**Result and discussion**

**Table 1 the relationship between changed of labour supply in agriculture and occupation types**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Occupation = farmer (24) | Occupation = officer (15) | Occupation = village head (10) | Total (49) |
| 1 : Decrease | 16 | 10 | 10 | 36 |
| 2 : Increased | 0 | 0 | 0 | 0 |
| 3 : No change | 5 | 2 | 0 | 7 |
| 4 : Total (unique) | 21 | 12 | 10 | 43 |

**Table 2 the relationship between changed of labour supply in agriculture and type of region**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Type of region = Low migrant population area (20) | Type of region = High migrant population area (25) | Total (45) |
| 1 : Decrease | 13 | 21 | 34 |
| 2 : Increased | 0 | 0 | 0 |
| 3 : No change | 6 | 1 | 7 |
| 4 : Total (unique) | 19 | 22 | 41 |

**Table 3 the relationship between highest labour demand season in agriculture and occupation types**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Occupation = farmer (24) | Occupation = officer (15) | Occupation = village head (10) | Total (49) |
| 1 : October | 4 | 0 | 0 | 4 |
| 2 : Jan | 2 | 0 | 0 | 2 |
| 3 : Dec | 4 | 0 | 0 | 4 |
| 4 : Nov | 3 | 0 | 0 | 3 |
| 5 : Sept | 6 | 1 | 0 | 7 |
| 6 : Aug | 7 | 1 | 0 | 8 |
| 7 : July | 6 | 1 | 0 | 7 |
| 8 : March | 4 | 0 | 0 | 4 |
| 9 : Feb | 3 | 0 | 0 | 3 |
| 10 : June | 5 | 1 | 0 | 6 |
| 11 : May | 4 | 0 | 0 | 4 |
| 12 : Apirl | 4 | 0 | 0 | 4 |
| 13 : Total (unique) | 19 | 1 | 0 | 20 |

**Table 4 the relationship between highest labour demand season in agriculture and type of region**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Type of region = Low migrant population area (20) | Type of region = High migrant population area (25) | Total (45) |
| 1 : October | 2 | 2 | 4 |
| 2 : Jan | 2 | 0 | 2 |
| 3 : Dec | 3 | 1 | 4 |
| 4 : Nov | 2 | 1 | 3 |
| 5 : Sept | 4 | 3 | 7 |
| 6 : Aug | 3 | 5 | 8 |
| 7 : July | 3 | 4 | 7 |
| 8 : March | 2 | 2 | 4 |
| 9 : Feb | 2 | 1 | 3 |
| 10 : June | 2 | 4 | 6 |
| 11 : May | 1 | 3 | 4 |
| 12 : Apirl | 2 | 2 | 4 |
| 13 : Total (unique) | 10 | 10 | 20 |

**Table 5 the relationship between types of job in agriculture and occupation types**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Occupation = farmer (24) | Occupation = officer (15) | Occupation = village head (10) | Total (49) |
| 1 : harvesting | 10 | 1 | 0 | 11 |
| 2 : Planting | 13 | 1 | 0 | 14 |
| 3 : Weeding | 5 | 0 | 0 | 5 |
| 4 : Transplanting | 2 | 0 | 0 | 2 |
| 5 : Total (unique) | 20 | 1 | 0 | 21 |

**Table 6 the relationship between types of job in agriculture and type of region**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Type of region = Low migrant population area (20) | Type of region = High migrant population area (25) | Total (45) |
| 1 : harvesting | 8 | 3 | 11 |
| 2 : Planting | 7 | 7 | 14 |
| 3 : Weeding | 3 | 2 | 5 |
| 4 : Transplanting | 0 | 2 | 2 |
| 5 : Total (unique) | 12 | 9 | 21 |

**Table 7 the relationship between women participation changes in agriculture and occupation types**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Occupation = farmer (24) | Occupation = officer (15) | Occupation = village head (10) | Total (49) |
| 1 : Increased | 13 | 1 | 7 | 21 |
| 2 : decreased | 0 | 0 | 0 | 0 |
| 3 : No change | 1 | 1 | 2 | 4 |
| 4 : Total (unique) | 14 | 2 | 9 | 25 |

**Table 8 the relationship between women participation changes in agriculture and type of region**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Type of region = Low migrant population area (20) | Type of region = High migrant population area (25) | Total (45) |
| 1 : Increased | 12 | 9 | 21 |
| 2 : decreased | 0 | 0 | 0 |
| 3 : No change | 1 | 2 | 3 |
| 4 : Total (unique) | 13 | 11 | 24 |

**Table 9 the relationship between challenges due to labour outmigration and occupation types**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Occupation = farmer (24) | Occupation = officer (15) | Occupation = village head (10) | Total (49) |
| 1 : economic | 16 | 13 | 8 | 37 |
| 2 : Social | 1 | 0 | 0 | 1 |
| 3 : Community | 8 | 0 | 1 | 9 |
| 4 : Household | 8 | 0 | 1 | 9 |
| 5 : No challenges | 5 | 3 | 2 | 10 |
| 6 : Total (unique) | 22 | 14 | 10 | 46 |

**Table 10 the relationship between challenges due to labour outmigration and type of region**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Type of region = Low migrant population area (20) | Type of region = High migrant population area (25) | Total (45) |
| 1 : economic | 12 | 21 | 33 |
| 2 : Social | 1 | 0 | 1 |
| 3 : Community | 6 | 3 | 9 |
| 4 : Household | 6 | 3 | 9 |
| 5 : No challenges | 4 | 6 | 10 |
| 6 : Total (unique) | 18 | 24 | 42 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Research Question** | **Agreement in opinion** | **Conflicting Opinions** | **Discussion** | **Remark** |
| Changed of labour supply in agriculture and rural area through labour outmigration | Majority of respondents acknowledge the decreasing the farm labour population in agriculture and rural area after migration process (table 1).  There is a labour scarcity and higher wage of labour occurred after migration process. (Female farmer, Migrant family)  There is a reduction of farm labour population in agricultural sector. The nature of agriculture employment cause underemployment because farm labours are like casual or seasonal workers not permanent employers due to short planting duration. This may be one push factor of labour outmigration due to network. (Female head level officer, DoP)  The availability of labour in the village has become scarcity comparing with last 5 year because young people migrated to other place for more income, and that cause higher in elder population. (Male village head)  Labour scarcity has become a problem because of labour outmigration due to low job opportunities farm mechanization development in the village. However, in the high demand season, farmers cannot get enough labour for agriculture (Male village head). | However, there is an argument about the changed of labour availability in agriculture (table 1)  In my village, labour scarcity problem is not serious problem because international migration start this year and domestic migration is just seasonal migration. So in peak season, domestic migrants returned to the village. (Female township officer, DoA)  Labour scarcity has become a serious problem in agriculture of Myanmar because of agricultural development. For instant, in the past, farmers pant only pulses, but crop diversification like green gram, chickpea and onion has become popular among the farmers. That cause high labour demand. (Male village head) | Therefore, decreasing trend of farm labour availability in rural area and agricultural production after migration, even some respondents said that there is no change. However, there are different reasons of changes such as due to higher migrant population, farm mechanization development, and agricultural development. |  |
| Highest demand labour season and kinds of job during labour scarcity season | Refer to table 3 and table 5, planting season (June, July, August, and September) and paddy harvesting season ( October, November, December), Pea and bean harvesting (March , April, May). |  | Myanmar agriculture is mainly depend on the rainy season (June, July, August, and September). Therefore, infrastructure development like irrigation and farm mechanization development should be supported for agricultural development. |  |
| Women labour force participation changed in agriculture | After migration process concern with male dominant outmigration, women farm labour force are participating more in agriculture.  In agricultural labour, dominant female labour ratio is occurred in the village. There have small amount of male farm labour (Female farmer, Migrant family).  Yes, female labour population is greater than male labour population because more female demand jobs are plenty in agriculture (Female township officer, DoA).  Female labour population is greater than male labour population. Due to farm mechanization development in agriculture, female labour job opportunities has become lower. Therefore, government should support job opportunities through industrialization near village (Male village head). | On the other side, gender discrimination of farm labour force and wage rate in agriculture after migration was not accepted. Because they think that both male and female, migrant population is increasing nowadays.  No, equal gender ratio was found in farm labour available (Male farmer, Non-migrant family).  From my point of view, I do not accept gender discrimination in agriculture especially in labour wage rate because labour wage rate depend on the skilled and types of job. For example, in seed production process, female labour get more labour wage rate than male labour due to skilled and male labour wage rate is higher than female because many male jobs in agriculture production are hard jobs. | Even though the ratio women farm labour participation is greater than that of male, it is not only the impact of outmigration from villages. In some villages, owing to nature of agricultural production and farm mechanization development, female farm labour have more demand rather than male labour. |  |
| What will happen female labour > male labour in agriculture. | Involving more female farm labour force in agriculture did not affect because women could do hard jobs instead of male farm labour and farm machines (tractors) can be substituted.  Some female labours can work man jobs (ploughing, harrowing, irrigation) (Female farmer, Non-migrant family).  Some female labour are working in hard job of agricultural production. For instant, small machines were used instead of labour (Male village head). | In constant, feminization in agriculture may reduce the crop yield and face difficulties in crop production  Male labour scarcity can cause difficulties in hard job of production. It may cause the reduction of crop yield because of delaying in weeding, harvesting and applying fertilizer. (Male village head)  Feminization agriculture can cause the delay of planting time and reducing yield. (Female farmer, Migrant family) | Therefore, to mitigate negative impact and enhance positive impact, agricultural development program through modernization technologies. |  |
| Challenges and issues | It can be divided into the challenges and issue regarding labour availability changed in agriculture of the case study areas as economics, social, community, household; however, some have on issue.  Negative economic impacts may be serious  Farmers can face the challenges and losses if they cannot fully substitute farm machines instead of farm labour in peak season. For example, when raining in the harvesting time, farmers should use farm machines rather than labour to avoid the postharvest loss. Farmers cannot follow the good agricultural practise due to the labour shortage in planting season. Therefore, farmers can face less of crop yield rather than farmers who follow GAP (Female township officer, DoA).  Mostly, when farmers is facing labour scarcity, they concentrate the good fertility area rather than less fertile land. For example, farmers normally grow pasture in less fertile land. Therefore, the agricultural productivity reduced slightly now (Male village head).  Left behind families and communities may face more challenges due to labour scarcity  Due to male labour scarcity, postharvest loss was occurred in harvesting time. The cost of production is higher than previous. (Female farmer, Migrant family)  I have to participate in household farm production like weeding, fertilizer application and irrigation instead of my husband and I found some difficulties in pest management and hiring labour (Female farmer, Migrant family).  Labour scarcity triggered more on non-migrant families than migrant families (Male farmer, Non-migrant family). | On the opposite side,  Positive economic benefit got from farm mechanization development and community development can be made through remittance,  There is no more challenges due to labour shortage if farm machines is available easily. Farmers have more awareness in using farm machines because using labour take more time. On the other hand, next generation do not want to be a farmer and interest in agriculture. So, they are more prefer working in off-farm work (Male farmer, Non-migrant family).  I did not accept the negative impact of outmigration on reduction of crop productivity. Due to farm mechanization development in rural area, farm labour job opportunities will not reduce because farm machines can substitute in animal place and there is less development of farm mechanization in Meiktila Township (Male township officer, FDM).  From my point of view, there is no more relation between changes of labour availability through labour out migration and reduction of crop productivity. The main reason of reduction crop productivity is the lower interesting of farmers in agriculture (Male farmer, Non-migrant family).  The remittance can contribute in the community service development, even there is a reduction in young active people through migration (Female farmer, Migrant family) | Agriculture play a vital role for Myanmar economic development and nearly half of population still depend on agriculture income. Diminishing the agricultural land, and crop productivity can make more adverse impacts than benefit due to labour scarcity. |  |