before the road was rehabilitated and 22 women had visited in the short time since completion of the rehabilitation works. Five women reported that the improved road access had reduced their travel time to the health centre or municipal hospital. For example Maria from Maliana-Saburai previously walked two hours to the health post. After the road was rehabilitated Maria made the trip on an ojek,[1] which took 30 minutes. All of these five women were from the western municipalities of Covalima, Bobonaro or Oecusse where ojeks are the most common means of public transport.

[1] Ojejs are motorbikes that operate as taxis. Group discussions with community members have indicated the cost of an ojek from home to suco/municipal centre is in the range of $2 - $5, depending on distance and competition.

In attempting to assess whether improved road access to health posts impacted upon the quality of their services, questions were asked of the interviewed women regarding their perceptions on the availability of medicines and health professionals. With one exception, all 25 women who had visited a health post before the road was rehabilitated, expressed their satisfaction with the health care services. Rosalia from Oelulan-Leolbatan, Oecusse was the exception, who said that doctors/nurses were, *'Sometimes there, sometimes not there.'*

Thus with 24 out of 25 of the women indicating their satisfaction with the provided health care services prior to the road rehabilitation – despite the often low availability of medicines and health professionals – the survey findings do not indicate a correlation between the quality of health service provision and improved road access. This is consistent with the general population's satisfaction with national health services. In the 2014 Tatoli survey carried-out by the Asia Foundation, 84% of people indicated that services provided by nurses and doctors were either 'good' or 'very good'.[2]

Olandina from Lepo-Lour in Covalima was the only respondent to report a case where an R4D road rehabilitation resulted in improved health services. Previously she travelled two hours on her husband's motorbike to the health post in Zumalai Vila, rather than visiting the local health post in Bulo. Her reasoning was the lack of available nurses and medicines. She indicated that the rehabilitated road had led to a more consistent supply of medicines and available doctors/nurses to the Bulo health post; thus now prefers to be treated there – only a 20 minute ride by motorbike.

Field observations have identified three more occasions when improved rural road access has led to improved health services. In Suco Saburai – along the Maliana-Saburai road in Bobonaro Muncipality – nurses were only sporadically visiting the health post before the road was rehabilitated. Post completion of the works they commenced commuting there daily.

Along the Grotu road in Manufahi Muncipality, a new health post has been built after R4D had rehabilitated the road. The Aldeia Chief reported that the health centre was completed one year earlier than originally planned due to the ease in transporting materials over the rehabilitated road. A similar case was also identified for a health post in Huatoko Suco, Oecusse.

Five women responded that, since the rehabilitation of the road, they have no need to travel to the health post or hospital, as **SISCa** (Integrated Community Health Services) are now regularly visiting their Aldeia. SISCa is a national program implemented by the Ministry of Health, 'To extend the reach of basic primary health care services to communities and households'[3] One of SISCa's key areas of service is reproductive health.

[2] *Tatoli Survey Dec. 2014, Preliminary Findings.*

[3] *Ministry of Health website, http://www.moh.gov.tl/?q=tet/node/82.*

27 out of the 28 interviewed women said to have accessed SISCa before the road was rehabilitated. However, the majority of them clarified that this was only during the dry season, or requiring a long walk. After the road rehabilitation works were completed 14 of the women responded to have increased their frequency of SISCa consultations. For these 14 women SISCa are now either visiting their home or the Aldeia Centre. For example now Rosalia from Oelulan – Leolbatan, Oecusse utilises the SISCa service every month for herself or for one of her four children.

Figure 1: SISCa visiting the community along the Maliana-Saburai road in Bobonaro Municipality.

For other services that rural women utilise (or wish to utilise), such as agricultural support, income generating programmes, WASH etc. it is expected that increased access or benefits from these services will require more time. However this is not the case for SISCa, whose staff visit every location that can be reached by motorised transport. Therefore immediately after a road is rehabilitated they will consult in that newly accessible location.

The women respondents also reported that the availability of **ambulances** has significantly improved since the roads were rehabilitated. Only four women could reliably access an ambulance year-round before the road was rehabilitated, and only another four women could access an ambulance in the dry season or at daytime only. 23 women now have a reliable ambulance service that comes when called – day or night. Filomena from Lianai-Grotu, Manufahi reported to have felt more confident that serious health concerns arising within her family could be dealt with now that ambulances are available.

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Figure 2: Ambulance on the R4D-rehabilitated road, Maliana-Saburai

Filomena also reported to have **given birth to her last child in the Manufahi hospital.** The majority of the other respondents (all but five) reported to have given birth to all of their children at home. Filomena said, *'the last birth was difficult, and I felt sick. We called the ambulance and they took me to the hospital. After the birth I stayed there for a few days and then the ambulance brought me home.'* Filomena gave birth around four months after the road was rehabilitated.

12 of the respondents who gave birth at home previously, expressed that, if they were to give birth again, they would do so in the health post or hospital because of improved transportation. Atina living along the Luro – Barikafa road in Lautem Municipality said *'I gave birth at home because there was no transport.'* Helena who lives along the same road, and who has seven children said, *'When my daughters are pregnant I will suggest that they give birth in the health post because the treatment is better.'*

In summary, the main improvements experienced by the 28 interviewed women in accessing health services were:

- Increased coverage of the ambulance service. 19 more women can now reliably access the ambulance service since the road rehabilitation.
- Half of the women had improved access to SISCa.
- Reduced travel time to health posts.
- Increased likelihood that many of the women will give birth in the health post into the future.

2.1.2 Nutrition

The women who were involved in farming for household consumption were asked whether agricultural outputs had increased and/or were more diversified since the road was rehabilitated. They were also asked whether they were now purchasing different foods in local kiosks or shops, compared to the situation before the road was rehabilitated. An increase in access to food can occur for a number of reasons with improved road access.

On the production side, for example, it may now be possible for government agricultural extension services to access previously inaccessible locations. Also new foods may become available locally for purchase due to recently establishment vendors. Improved transport facilities can also make it easier for local shopkeepers to keep a more diverse stock of food items in their shops.

'I'm growing corn, pumpkin, cassava, aubergine and other vegetables', said Jasinta who lives on the Mahata-Kusi road in Oecusse. She was one of five women who increased her agricultural production in the six months since the road rehabilitation works were finished. Olandina living along the Lepo-Lour road in Covalima is growing three new products: peanuts, corn and sweet potato; Maria who lives along the Maliana-Saburai road in Bobonaro had started a rice field; and Lucia, also living along the Lepo – Lour road in Covalima, is now growing peanuts, corn, cassava and other vegetables.

Three respondents mentioned to be purchasing more foods for their family since the road was rehabilitated, due to either increased stock in local kiosks or improved purchasing power. *'I now buy rice sacks, noodles, meat and fish',* said Filomena who lives near the Lianai-Grotu road in Manufahi. Previously the kiosks in Filomena's area struggled to stock themselves despite being relatively close to Same vila. Public transport was either too expensive or non-existent.

2.1.3 Water and sanitation

The interviewed women were asked how many hours a day they spent collecting water, before and after the rehabilitation of the road. If there was a time saving because of the improved road condition, they were asked how they spent the time saved. The study also assessed whether improved road access has facilitated an improvement in sanitation facilities for rural women.

11 out of the 28 women reported to have a reduced travel time for collecting water since the roads were rehabilitated. Maria who lives along the Maliana-Saburai road in Bobonaro experienced a reduction from 3 hours to 1.5 hours per day. *'In the past there were many rocks on the road so I had to walk slowly. Now it is smooth so I can walk a bit faster, especially when my kids accompany me',* she said. Respondents also mentioned that they can now use water carts to carry water due to a smoother road surface.

10 women reported a reduction in time needed to collect water due to improved water infrastructure installed after the road rehabilitation works were completed. Many of these roads were inaccessible to motorised transport before the rehabilitation works. Filomena who lives along the Lianai-Grotu road in Manufahi reported that she had observed trucks carrying materials for the new water point. Three other women reported the same observation.

All 28 women mentioned that they used the majority of the time savings on other household activities. In addition to this, Maria who lives along the Maliana-Saburai road in Bobonaro was able to focus more on her agricultural activities, *'Because it is the wet season I need to spend all my time in the field',* she said.

Olandina who lives along the Lepo-Lour road in Covalima said that with her newfound time she can *'Do my activities in the home and work in the kiosk'.* Benancia who lives along the Lookeu road in Covalima said she used the time to *'Prepare my palm wine to sell. I sell it once a week.'* Marsiana from the Lianai-Grotu road said that with her time saving *'I prepare beetle nut to sell.'*

Regarding sanitation, while it might have been possible that improved rural road access (and affordable public transport) would have facilitated the transportation of sanitation equipment, this case study and data from other R4D M&E surveys indicated no immediate improvement in sanitation conditions directly related to improved rural road access. 20 out of the 28 interviewed women used pit latrines or bushes/water bodies for sanitation purposes before the road was rehabilitated. This number reduced by three only after the rehabilitation.

The changes identified in sanitation practices were mainly related to interventions by sanitation programmes. When Rosalina who lives along the Luro-Barikafa road in Lautem was asked how she built her toilet (which was constructed before the road rehabilitation), she responded *'we received support from CVTL[4] who provided construction materials like cement, gravel and sheet metal, and then we constructed our own toilet.'* This was also the case for Agustinha and Maria who are living along the Maliana – Saburai road.

[4] Cruz Vermelha Timor-Leste (translation: Red Cross Timor-Leste) implement a sanitation programme that combines subsidies for materials with training for families to construct their own home latrines.

Staff from the National Directorate for Basic Sanitation confirmed that improved road access is expected to facilitate the implementation of the PAKSI[5] programme. PAKSI's objective is to make Timor-Leste 'Open Defecation Free' by facilitating every household across the country to build home toilets.[6] To date PAKSI is being implemented in Bobonaro only but is planning to expand to 11 other municipalities from 2016 onwards.

From the interviews, the main benefits experienced from improved road access by women in the area of water and sanitation were:

- A reduction in water collection time for many of the women after the completion of the road rehabilitation works.
- The time saved in collecting water was predominantly spent on other household activities and farming.

2.2 Safety and security

The interviewed women were asked questions about their feelings of safety and security before and after the road rehabilitation works. They were asked generally if they felt safer after the road was rehabilitated. They were also asked if police were present (either through call-outs or regular patrols) before and after the improved road access, and whether the frequency of their visits had increased. Lastly the women were asked if they were now more likely to call the police in case of incidents.

The majority of the women mentioned that they felt safe after the road was rehabilitated. However interviewers found it difficult to critique whether they indeed felt *safer,* or simply *safe,* as was their feeling previous to the road rehabilitation. Nearly all respondents indicated that their Aldeias were safe. Benancia along the Lookeu road in Covalima went as far as saying *'I feel secure because our community never has a problem.'* Only one respondent, Francisca along the Bagia-Larisula road in Baucau indicated that she doesn't feel safe. She said *'I don't yet feel safe, we need an asphalt road.'*

The interviews sought to understand if there was a link between improved road access and increased police presence, and between increased police presence and feelings of safety and security. Seven women reported that an increased police presence could be seen since the road rehabilitation works were finished. 26 indicated that the police were present, either through patrols or on call-outs, but weren't clear if this had come about since the road was rehabilitated. This seems to indicate that the presence of police is not directly related to feelings of safety among rural women. Agustinha along the Maliana-Saburai road in Bobonaro conveyed that she felt no safer than before and does not see the police either on patrols or call-outs. The Suco Saburai police station is 100 metres from her house.

[5] Planu Aksaun Komunidade Sanaementu no Ijiene (translation: Community Action Planning for Sanitation and Hygiene.
[6] PAKSI uses a methodology called Community Lead Total Sanitation. A sanitation worker facilitates communities to map out where they defecate. They then simulate rain to show where the defecation runs to i.e. the water supply, people's private property etc. This simulation then 'triggers' the community to build their own latrines. The programme provides technical advice on latrine construction. No subsidies are provided.

Esmeralda whose house is located along the Balibo-Cowa road in Bobonaro said that *'the security situation is good, the police have secured our community because they are now regularly accessing the road.'* However, Esmeralda indicated that she wasn't more likely to call the police if there was a problem. Graciana who also lives along the Balibo-Cowa road said that she felt no safer since the road was rehabilitated despite the police now patrolling twice a week, where previously they never visited.

Only five out of the 28 women indicated that, now the road has been rehabilitated, they were likely to call the police if there was a problem. The responses of three of these women were however unclear in terms of whether they were *more likely* to call the police or *likely* to call the police because of the improved road condition.

The two respondents who could indicate an increased likelihood both live on the Luro-Barikafa road in Lautem. Lenia said *'Because we have good access to the road, the police patrols are good.'* She said that she would call the police if there was a problem. Atina who also lives along the Luro-Barikafa road said *'I feel safe. If there is a problem the police can come quickly because the road access is now good.'*

Four women mentioned that new police posts have been established close to their location since the road was rehabilitated. However, there is no clear correlation between an increased presence of local police stations and an increased likelihood to request police assistance.

In summary, the responses show mixed impact amongst the women on feelings of safety and security from road access and improved police presence. The study shows rehabilitated roads haven't increased feelings of security for the majority of the women. This is consistent with similar findings from R4D community focus group discussions, as presented in the R4D Impact Study Report.

2.3 Access to training

The potential economic impact of improved roads on the interviewed women was a key area covered in the survey. The study aimed to assess whether improved road access resulted in increased participation by women in vocational training, and, if so, whether there was an economic impact as a result of this training.

13 out of the 28 interviewed women had never accessed any kind of training, either before or after the road was rehabilitated. 11 women had accessed training prior to the road rehabilitation works and four of them had also had training after the road was rehabilitated. The areas of training that the 15 women participated in, either before or after the road was rehabilitated, were: agriculture, nutrition, maternal health, sanitation, and microenterprise management.

Among the four women who had received training since the road rehabilitation, for two of them there was a clear link between the training and improved road access. Berta whose house is located along the Oelulan-Leolbatan road in Oecusse, with SISCa now visiting her location, she was offered an opportunity to be trained as a temporary assistant for post natal check-ups. The duration of the training was for one-week and was followed by nine days of employment. Berta used the income earned from her temporary employment for buying household necessities.

The other respondent who benefited from the opportunity to receive training, due to the road rehabilitation, was Graciana. She lives along the Balibo-Cowa road and has participated in a 5-months training provided by Moris Rasik[7] on kiosk management and administration. Graciana is a kiosk owner who has also experienced reduced transport costs and increased availability of stock to sell. Since the road rehabilitation works were completed, the income from her kiosk has doubled, from USD$ 30-50 per day to USD$ 80-100 per day.

This demonstrates the potential for greater economic impact when interventions are aligned; in this case road rehabilitation combined with training on kiosk management. Graciana mentioned that her increased income was reinvested into her business and is spent on buying household necessities and covering the costs of her five children's schooling.

In summary, the observed impact of improved rural road access on training opportunities and related economic benefits for women were:

- Although the road rehabilitation works were only completed recently, two women had been able to access training because of the improved rural road access and benefited economically because of the training they received.
- When improving rural road access is combined with the provision of relevant training, economic benefits can increase significantly.

2.4 Economic Impact

There can be a number of influences that determine the level of economic impact experienced by families living on roads recently rehabilitated. A reduction in transport costs and an increase in transport availability is essential. Cooperation amongst growers/sellers for marketing products in cost effective ways is also pertinent. Optimising usage of arable farmland adjacent to the road and accessing market centres for selling are also important. The most dramatic increases in earnings occur for families when the conditions above are aligned.

Such was the case for Ermelinda, a small business owner along the Oelulan-Leolbatan road in Oecusse. Since the road was rehabilitated, affordable public transport in the form of ojeks has become available. Ermelinda now utilises this service for regular trips to the supplier and boasts an increased variety of stock in her store.

Esmeralda, who resides along the Balibo-Cowa road, is another example of a woman who has economically benefited from improved rural road access. Since the road was rehabilitated, her family's income has increased ten-fold from $10 per week to $100 per week. Esmerelda has reinvested the majority of her earnings into the kiosk and the rest she has spent on home improvements. Previously the road was inaccessible to all motorised transport. Now suppliers from Balibo and Maliana send trucks of stock to Cowa. Kiosk owners often buy directly from the truck. Esmeralda now has a diverse stock. She also reported that more people are travelling on the road, thereby increasing her customer base.

[7] Moris Rasik is a microfinance agency that also provides microenterprise management training, and facilitates the establishment of small income generating groups, http://morisrasik.com/?page_id=6.

Income increases have also been experienced by many of the interviewed women involved in the agriculture sector. Lucia who lives along the Lepo-Lour road in Covalima previously earned approximately $10 per week. Since the road was rehabilitated her income has increased to $30 per week. Lucia reported that the rehabilitated road, *'Provides good access for us to carry our products to the local market.'* Two times a week she travels by ojek to the market. The improvement in market access has encouraged her to invest more into her farm. Since the road rehabilitation she has started growing and selling four new products.

Improved rural road access can however also lead to a decrease in income for some businesses when new competition arises, facilitated by the road rehabilitation. One such case was identified withBalbina who has a kiosk along the Lookeu road in Covalima. She mentioned that *'I now have less income because the number of kiosks have increased. Before I earned $120 per week, now I earn only $35 per week.'*

16 out of the 28 interviewed women had experienced an increase in income since the road rehabilitation works were completed. In all of these cases their income had more than doubled. Income spending generally fell into three main categories: i) children's schooling (four women); ii) general household consumption (11 women) and, iii) reinvestment in their livelihoods activities (five women).

'I used the income earned to improve the business by purchasing more stock, for buying home necessities and to finance the children's schooling', reported Graciana from the Balibo-Cowa road. Eliza who lives along the Mahata-Kusi road in Oecusse reported that she increased her capital in the livelihoods group in which she is participating.

In addition to these categories, Maria from the Maliana-Saburai road used part of her income for cultural activities. Benancia from the Lookeu, Covalima road used part of her increased income (previously $100 per week, now $200 per week) on home improvements.

In summary, the survey showed the following main economic impacts for the women due to the improved rural road access:

- More than half of the women experienced a doubling of income since the road rehabilitation. All these women were either farmers or kiosk owners.
- The increased income was used for reinvestment into livelihoods, purchasing food, general household consumption, cultural activities, children's schooling and home improvements.

2.5 Social participation

The study also gathered stories about changes that occurred regarding women's social participation, triggered by improved road access. For example their involvement in groups, politics, social activism etc.

Before the road rehabilitations nine women had participated in groups. In all cases except for one these groups were livelihoods focused. Fransisca from the Bagia-Larisula road in Baucau was the exception, having continued involvement in Redi Feto.[8]

Four more women had commenced working in a livelihoods group since the road was rehabilitated. Fatima from the Mahata-Kusi road had joined a livelihoods group organised by Caritas. Berta who lives on the Oelulan-Leolbatan road in Oecusse is now participating in a group that produces saplings and plants. It is unclear whether their involvement was facilitated by the road rehabilitation.

Women's social participation requires promotion and facilitation beyond the simple act of improving road access. It will also require time before women are prepared to utilise public transport for reasons of social participation.

2.6 Negative impacts

Possible negative impacts were discussed with the women respondents. Specifically, women were asked if they had experienced an increase of dust in their homes and/or had been involved or witnessed any road accidents as a result of the increased traffic generated by the improved roads. The women were also asked generally if they could identify any other unforeseen negative impacts.

21 Women responded to have experienced a small increase in dust in their homes during the dry season after the road was rehabilitated. Unfortunately this is a difficult negative impact to mitigate against. The rural roads standards and specifications adopted by the Ministry of Public Works, Transport and Communications states that gravel surfaces are to be used on all rural roads except: on steep gradients, in high density population areas and in front of key services such as hospitals and schools. However in 2015 a new set of standards will be adopted, which will reduce the gradient where sealed surfaces are specified. Due to Timor-Leste's mountainous nature, a significant reduction in gravel-surfaced roads will occur.

Four women reported to have witnessed or know of road accidents that occurred since the road was rehabilitated. Madalena who lives on the Baoi Le-Uatabo road in Baucau reported that *'The road is still slippery when it rains and it needs further improvement.'*

One other unique negative impact was mentioned by Benancia from the Lookeu road in Covalima, who noted that *'People are using our road for illegal logging activities.'*

[8] *Redi Feto (translation: Women's Network), is a national program focusing on developing women's leadership.*

2.7 R4D's impact on women labourers

Figure 3: Women road maintenance team returning home from the Same-Rotuto road in Manufahi Municipality

R4D utilises 'labour-based technologies' in the rehabilitation and maintenance of rural roads. To date 402,000 labour days have been generated for local labourers – 110,000 labour days for women (27.5%) and 291,000 for men (72.5%). Of the 28 interviewed women, 17 had been recruited as temporary workers on R4D roads.

In attempting to understand the lines of communication that facilitate women to work, respondents were asked through what means they heard about the opportunity to participate in R4D works. In all cases it was through direct communication with one of three parties: Suco or Aldeia Chiefs (nine women), directly from the contractor (seven women) or from an R4D program representative (one woman). This could have occurred from direct visits to the women's home or their participation in 'Community Mobilisation Meetings', which were organised between the contractor and local leaders to disseminate information about the road works.

The women were asked about their decision to participate in R4D works. 13 of the respondents replied that they decided by themselves to become labourers on R4D works. For example Atina from the Luro-Barikafa road in Lautem, stated simply *'I made the decision myself to be involved in this work.'* Helena who lives on the same road, and two other women stated that *'I discussed it with my husband to make the decision.'* Madalena who lives on the Baoi Le-Uatabo road was unique in her response, *'I wanted to fix the road, so I went to work.'*

Further questions were asked during the interviews to determine the ease/difficulty of their participation in the works. The period of work, daily hours and how the work affected their normal household activities were investigated.

Nine of the women worked for approximately one week, five worked for two weeks and three worked for longer. All women worked full days during their working period except for two. Maria from Maliana-Saburai worked half days for 12 months. '*I worked Monday to Saturday, 7 o'clock to 11 o'clock and cooked for the labourers. I earned $900.*'

When asked what activities the women did when they returned home after work. 15 women responded simply, *'Household activities.'* Eliza from Mahata-Kusi was one of three who responded with, 'Activities for the house and for the farm.' The women's responses indicate that during their participation in the road rehabilitation, regardless of hours worked, no change to their daily activities occurred. When asked about time spent on the different household activities during the works, the common response was *'household activities as usual.'*

When asked how the money earned was spent from labouring on R4D road works, all of the women responded that the income went into the usual household activities (11), food (seven) or children's schooling (five). Only Maria from Maliana-Saburai, who as mentioned worked for one year, reported to have invested part of it into livelihoods activities, which in her case was rice growing. The impact on women from temporary employment as R4D labourers is further explored in sections 3 and 4.

3. INDIVIDUAL PROFILES

3.1 Entrepreneurial women – Cecilia from the Laulara-Ornai Road, Aileu

Figure 4: Cecilia Baptista serving bread in front of her recently established bakery on the R4D road, Lianai-Grotu, Aileu

One of Timor-Leste's greatest clichés is the slow emergence of entrepreneurship, especially in rural areas. The data collected by R4D supports this,[9] however, exceptions exist. Cecilia Baptista who lives along the Laulara-Ornai road in Aileu Municipality is such an exception. Her example shows that with small inputs, minimum risk, good road accessibility and access to motorised transport, Aldeia-based businesses can prosper.

Cecilia Baptista lives with her husband and 14 other family members in a house along the R4D rehabilitated road Laulara-Ornai. Eight months ago the road was not accessible by motorised transport. After the completion of the road rehabilitation works in December 2014, Cecilia and her family began building a large clay oven for baking bread. With the improved road it became possible to rent a truck and transport flour from Dili at affordable prices. Within two months the oven was finished and a simple bakery shop was constructed.

Initially Cecilia's bakery supplied bread only to neighbors and relatives. As demand for her bread increased, the business was expanded and presently six family members are involved. Customers now also include small shops and markets located in nearby villages. Within three months of the shop opening, Cecilia's daily turn-over was already more than USD 150 per day.

[9] *As part of R4D's Local Business Activity Surveys, a wide cross-section of a community's business owners were interviewed. Overall, 73% of businesses owners that were interviewed owned a kiosk and a further 7% were owners of agriculture-based businesses.*

Cecilia does not live on a major through-road, and the closest intersecting major road is 5 km away. The village where she lives has tourism potential in the form of a waterfall, located a few kilometers further along the road. Cecilia indicated that, together with her husband, they are thinking of establishing a coffee shop next to their home that will serve coffee and bread once tourism increases. One of her hopes is to improve employment opportunities for other members of the community.

Figure 5: Cecilia with her baby in front of her oven

3.2 Improved site administration

A key objective of the R4D Program is to build capacities of local contract companies to stimulate the growth of a strong local contractors' industry. Prior to works commencing contractors undergo 6-weeks' certified training on labour-based technologies and business management. They also receive mentoring and on-the-job training during the construction period.

R4D's experience in working with contractors indicate the need for strengthening capacities of contractors in areas such as: site management (including distribution of tools and safety equipment), procurement of materials, labour supervision, financial management and record keeping.

One contractor who is working on the Lianai-Grotu road in Manufahi, has sought to resolve the above deficiencies by employing a locally-recruited full-time site-manager. Her name is Maria. She has four children and lives in Suco Babulo, along the Liana-Grotu road. This is the first job opportunity she has ever received, and it is a stable source of income for her and her family. She works full-time six-days a week, which involves managing the site-camp of the project, distributing construction materials, provision of drinking water, first aid, tools and safety equipment to labourers as well as day-to-day record keeping for labourers' insurance and timely payment of labourers' salaries.

Maria's influence has meant a significant improvement in the contractor's implementation of social safeguards measures, and general management of the rehabilitation project. Her husband is a security guard in Same and together they are saving to build a new home. The contractor reported to be very pleased with Maria's work. And is proud of being labelled one of R4D's best contractors.

Figure 6: Maria at the site camp desk for the Lianai – Grotu road rehabilitation project in Manufahi Municipality

4. SUMMARY OF FINDINGS FROM THE R4D LABOURERS' SURVEY

Where the previous sections focus on the impact for women, this section examines the R4D Labourers' Survey to further elaborate on the *different* experiences of female and male workers on R4D roads. The key areas analysed from a gender perspective were: the recruitment and duration of work for women and men, skills development, wages earned and impact on households from participation in R4D works.

During the Labourers' Survey, a total of 356 people of 38 Sucos were interviewed – **194 men** and **162 women.** The average number of respondents interviewed per Suco was nine.

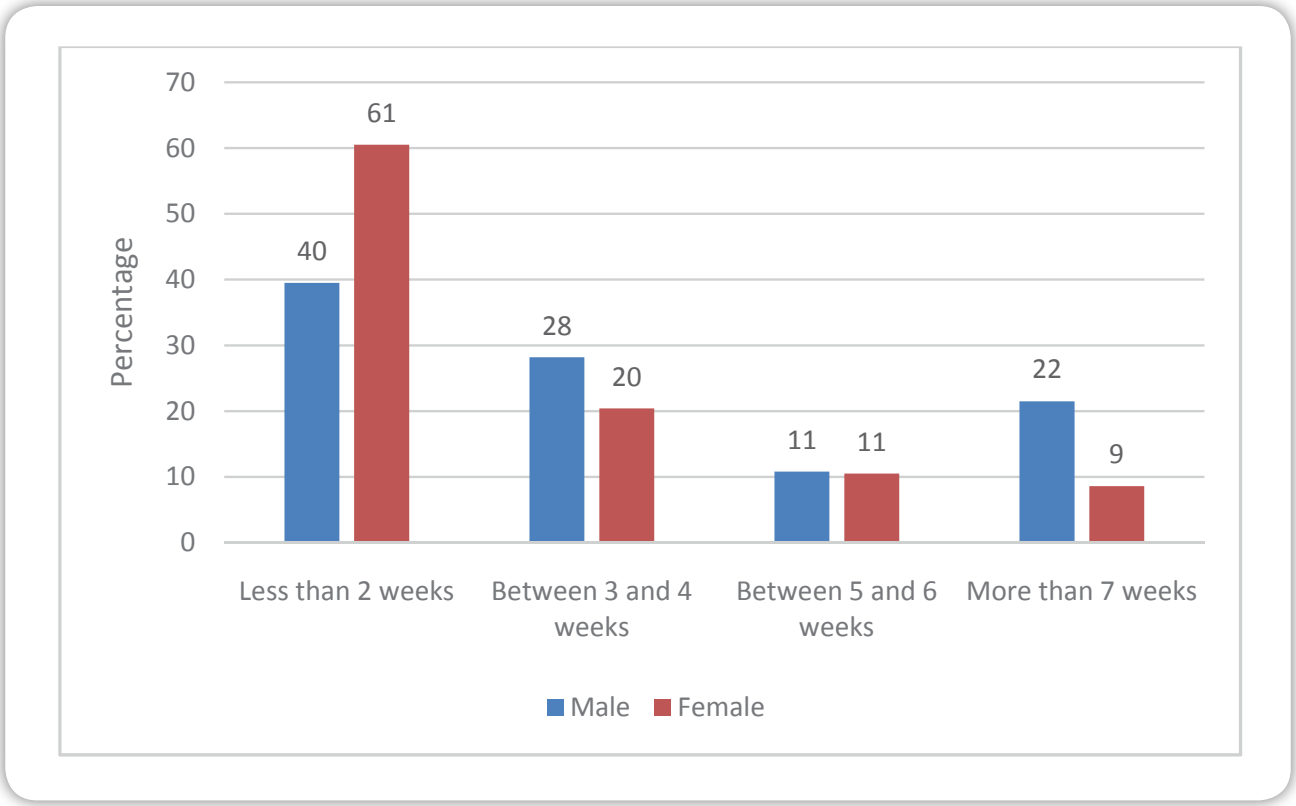
The R4D program has set a minimum quota of 30% for women's employment as labourers on R4D works and a 50% target. The 30% quota has been achieved, however the 50% will require time. A number of measures are in place to encourage equal recruitment opportunities for women and men. These include a contractual obligation for contractors to meet the quota, R4D support during the recruitment process and flexible working hours for women. However a limitation on the R4D team's influence is how workers are organised once recruited. As contractors are principally responsible for carrying out the works, the distribution of tasks amongst the recruited workers falls under their purview.

The survey findings indicate that contractors have generally employed women for short durations of work (typically less than two weeks). There is also an underrepresentation of women in the unskilled category or labour. Key data and figures have been extracted from the Labourers' Survey and presented below with the view of understanding the causes of said underrepresentation.

4.1 Women's work –duration of employment and allocation of tasks

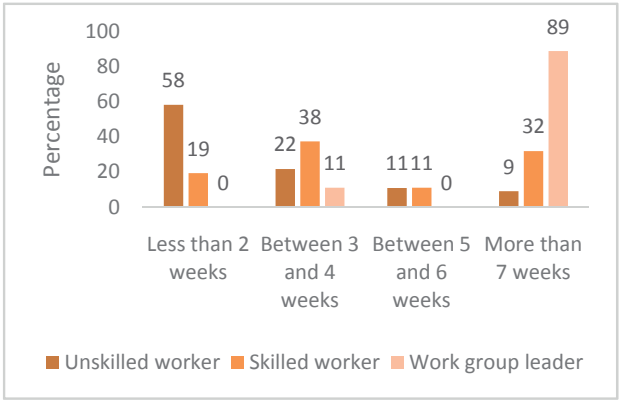
Figure 7 from the Labourers' Survey shows the average duration of work for women and men. On average, men worked much longer periods than women: 61% of the interviewed men worked more than 3 weeks, inversely 61% of the employed women worked less than two weeks. The Labourers' Survey also presents the average number of days worked for men and women: 32 days for men and 21 days for women.

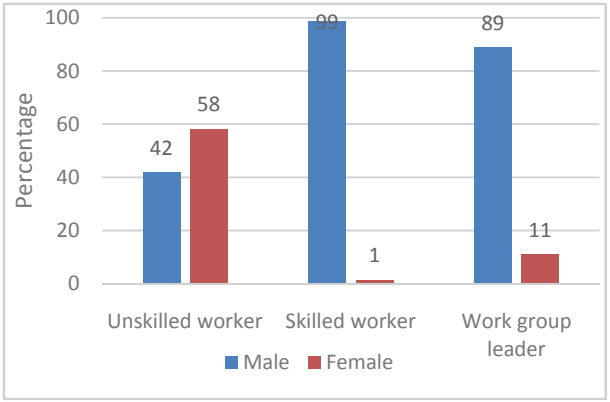
Figure 7: Total period of work by sex (%)



One reason for the above disparity is the fact that women are predominantly found in the unskilled category of labour. Figure 8 below shows total durations for unskilled, skilled and group leaders. More than 58% of unskilled labourers worked for less than two weeks. 81% of skilled labourers had durations of work longer than three weeks.

Figures 8 & 9: Total duration of work by category of labourer and composition of labourers, by category and Sex

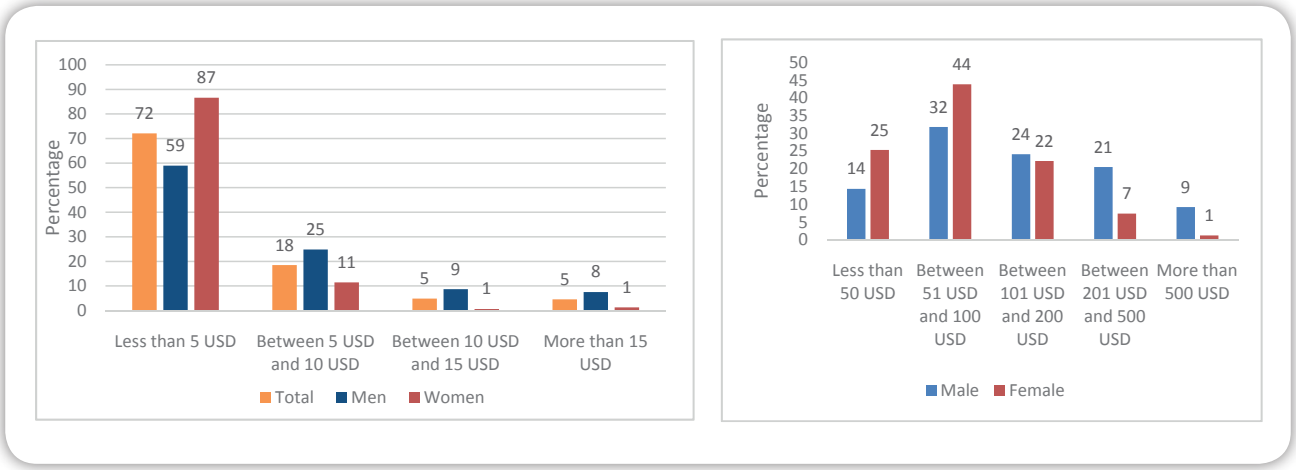




According to the Labourers' Survey, 77% of workers are unskilled, 20% are skilled and 3% are work group leaders. The skilled labour category is made up of predominantly masons who are typically men with preexisting masonry skills, developed in previous construction projects. As this is a specialized skill, contractors tend to employ them for longer periods than unskilled labourers. This, combined with the higher payment for skilled labourers (more than USD 5 per day) than for unskilled labourers (less than USD 5 per day), is a major factor that explains why the overall duration of employment of women is less than for men. It also explains why, overall, the daily wage earned by men is higher than that of women.

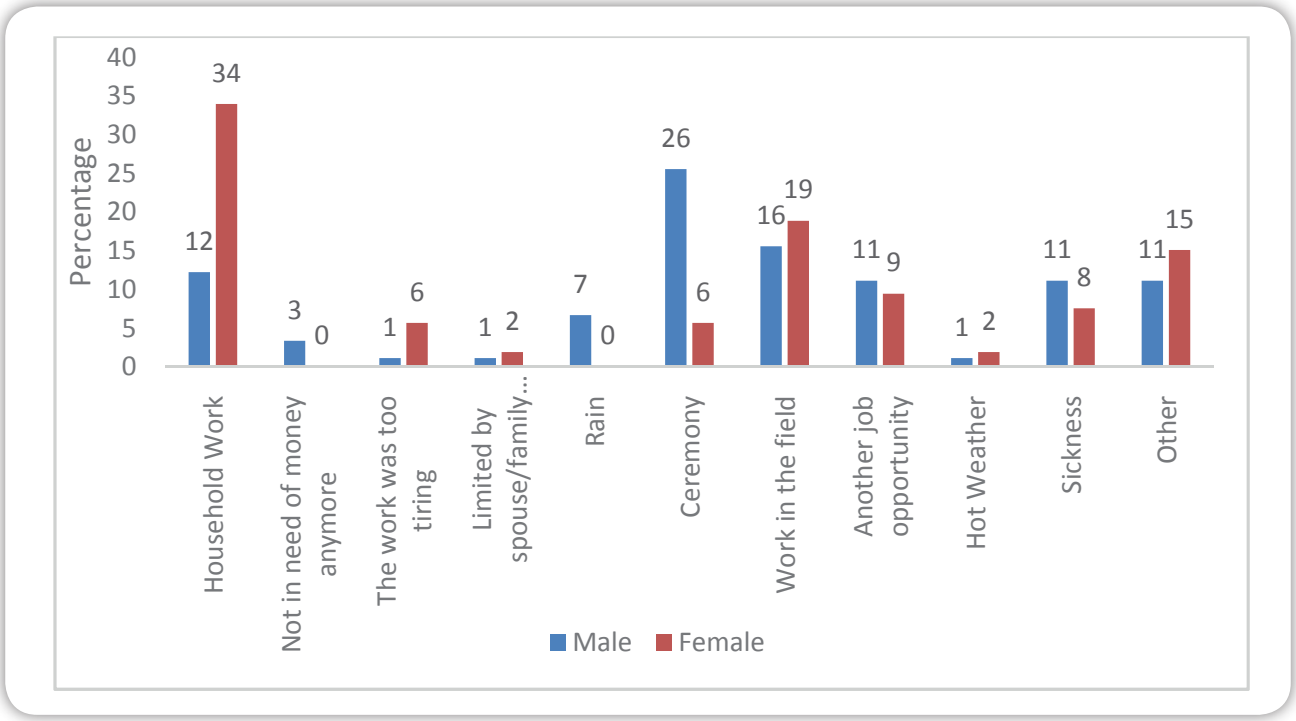
Figure 10 shows that 87% of the female workers earned less than USD 5 per day whereas for male workers this was 59%. Figure 11 shows that 69% of women earned a total wage of less than USD 100, while 74% of men earned over USD 100 per day. On average, the total income earned by a male labourer was USD 186 compared to USD 99 earned by a female labourer.

Figures 10 & 11: Sex-disaggregated daily wage and total wages earned by sex



The physically demanding nature of work has been cited by some contractors as an explanation for women's short duration of work. Figure 12 shows that only 6% of the female labourers interviewed sited that 'work was too tiring' as a reason for missing days of work. Therefore it is unlikely that this could contribute to an explanation of women's shorter work durations. Rather, the survey shows that competing priorities on women's time, such as household work and farming constitute 53% of reasons for missing work.

Figure 12: Reasons for missing days of R4D work, by sex



However the competing priorities are not an insurmountable barrier for women's participation in paid employment. Findings from the Labourers' Survey show that 76% of the interviewed female R4D labourers had previously received cash income from paid employment before working for R4D. For male R4D workers this percentage was only 35%. These figures suggest that rural women have been interested and able - more than men - to secure temporary paid employment opportunities, whenever these opportunities arose.

In summary:

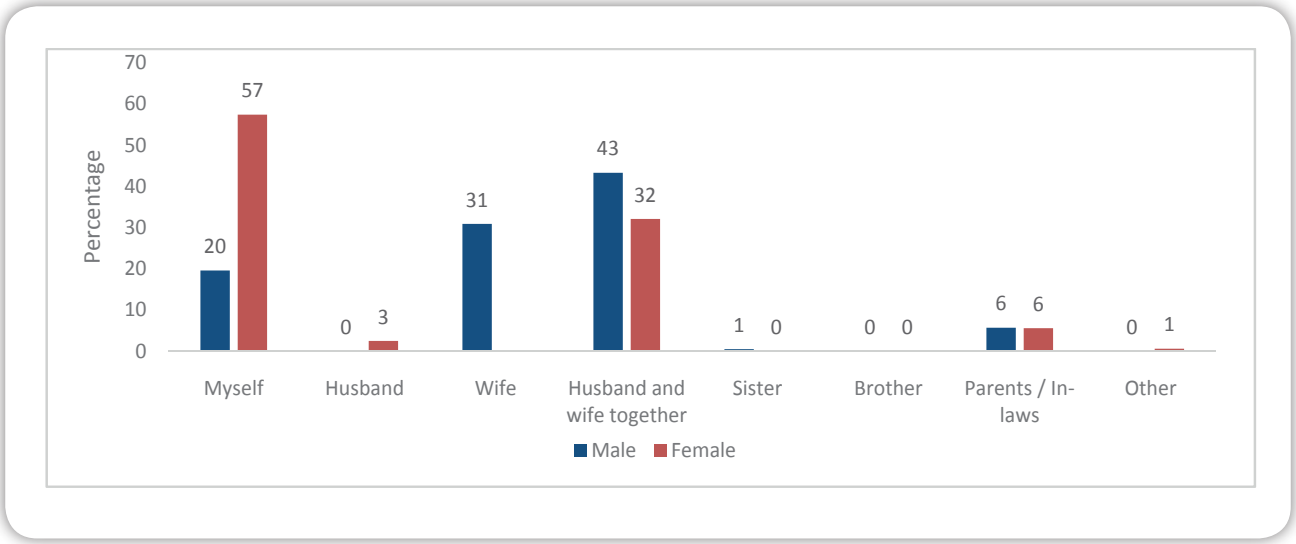
- The physically demanding nature of work is not a major reason for women's short work durations.
- Of the women interviewed, agricultural and household responsibilities did not preclude them from short-term wage employment. However women's other responsibilities go some way to explaining their short durations of work.
- Their lack of previous experience and masonry skills have prevented them from accessing higher-paid skilled R4D work opportunities (which also could provide for longer periods of employment and higher daily salaries).
- To date as women are unrepresented in the skilled and group leader categories, this has meant preclusion from 23% of the works. Thus representing a major barrier to R4D achieving its target of 50% labour days allocated to women.

4.2 Impact on gender relationships within the household

During the Labourers' Survey questions were asked about the **management of financial resources** within the household, in particular on who is **administering the income** and who is **making decisions on how the income is spent.** Results from the survey showed that there has not been much difference after women's engagement in the road works, compared to the situation before women were engaged in R4D works.

Figure 14 shows who in the household is administering the income. 57% of the interviewed women mentioned that they administered the household income. In 32% of the cases they mentioned that it was done jointly by husband and wife.

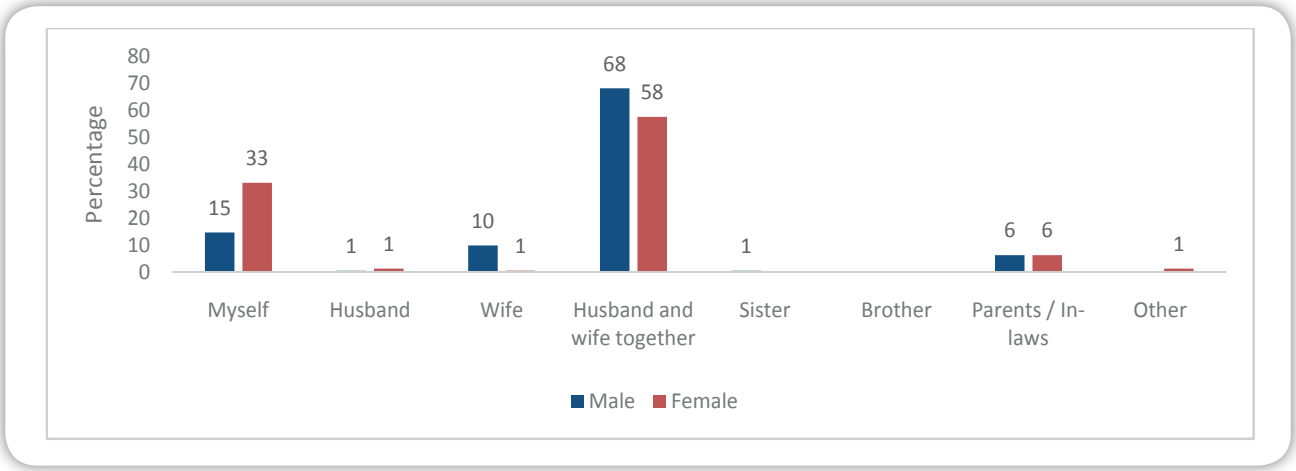
Figure 13: Administering income in the household



Only 20% of the male respondents said they administered the income themselves. 43% of the interviewed men mentioned that this is done together with their wives. 31% of the men indicated that their wives were administering the household income alone.

In terms of decision making regarding the use of the household income, both men and women mentioned that this is normally done together (68% reported by men and 58% reported by women), as shown in figure 15. More women (33%) than men (15%) mentioned that they made decisions on how income was spent by themselves. Only 10% of the men mentioned that their wife was making decisions in the household regarding the use of the household income.

Figure 14: Making Decisions within the household



Where as the above data show that in the majority of the cases women are administering[10] the income of the household alone, decisions about spending the income are mostly made by husband and wife together.

When looking at the impact of women's engagement in R4D work on the power relationships in the household, the survey showed that 45% of the interviewed women interviewed mentioned an increase in confidence when expressing opinions within the household.

In terms of a change in the division of roles within the household 26% of the interviewed women mentioned that their husbands were more engaged in household activities after the women had been engaged as a labourer in the R4D works.

In summary, the two major changes related to decision making from women's short-term employment on R4D works are:

- 45% of the women experienced increased confidence in expressing opinions within the household.
- Men's increased engagement in household activities was experienced by 26% of the women.

[10] *Administering here is defined as recording and handling of funds. It does not include financial decision making.*

5. RECOMMENDATIONS

5.1 Longer durations of work for women

As women labourers on R4D works generally have had no previous opportunities to develop relevant expertise, it is likely that as R4D expands into new Sucos, contractors will continue to find only unskilled available women labourers. A key opportunity for the skill building of women labourers and the lengthening of their durations of work lies in routine maintenance works implemented by local Community Maintenance Groups (CMGs). This form of work is ongoing, can be completed with flexible working hours and is year-round.

It is recommended that contractors are guided into appointing women as leaders of CMGs. To achieve this R4D Community Development Officers (CDOs) will continue to present the benefits and contractual obligations of equal-opportunity employment to contractors during the mobilisation phase of contracts. While the group leader category of labour only constitutes 3% of all labouring requirements, the economic impact for those few women – who would otherwise have worked for less than two weeks – will be amplified. Female-headed maintenance groups may also encourage other women to be involved.

Stricter application of penalties for inequitable recruitment should be applied in upcoming rounds of contracts. 2015 contracts include a clause allowing financial penalties to be applied to contractors who don't meet the 30% minimum quota of labour days for women. Considering the difficulty for contractors to find skilled women labourers, recruitment of women as group leaders, and continued high representation of women in unskilled works will be necessary.

Ongoing mentoring of contractors regarding site administration needs to better focus on the keeping of labour records. This will aid contractors in providing evidence of their compliance, and better facilitate R4D's monitoring regarding implementation of the 30% quota.

5.2 Bi-annual qualitative gender impact studies

As only a short period has time has passed since the completions of many R4D road rehabilitations, overall observable impact has been limited. Thus the specific impacts for women have also been difficult to observe. It will be important to monitor how impact for women changes over time in order to make modifications to how R4D approaches its work with communities.

It is recommended that qualitative gender case studies be brought in line with the R4D bi-annual end-line surveys for streamlining of data collection and data sharing between the two evaluation instruments. However the case studies should remain the responsibility of the R4D Social Safeguards team.

R4D/NDRBFC CDOs, as part of their normal work with communities, should also be identifying women who demonstrate significant achievements as a result of improved road access. It is recommended that a case study tool be provided to the CDOs for ad hoc information collection. Ongoing data collection can then feed into the bi-annual case studies or aid responses to requests for gender-related information.

5.3 Sharing information with key partner programmes to maximise socio-economic benefits for women

Improved road access, when the conditions as described in section 2.4 are present – access to markets, supply lines and affordable public transport, represents optimum conditions for improving livelihoods, access to health services, training etc. Key partners that operate in the same locations as R4D are likely to see greater impact amongst their beneficiaries who enjoy these optimum conditions. Inversely, R4D is likely to see greater impact for women living adjacent to R4D-rehabilitated roads when these women participate in partner programmes.

For example IADE (Instituto de Apoio ao Desenvolvimento Emprezarial)[11] provides training and mentoring to small business owners in rural areas. Businesses could experience an enhanced economic impact if they access both a newly rehabilitated road and IADE business support services.

Yearly, R4D can present maps to partner organisations showing the R4D rehabilitated roads and the conditions of linking district and national roads. Maps could be placed together with R4D road profiles that show key services and facilities along the road. With this information key partners could better consider road access in their programme planning; and thus maximise the benefits for beneficiaries from the improved road access.

[11] *Translation: Institute of Business Support and Development*