



Gender in Road Construction: Experience in the Papua New Guinea Highlands

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Abstract

This article presents experiences in engaging women in road construction work in Papua New Guinea (PNG) Highlands. Providing labour for road construction is a new experience and a demand for tribal women in the highlands region. Women have never before worked on paid road construction works. However, similar to men, women also need cash to pay for goods purchased for the household. Although several road construction activities are in progress in a number of Pacific countries including PNG, there is less evidence reported on the engagement of women. This article initially begins a discussion on gender role in a patriarchy society and gender engagement in road construction program. The article highlights the need for and the process of getting women engaged in road construction works. Women engagement in road construction has been zero in the early years of road construction program which has been increased to 13% of the work force in late 2017. This massive increase is attributable to various strategies adopted by the project staff. The women's new role in road construction, benefits accrued to both men and women and, recommendation to increase women participation in road construction is discussed. The paper is based mainly on the extensive knowledge gained by the author in working on road construction projects in the Papua New Guinea (PNG) Highlands. Where possible, the findings are supported by previous research.

Subject Areas

Sociology

Keywords

Papua New Guinea, Highland Region, Gender, Road Construction

1. Roads in Papua New Guinea's Highland Region

Except for the coastal area, Papua New Guinea (PNG) is a mountain country.

The low-level of road functionality is a significant obstacle to development of the country [1]. The functionality is influenced by lack of connectivity between the highland region and the rest of the country [2], obstacles to traffic movement caused by tribal action and, geological and climatic factors [3].

The Highlands Region of PNG comprises of 7 Provinces namely, Western Highlands, Jiwaka, Southern Highlands, Hela, Eastern Highlands, Enga and Simbu. The most significant road in the economy that connects the Lae maritime port in the east with all of the 7 Highland Provinces to the west is the Highlands Highway (HH). The locations of the Highlands and the HH are shown in the map. Because the region is a major contributor to the PNG economy through its agricultural production, mineral resources and tourism potential, a well-functioning road network connected to the HH is of significant value. The HH as well as many roads in the Region is in poor and badly dilapidated condition. The Government of PNG (GoPNG) is making significant investment in improving the road network including lately the rehabilitation of HH. The rehabilitation of a network of 13 other main roads under the Highland Region Road Improvement Investment Program (HRRRIIP) is poised to complete in the coming months.

World-wide studies suggest that road improvement enhances access of rural people to market centers, boosts local development, provides social and welfare benefits to people, facilitates efficient and cost-effective transport leading to improved livelihoods for the people and increased exports [4]-[10]. Similarly, benefits following road improvement in PNG have also been reported by FINNOC [11]. As referred to elsewhere [2] and [12], the European Bank for Reconstruction and Development [12] recognises that rehabilitation of roads as the key-driver to economic progress in the region. The economic and social benefits of a comprehensive road transport network improvement will contribute to poverty reduction in the country which currently stays at 40% poor people [13] [14]¹. It is for the above reasons that the government of PNG has negotiated two loans from the Asian Development Bank (ADB) for the improvement of the highlands region road network (under Highland Region Road Improvement Investment Program—HRRRIIP) and lately the Sustainable Highlands Highway Investment Program [2].



¹Population below the national poverty line is 37% in 2002.

The road improvements under HRRIP are expected to reduce the average travel time to markets, schools, and health facilities by 25 percent; and to increase the number of public transport (public motor vehicle, known as PMV) services by 100 percent upon project completion [15]. The economic benefits from the improved roads are expected to include increased sales of diverse cash crops, rehabilitation and establishment of coffee gardens, additional livestock raising, increased business for market vendors and store owners, and new opportunities for small and medium-sized enterprises [16].

2. The Patriarchy Society

The social structure in the highland society is patriarchal where tribal members share a common ancestry through their father's lineage. Each tribe has a specific territory whilst clans under the tribe are granted rights to use some of its territory to meet the basic needs for housing and food production by tribal people. Primary rights are reserved for respected clan (or its sub-clans) leaders who have a dominant influence over the functioning of the society. New entrants to the clan through marriage and other means may gain secondary rights to a clan's territory. In all cases, clan's territory cannot be alienated [16].

Of the three variables that influence socio-economic activity in the highland region, women have a significant role in the economy. The other two factors being men and land. Though women have a recognized role, the patriarchy highland society is governed by the norm and rule of men. The women are primarily responsible for agriculture (food gardens and pig husbandry), marketing and household tasks [16]. The women's active engagement in garden work to produce food for family consumption and sharing among clan members with the surplus sold in markets has been highlighted [11] [15] [17]. As discussed elsewhere [11], every rural woman in HR has 2 or more gardens for food production throughout the year. The women are the primary sellers in large markets as well as in mini-markets in villages. The produce from a garden (peas, vegetables, sweet potatoes and colocasia yam) is all a family requires for its survival. The pig is an important animal in festivals, custom and for consumption of meat. It is gifted in various transactions and is used as a good will commodity to further relationships with tribesmen. The cultural activities call for the slaughter of pigs and the meat is shared among clan members that provide essential protein for everyone in the community.

Access to land is a fundamental right and a defining asset in the livelihood and cultural tradition of highlands people. Land is, first and foremost, the basis of subsistence agriculture that supports rural households. It is common to produce small surpluses that are distributed in kind or in cash (after sale of crops at local markets) to members of the household or sub-clan. The land is where sacred sites such as tombs of clan leaders and ceremonial grounds are located, often at visible locations in order to offer veneration by surviving members. Allegiance to one's clan territory remains strong among people who migrate from

their communities for either shorter or longer periods. Land is an important asset a male elder in the family transfers to its next generation as the basis for the continuing cycle of social reproduction.

Similar to other Pacific countries, women in PNG's highland region perform three important functions namely, food production, household work and cash generation for essential family needs [5] [11]. The men have the decision-making responsibility, the guardian of the family and are responsible for other economic activities. Though both men and women use road network in their day-to-day activities, the women use is greater than men, dictated by marketing enterprises predominantly practised by the former in the highland region [11] [17].

Literature relating to women involvement in and benefits from transport improvements are vast [1] [4] [5] [18]. Other studies suggest that women in many developing countries have less access to transport services and technology [19] [20] which explains the constraints faced by women in accessing health, education, marketing and other services. Among other benefits attributable to improved roads are poverty reduction, employment and empowerment. Riverson-Riverson [20] recognizes that understanding and responding to women transport needs are essential for poverty reduction. Fernando [19] argues that women participation in decision making on the design of roads is weak. In the meantime, the same author suggests that women spend more time and energy than men on transport tasks and have less access to the means of transport. Although the benefits to women from an improved road network are widely known, their involvement in road construction and maintenance work including engagement in decision making are not reported in the context of both PNG and in other Pacific countries. This is in spite of the fact that several Pacific countries have benefitted from donor-funded road construction programs in the recent past [21] [22] [23]. However, women engagement in road construction activities and the process of getting women participated are not adequately documented. For example, the literature search on women engagement in road construction including benefits from construction works has produced zero results. This is so despite several road improvements and construction works that are being funded in the Pacific countries including PNG.

It is in the above context that this article explores women's involvement in construction of roads in the Highland Region of PNG where several road construction works are in progress since 2014.

3. The Role of Women

Studies show that women in the highlands region have mainstreamed in generating food and income to augment the entire family income [15] [16]. For example, a study shows that 99% of women are engaged in food gardens [16]. Their gardening work generates food for family sustenance as well as for cash sale to finance other household activities. The household works, which is in the traditional domain of women is the second dominant activity of them. Seventy

five percent of women in HR are reported to be engaged in agricultural labor whilst a less percentage is engaged in non-agricultural labor and further less proportion of women are reported to be engaged in activities such as household enterprises, collection of forest products and in businesses (Table 1). As expected, studies have not shown any role of women in road construction and maintenance.

The women participation in decision making on family matters is apparent where 94% of them are engaged (Table 2). Women participation in decision making with regard to financial, health care of children, education and social functions is also high. With regard to decision making on assets purchase, less women are engaged which is expected in a patriarch society. As mentioned earlier, studies that do not show women are involved in decision making on road design and construction.

The above tables reveal that women in the highland region are very active in decision making on agricultural and household pursuits that make a huge contribution towards house hold income and livelihoods. Women provide the dominant contribution to household income which stood at Kina 240,060 (\$73,408) in 2017 or a monthly equivalent of Kina 2087 (\$639) in the HR. It is to be noted

Table 1. Women's participation in economic activities.

Economic Activity of Women	Frequency	Percentage
Garden works	114	99
Household Works	88	77
Agricultural Labor	86	75
Non Agricultural labor	81	70
Services	79	69
Household enterprises	76	66
Collection/Sales of Forest Products	70	61
Trade and Business	66	57
House building activities	35	30

Source: DOW, HRRIP (2016); Sample size: 115.

Table 2. Women role in decision making.

Activity	Total Responses	Percentage
Day to Day household activities	47	94
Financial Matters	46	92
Health Care of Children	45	90
Education of Children	43	86
Social Functions and Marriages	40	80
Purchase of Assets	20	40
Community affairs	11	22

Source: DOW, 2016; Sample size: 52.

that the mean income is understated because of the local practice of not considering food consumption raised in the food garden as part of the income earned.

Driven by the patriarch principles, the women in PNG Highlands are not engaged in group activities whereas men belong to several community organisations, *i.e.* sports, culture, society, community development society, etc. women have much less [11]. In general, women in the HR are not encouraged to form groups or organisations. The two exceptions are the women's group of the church and the Local Level Government Ward level women's groups lead by the Women's Council President and Vice-President. The women unit in the church has the primary responsibility for encouraging women in religion. The establishment of women ward and a new organisation—Mama Helpim Mama Foundation—launched recently provide financial and life-skills training to women [11]. It also encourages women's membership in financial services which is a new initiative in the making.

The author's experience is that women are not allowed to speak at public meetings though only a few attend such events (Figure 1). As reported by FINNOC [12] [17], in most public gatherings, women are mere observers. However, if a recognized role is given, they are able to contribute in a productive manner. For example, in Minebel village in the Western Highland Province, the only entrepreneur who is well educated, runs multiple income streams and plays an active role in community leadership, takes lead in some community meetings is a woman. Due to her good reputation in the village and for taking initiative to solve community issues, she is highly respected. She plans to organise women into groups and thereby address women's issues.

4. Women in Road Construction

It has been mentioned earlier that contrary to benefits attributable to women



Figure 1. Community group meeting of men.

from road improvements, studies on the employment of them in road construction are scarce. One study indicates that employment of local people (no reference to women) have improved their skills and local contractor has increased their skills too [25]. The need to achieve a greater gender equality through the use of labour-based construction and maintenance work has been highlighted by Frith [26] and Turner [4] while Frith (ibid) points to the low-level of gender diversity in the construction sector. The increase in local employment opportunities as local people are hired by road contractor has been reported in Kiribati [18] [25]. However, both studies are silent on women's role in road construction. On the other hand, evidence suggests that over 90% of labour in construction in general is made up of men [27] [28] which may not be the case with regard to road construction. Following an analysis of work force composition, Sechaba Consultants [25] report that women in manager, supervisor and contractor positions in Lesotho road construction is dismally low. PNG is not an exception to low-level of women in road construction activities. In fact, the available evidence suggests that the country is doing much less for women with regard to their engagement in road construction works [16] [24].

Although machinery is heavily utilized in the construction of roads, human labour is required for various activities. Dictated by geographic (landscape, gradient, terrain and geology) and climatic (high and intense rainfall) conditions in the HR, activities such as building of retaining walls, gabion baskets, line drains, culverts and slope stabilization all require human labour². The removal of organic material from the road embankment before compaction is done is another important labour-intensive activity. The analysis reveals that women are better suited than men to conduct these activities. It has been noted by the author that women perform well in picking up organic materials from road embankment, separate large stones from road surface, carry stones and wash it for line drain construction, and in holding traffic control signs. This indicates that there is a precise and a diligent role for women in road construction works. However, as reported by DOW [16] [24], they have only a marginal involvement in road construction in the HR. In the meantime, there is no literature on women engagement in road construction in other Pacific countries as well. Hence, it is not possible to compare the situation in HR with elsewhere. In the case of HRRIP, all tasks requiring labour have been provided by men. The only occasion where women had a minor role was in "attending meetings" to discuss about road development work. Given that meetings are predominantly attended by and spoken by men too, women role in decision making on road construction is also expected to be low compared to their opposite sex. In other words, all road construction activities in HR are in the domain of men which is likely to be the case in other Pacific countries too. This is no surprise as gender inequality in construction sites and a major development challenge in Papua New Guinea and elsewhere [13] [29] [30].

²Author's personal communication with HRRIP's engineering team (2017).

Highland culture dominated by men is the underlying reason that has kept women from being engaged in road construction or maintenance work. This is well documented not with regard to road construction under HRRIP at least in the initial years from 2014 to 2016 [15] [16] [31]. As presented in the reports above mentioned, only 1 - 2 women have been employed as camp cleaners and cook assistants under HRRIP. The need to pay greater attention for women employment in road construction under the HRRIP arose not because women are also a road user or work by men was not satisfactory. The underlying rationale for an active interest on women was the loan agreement for the HRRIP between the government of PNG and the ADB where it has been stated that 30% of construction labor to come from women [32]. The balance 70% of labour is to come from men. While it is unclear as to the reason for the break-down of 30% women and 70% men, the statement of women engagement in the loan document is a positive feature that should be highlighted.

Studies [11] [25] [28] suggest that women involvement in road works is viewed differently by men and women. The studies point to the fact that men are stronger and are efficient compared to women. Women are not able to perform heavy work associated with road construction. A similar experience exists in HR where men seem to believe that women should not work either on paid or unpaid road works whose primary responsibility is household and garden work [17]. Moreover, the tradition dictates that women in a patriarchy society are not allowed to engage in public work together with men, in particular men who belong to other clans. The other reasons that tradition has kept women away from public works are men not able to “control” women and they become independent if they gain a lot of cash (wages) in their hands. The men controlling the society is the norm of the patriarchy society.

The perception of women on the above matter however, is different. They believe to possess strength, are willing and have the need to generate cash from being engaged in road works. As revealed by author’s experience, cash need is high among women. Although the main food supply comes from women’s garden work, some items such as oil, source, salt, etc. are purchased that form essential ingredients in meals where women has the primary responsibility. The ability of women to undertake garden work involving both long walks to and from garden as well as spending long hours in the field are similar to road works. As such, it appears that women are able to perform road construction work which are not different to their garden pursuits. A similar interest by women workers in road construction is reported in Lesotho where women in focus group discussions were quick to point out that they should be given a chance to participate in road construction works [25].

Moreover, interviews with women confirm that they do not like that all road work opportunities are grabbed by men under HRRIP [11]. Women say that their men are greedy and that it is not only men who require cash but also are women (Ibid). They are also quite confident that activities involved in road con-

struction are not much different from the type of work they are engaged regularly in their gardens.

Notwithstanding above, there has been some unsuccessful attempts by women to engage in road construction activities in HR. In one case, few strong women by themselves convinced the contractor in 2016 to engage in road work. It has not taken long for their husbands to come to know of this who arrive at the site to assault women in public. In another instance, a man demanded that the contractor pay wages earned by women to their husbands. Still in another case, a man came to the work site and threw away her wife who was involved in road construction activities³.

In the above context, though paid road work is beneficial for women, is not approved by men making it indeed a difficult task to achieve the 30% of all labour work by women as stipulated in the loan agreement.

There is yet another reason that explains why women were not engaged in road works. It relates to the method adopted by the HRRIP contractor to recruit workers. The contractor recruited workers through the community leader (who happened to be a man)⁴. Obviously, the leader contacted other men (and not women) in the community to join the work force. In fact, the community leader has supplied the contractor with a list of male workers to choose from. In the meantime, the contractor is not allowed to contact the women directly. Even if the contractor's message was passed over to women, they are not expected to inform other women to join construction camp. Hence, the construction labour force continued to comprise men only.

A senior government officer expressed his view with regard to women in HR involvement in road works in following words:

“We pay a high bride price to marry and live with a woman. Their job is primarily garden and household work. By encouraging them to work on road, we are not allowing women to take the hold of household work. The repercussions could be severe. As such, we do not approve women to involve in road work.”

Source: author's personal communication with a provincial engineer (2014)

Because of various reasons discussed above, the women in road construction were a mere 2 - 3 workers from 2014 to 2016 of HRRIP [15] [16] [31], much less compared to the expectation of 30% women in the work force as set out in the loan agreement.

5. Strategies to Encourage Women Participation

Moving forward to meet the 30% target set out in loan covenant, the HRRIP's staff planned and piloted several methods to encourage women to join construction camp.

The activities launched in 2015 to encourage women to join work camps are

³Project monitoring report, 2016.

⁴Community Relations Officers of contractor staff are responsible for recruitment of workers. All CROs in contractor team are men until 2017.

(Figure 2):

- Speak at public meetings urging women to join work camps;
- Emphasis at training workshops;
- Urge the contractor to recruit women;
- Discuss with project, contractor staff ways to address the issue;
- Talk to contractors in both public and private;
- Include monitoring indicators for women engagement;
- Talk about women work in every meeting;
- Urge CROs to identify a woman who can be a good CRO.

Whilst pursuing above activities, the break-through for women engagement came in latter 2016. Upon the suggestion by project staff, the contractor agreed to recruit 1 - 2 women as CRO. The idea transpired at one of the meetings between project monitoring team and the contractor. Until the decision to recruit women CRO was taken in 2016, all 4 CRO positions were held by men. Accordingly, one woman CRO was recruited in early 2017.

6. Women Engagement Begins

With the recruitment of a woman CRO, women themselves approached her to explain the need and desire to work in road construction activities. Arguably, local women pressurised the woman CRO for their recruitment as workers where the contractor in turn slowly and steadily increased women workers.

Beginning in 2017, women started to work in three areas namely, as casual unskilled workers directly paid for by the contractor, as workers paid for by the sub-contractor and in community contracts administered by a leader. Accordingly, women workers in road construction registered an increase beginning from 2017 by when women workers occupied 1% of the construction work force. This has been a huge success for women as they now work on road



Figure 2. Public meeting in highland region. Source: FINNOC [11].

construction to earn cash income. It has been a success story for the project team as women workers occupied little over 1% of the labour force which is still much short of the 30% target set for the project. **Table 3** provides data on women construction workers in 2017.

The women participation in construction work has further increased in 2018 where their contribution has increased to 13% of the total construction workforce (**Table 4**). Evidence suggests that the women engagement rate continues to rise.

The increase in women employment under HRRIP has resulted in more cash in their hands. The wages amounting to Kina 477,000⁵ has been received by the community from January to June 2017 where the proportion in women hands is 13%.

Table 3. Progress of women recruitment in road construction in 2017.

Month	Number Employed			Estimated Wages Paid (Kina)
	Men	Women	Total	
January	830	12	842	421,000
February	831	10	841	420,500
March	823	11	834	417,000
April	823	10	833	416,500
May	823	10	833	416,500
June	823	10	833	416,500
Total	4953	63	5016	2,508,000
Average per month	826	11	836	418,000
Percentage	99	1	100	

Source: [24]. Note: PNG Kina = USD 0.306 (Oct. 2, 2018).

Table 4. Gender in road construction labour force, 2018.

Month	Number Employed			Estimated Wages Paid (Kina)	
	Men	Women	Total	Men	Women
January	130	25	155	65,000	12,500
February	140	20	160	70,000	10,000
March	187	30	217	93,500	15,000
April	159	20	179	79,500	10,000
May	115	15	130	57,500	7500
June	102	11	113	51,000	5500
Total	833	121	954	416,500	60,500
Average per month	139	20	159	69,417	10,083
Percentage	87	13	100	87	13

Source: [33].

⁵Wage rate is Kina 500.

In addition to direct employment by the contractor, women also worked in community contracts where they engaged in activities such as making gabion baskets, line drains, rip raps and head walls. **Table 5** shows progress of women involvement in community contracts.

The above data shows that women have received 43% of total wages given out on community contracts. It is higher than what women have received in direct construction employment.

The progress on women engagement in road construction works has become a reality after 3 years from the commencement of HRRIP. As discussed earlier, a lot of efforts by project staff are behind this achievement. A similar experience is reported by Frith [26], achieving gender equality in construction requires a significant commitment from organisations. The current paper has proved that hard work by project staff has paved the way for increased women involvement.

Figure 3 shows women direct engagement as road construction workers whilst **Figure 4** shows the picture of a woman employed as traffic warden.

The women focus group discussions have raised several concerns and recommendations with regard to increasing women participation in road construction activities (**Figure 5**). **Table 6** provides the summary of findings.

It is to be highlighted that all women work so far has been in unskilled work opportunities. Contrary to men, there has not been a single woman employed in skilled jobs, supervisor or higher position in road construction work until 2017. On the other hand, several men workers have received skills training by the contractor that has become a life-long support to men.

In further enhancing construction work opportunities for women, based on actual experience the paper suggests several actions for future projects.

The actions to pursue include:

- Work closely with women organisation of the church;
- Organise workshops with men and women together;
- Awareness meetings about job opportunities should be conducted along the road involving both men and women;

Table 5. Women workers in community contracts in 2017.

Month	Activity				Total	Estimated Wages (Kina)
	Gabions	Line Drains	Rip Raps	Head Walls		
January	25	15	15	17	72	36,000 (27,000)
February	40	25	20	10	95	47,500 (35,625)
March	30	20	30	20	100	50,000 (37,500)
April	45	25	15	15	100	50,000 (37,500)
May	40	25	15	20	100	50,000 (37,500)
June	40	15	15	20	90	45,000 (33,750)
Total	220	125	110	102	557	278,500 (208,875)

Women wages in parentheses. Source: [24].



Figure 3. Women workers.



Figure 4. A woman traffic controller.



Figure 5. Women focus group discussion. Source: FINNOC [11].

Table 6. Problems, issues and recommendations by women.

Village	Problems affecting women engagement in road work	Social and cultural issues that affect women work in construction activities	Women's recommendations to increase work opportunities
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Continued

Inalere	Lack of information on work opportunities	Men think that construction work is for men only	Government should promote women's engagement by instituting appropriate mechanisms
Pale	Lack of information of road work; women are unaware of work opportunities	Restricted social freedom for women; their voice is not heard; men think road work is only for them	Women interest in learning on how to use construction machinery
Minebel	Lack of information on how to join work camps; absence of female CRO	Males dominate all the works in road construction and females are seen as unfit	Creation of a group among women so that women voice is powerful
Pokari	Female CRO is absent	Men feel that they will need to stay home to take care of family needs and household chores	Recruit a female CRO; involve Village Councillor to talk to contractor

Source: Adapted from FINNOC [11].

- Strike a balance between men and women CRO;
- All future project and planning documents to carry clauses with targets as appropriate on women engagement in construction;
- Continuous monitoring.

7. Women and Men Cash Earnings

As more men in comparison to women have been employed, the men earning is much higher than that of women. It is generally believed that men spend their earnings mainly on entertainment involving men only⁶. The likely areas of spending include consumption of alcohol, smoking, gambling and travel. On the other hand, women assert that any increase in their earnings will first be spent on household matters. An enhancement of livelihood of the family attributable to more cash in women hands is an unmistakable outcome.

The women earnings from road construction work is equivalent to about 50% of household income in 2018. It is interesting to examine how women have utilized the extra currency in their hands, as a result of wages received by them from paid work in road construction activities. This would be a topic for future research.

An initial analysis was made to examine how women spend their cash income received from the road contractor. There are two main areas where women have invested their cash income on. First, several women workers have invested in trade stores in their villages. The trade store provides a regular income to households. Second, a large number of women have opened up mini-markets along all of the newly rehabilitated roads. FINNOC [11] confirms that there has been an increase in mini-markets whilst the Pale village is showing a sudden growth of trade stores, all managed by women.

A further study on women savings would be an interesting subject for future research. It is expected that such a study will address issues as listed below, among others:

⁶Gender monitoring workshop held on 4th May 2017.

- In addition to investments on trade stores and mini-markets, what are other areas where women have invested their earnings on?
- How many women have generated a surplus agricultural produce for sale as a result of increased cash earnings?
- Whether there are changes in women role in household and society after increased cash earnings in their hands?
- What specific changes in household economy has occurred as a result of women engagement in road construction?
- Comparison of pattern of spending by men vis-à-vis women.
- What are the changes in community as a result of increased earnings by men and women?
- What changes in living conditions can be attributable to increased cash in the hands of men and women?
- What are changes in assets ownership by women and men from earnings in road construction works?
- Whether increased cash earnings have empowered men and women?

It is certain that every Kina earned by a woman is put into proper and productive use within the household, unlike men.

8. Missed Opportunities for Women

During the tenure of HRRIP from 2013 to 2017, the construction work opportunities have been provided mainly for men. Except for just 2 - 3 women employed in camps, the project has been pro-masculine with regard to construction job opportunities. It is only after 2017 the opportunities for women were open. Apart from cash earnings, the men through their working with the contractor over the years have benefitted in several other ways which are unfortunately not available for women. Among the new benefits, the following avenues are highlighted:

- About 2% of men workers have received training on such trades as welding, tile laying, mechanics, carpentry and plumbing. The training in the skilled tasks is expected to enhance the value of humans;
- The construction company has provided written recommendation to trained local workers (men only) that supported in their attempts to seek employment elsewhere;
- A small number of trained men workers have been employed in skilled jobs elsewhere after the closure of road construction activities;
- Training in skilled jobs is praised by all men workers;

It is to be highlighted that construction-related beneficiaries are entirely men, an outcome delivered due to lack of encouragement of women in construction opportunities. This is a good lesson for future projects where attempts to provide job opportunities equally for men and women should be the target.

9. Recommendations

Like any other society, the HR population is almost equally divided between men and women. It is therefore to be noted that work opportunities should be made

available for both men and women and not men only. The issue in HR relates to the rights of women vis-à-vis men and, in a patriarchy society the latter is dominant. However, through various strategies, the project has demonstrated that men can be convinced for their women to work on road construction activities, an outcome that leads to a better gender balance. The paper brings out several recommendations to strike a better share between men and women in road construction work opportunities as listed below:

- Government should address gender inequality in construction sector by appropriate policy and other instruments;
- Information on work opportunities to be shared between both men and women in the community early in the planning stage and work through project duration;
- Community leaders should be educated on the need to provide opportunities for both men and women;
- Contractors to recruit a new workforce at regular intervals (to coincide with different villages along the road) to spread work opportunities to ensure that women are not discouraged by excessive travel distances. It is necessary that this requirement is built into civil work contracts and agreement;
- Identify and work through women organisations to recruit women as construction workers;
- Staff with the designated task of working with the community (such as Community Relations Officers) should be appointed both from men and women with equal numbers;
- Conduct regular discussions, meetings, training and workshops with both men and women;
- Continuous monitoring aimed at gender disaggregated data collection using an appropriate set of indicators;
- Projects should establish a set of gender-sensitive targets which should be realistic and is based on the analysis of gender role and relevant social and customary factors in the target area; and
- Conduct research on issues emerging from monitoring. In this regard, the paper has identified several areas for further research on gender in road construction.

10. Conclusion

Traditionally, women were not considered for employment in road construction works under HRRIP. The project started to analyse and enhance a better gender balance in construction opportunities mainly because the loan agreement had specified a target for gender engagement. If not due to the gender target, women are likely to be kept away from road construction activities. The project has been implemented for 4 years employing mere 2 - 3 women workers in construction camps. The situation began to change in the 5th year of the project when women employment in construction started to begin, attributable to efforts taken by project team. By the end of 2017, women contribution in labour force has been

1% of total which has registered a sharp rise to 13% in 2018. The achievements are remarkable. After joining the work force, women have started to generate cash in their hands which are being spent on income-generating activities. This will ensure further cash returns for women in future. The paper presents several recommendations to strike a better gender balance in future road construction works. The need for continued monitoring of gender engagement and further research on issues identified through monitoring are highlighted. The paper finally concludes that the momentum generated on women engagement in construction work should be continued with appropriate changes as required. The paper highlights the need for favourable policy, continued monitoring as well as research into women engagement and gender balance in construction work.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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