



มูลนิธิแม่ฟ้าหลวง ในพระบรมราชูปถัมภ์
Mae Fah Luang Foundation under Royal Patronage

Empowering Women through Sustainable Development

The Case of Doi Tung

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Background

The Doi Tung Development Project (DTDP), a flagship initiative of Mae Fah Luang Foundation under Royal Patronage in Thailand has been fostering sustainable development practices for the last three decades. The Foundation has over the years implemented three phases of programs targeted at development of indigenous communities in Northern Thailand. These phases include security and foundation, financial and overall sustainability.

Figure 1: Three phases of the DTDP

Security and foundation	Financial sustainability	Sustainability
<ul style="list-style-type: none">• Basic infrastructure• Public utilities• Jobs and income• Access to medical treatment• Drug rehabilitation• Census, HH registration and ID• Skills training and education• Economic and sustenance forestry• Preservation of local cultures	<ul style="list-style-type: none">• Development of 5 business units<ul style="list-style-type: none">- Food (coffee, macademia)- Cafe Doi Tung- Agriculture- Tourism- Handicraft and cottage industry• Incubation of local entrepreneurs through<ul style="list-style-type: none">- Agroforestry training- Coffee and Macademia processing• Adaptation of school curriculum• Health promotion and prevention	<ul style="list-style-type: none">• Intact forest areas• Circular economy• Renewable energy• Waste management• Developing local skills• Sustained profitability• Product value add• Research orientation• Recycling and upcycling• Diversified tourism• Living university• Better quality of education

Globally, the UN General Assembly, in 2007, adopted the United Nations Declaration on the Rights of Indigenous People. Since then, the contribution of indigenous people in economic, social and environmental conservation by adopting sustainable agricultural practices has been gradually recognized. Poor farming communities in low and middle-income countries are often risk-averse and are reluctant to adopt new products, methods and technologies for farming as any kind of failure could potentially lead to extreme hardship. Over the last few decades, the communities have undergone various internal and external adaptations to better their livelihood and improve social and economic wellbeing.

The major obstacles to gender equality in the Asia Pacific labor markets are direct-indirect discrimination, unpaid care work, gender wage gap and violence and sexual harassment at work (International Labor Organization (ILO), 2018)¹. Reducing gender gaps remain a priority in achieving gender equality and empower all women and girls by 2030. According to ILO, 64% of women employed in the region are involved in informal employment and less than 15% of employed women in the region actually receive maternity benefits.

United Nations Sustainable Development Goal (SDG) 5 focuses on achieving gender equality and empowerment of all women and girls. One of the targets is to focus on recognizing and valuing unpaid care and domestic work by providing public services, infrastructure development, adopting social protection policies and the promoting shared responsibilities within the household. It also aims to provide women with equal rights to economic resources, access to ownership, and control over land and financial services. Leaving no one behind is the core mantra of sustainable development and the Doi Tung Development Project has enhanced inclusion of indigenous community and women empowerment in Thailand.

The DTDP provides several learnings and best practices on sustainable development. Most of the business units have been profitable since 2000, while the average income per capita has multiplied more than six-fold in the last 10 years from 431 US\$ (2006) to 2,922 US\$ (2016). Many villagers have also started their own businesses creating local agro-industrial product brands that are being commercialized outside of Doi Tung area contributing to an increase in their household income. Several families are also engaged in growing various economic crops like Assam tea, Sacha inchi and bamboo to generate additional income.

This in-depth study analyzes the economic development of women under the DTDP in the last three decades. As increase in women's income and time poverty is important for sustainable development, it is necessary to understand the level of access women have to empowerment tools. Some of the pertinent questions that this study aims to understand include What type of access to financial tools and resources they have within the household?

¹ International Labour Organization. (2018). GAME CHANGERS : WOMEN AND THE FUTURE OF WORK IN ASIA AND THE PACIFIC.

What role and expectations women and their family members have regarding domestic labor and paid work outside the home? How women participate in household financial decision-making? What are other challenges and issues that led to improving the economic status of women in a household. It will also take into account the best practices, training skills, access to knowledge that are crucial to strike a balance between environment sustainability and socio-economic development.

This research, which is based on direct interaction with stakeholders, will provide recommendations on the way forward.

Objective

The objective of the study is to analyze the economic development of women under the Doi Tung Development project in the last three decades.

Research Methodology

The study is based on primary and secondary information collected through reviews, surveys, focused group discussions, interviews and individual cases. Data collection focused on

- Gender related information at the DTDP
- Identification of groups and communities for conducting survey
- Household data collection and female household leaders' viewpoints
- Challenges and lessons learnt from the project

Activity	Detail
Focus group meetings with key stakeholders	16 meetings were held with six communities (Akha, Lahu, Shan, Yunnanese, Lua, Lue)
In-depth interviews with the people in the community and experts	Interviews were held with community beneficiaries, management and officers of the DTDP, women workers at various factories and agro-forestry sites as well as women in villages from diverse ethnic backgrounds.
Survey	Survey of 322 women in villages under the DTDP
Case study	Three success stories of women

The study analyzes the data, provides recommendations and identifies future prospects of research.

Impact Analysis Framework

The impact of the DTDP on women have economic, social and well-being dimensions.

Economic empowerment

Women economic empowerment is considered as key to achieving 2030 Agenda for Sustainable Development through certain goals that include

- Goal 1 on ending poverty
- Goal 2 on food security
- Goal 3 on ensuring health
- Goal 5 to achieve gender equality
- Goal 8 to promote full and productive employment and decent work for all
- Goal 10 on reducing inequalities

It can be assessed through indicators such as number of women with bank accounts, proportion of businesses owned by women, women jobs contributing to the formal sector, having saving and access to loans.

Social empowerment and Well-being

Economic growth itself is not enough to eradicate gender gaps unless it is combined with social empowerment as well as overall well-being. Often women are trapped in vulnerable employment with low quality job, excluded from social protection and continue to be categorized as working poor. Social empowerment deals with various indicators like access to safe reliable and affordable energy, impacts of climate change and coping capabilities and looking at the reasons of migration.

A range of indicators involved in understanding the well-being includes access to infrastructure and social protection policies, shared roles and responsibilities at home, equal

rights, ownership, and decision making regarding economic resources and financial services, access to knowledge, training and skill development.

Indicators used in the study

This study assesses the situation of women under the DTDP based on the following economic, social and well-being indicators highlighted in Table 1 (not limited to):

Table x: Social, economic and well-being indicators used in the research study

Economic	Social	Well-Being
I. Women and girls' education	I. Energy poverty and lack of safe, reliable, affordable and clean energy	I. Infrastructure and social protection policies
II. Gender related digital divide	II. Environmental degradation and climate change have disproportionate impacts on women	II. Women are less likely to be entrepreneurs
III. Women paid less than men	III. Women migration to cities	III. Shared responsibilities within the household (role and expectations)
IV. Women participation in labor market/ informal and vulnerable employment	<ul style="list-style-type: none"> • for education • for services and retail • for elementary occupations • for craft and related trades • for professional job • to work as clerk 	IV. Women equal rights to economic resources
V. Women in unpaid care and domestic work		V. Access to ownership and control over land and financial services
VI. Participation in SHGs		VI. Role and expectations women and their family members have regarding domestic labor and paid work outside the home
VII. Having a bank account		VII. How women participate in household financial decision-making
VIII. Savings per month		VIII. Leadership positions/ household leaders
IX. Loan /borrowing, if yes, for what reasons?		IX. Best practices, training skills, access to knowledge
X. Earning per month		
XI. Family income from other sources		

The MFLF Research Team also conducted a survey (Table 2) of major ethnic groups under the DTDP. Apart from quantitative indicators, qualitative research at the community level was also conducted by looking closely at household financial management and the socioeconomic impact of the income that community level farming provides. Focused Group Discussion (FGD) was conducted to understand the program impact over the last three decades and the extent to which female farmers/producers are becoming agents of their own finances. The study also highlights women success stories and provides recommendations for future actions.

Table 2: Characteristics and distribution of survey respondents.

Ethnic Group	Women Respondents	Age Range	HH Size Range	Female headed HH
Akha	65	19-69	2-10	1
Lahu	53	23-71	2-11	3
Shan	62	16-59	1-9	6
Yunanese	51	13-68	2-15	8
Lua	59	15-67	1-11	12
Lue	42	14-65	1-9	4
Total	332	13-71	1-15	34

The surveyed households accounted for a total of 1,684 people (53.6% women) including 149 girl-child between 0-12 years; 122 adolescent females between 13-21 years; and 633 adult females above 21 years of age. Amongst the 332 women respondents in age group of 13-71 years and household size range between 1-15 people, 34 headed their households.

Women Empowerment in Thailand

Women Empowerment in Thailand

Women education

A century ago, there were no schools for girls in Thailand and Thai females were generally educated at home. Some parents that were well connected sought to enroll their daughters at one of the royal courts so that they could be properly educated and trained to become good wives and mothers². Since then, there has been tremendous development in women education in Thailand. Female children that could access basic education has gradually expanded from 96.25% in 2010 to 101.01% in 2019 which means more kids than ever are attending primary school and gender gaps are narrowing (Table 3)³. Also, in case of secondary education, female gross enrollment ratio of female was 113.36% as compared to 116.86% of male in 2019. The percentage of female involved in tertiary education in 2010 were 56.6% and increased to 57.8% as compared to 41% for males in 2016. Recent years statistics for female tertiary education was unavailable. But if we consider the literacy rate in youngsters between 15-24 years, female literacy rate has been 98.6% as compared to males at 97.7% in 2018.

Table 3: Primary Education - Gross enrolment ratio in Thailand

Primary Education	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Gross enrolment ratio (%)										
Total	96.86	96.76	97.03	96.92	102.11	100.65	100.76	99.63	99.77	101.05
Female	96.25	96.11	96.34	96.3	102.92	97.62	100.98	99.62	99.78	101.01
Male	97.43	97.36	97.68	97.5	101.35	103.52	99.63	99.63	99.77	101.1

Thailand sex ratio is at 94.8 males per 100 females and males have less life expectancy than female at 73.1 years and 80.6 years respectively as in 2020⁴.

² Thailand Foreign Office, The Government Public Relations Department, Hays, J., 2021. *EDUCATION IN THAILAND: HISTORY, LITERACY, WOMEN, UNIVERSITIES PROBLEMS, IMPROVEMENTS | Facts and Details*. [online] Factsanddetails.com. Available at: <http://factsanddetails.com/southeast-asia/Thailand/sub5_8g/entry-3297.html> [Accessed 1 February 2021].

³ <http://uis.unesco.org/country/TH>

⁴ United Nations. (2020). Thailand. UNData App. <http://data.un.org/en/iso/th.html>

Gender equality in Thailand work force

According to the labor force survey in Thailand (National Statistics Office, 2020)⁵, 37.33 million persons are employed with only less than 1% unemployed. Out of the total, 17.50 million are employed in service and trade, 11.28 million in agriculture and 8.55 million in manufacturing sector as of March 2020. About 205 thousand people were identified as never worked and 187 thousand ever worked. Considering from the number of underemployed workers (persons who were working less than 35 hours per week and available for additional work) 140 thousand were male and 108 thousand were female.

Women employment by economic activity

In 2020, women employed in agriculture, industry and services were at 28.2%, 19.6% and 52.2% as compared to 33.6%, 25% and 41.4% men respectively clearly indicate higher female employment in the service sector⁶. Women in Business 2020 Report, indicates that women in Thailand hold 33 percent of CEO and Managing Director jobs in the private sector whereas China has 19 percent, Taiwan has 18 percent, and Vietnam has 16 percent⁷. According to the Medical Council of Thailand, out of a total of 66,301 number of doctors in 2020, 45 percent were women⁸. In 2018, the World Bank indicated that Thailand had the minimum proportion of seats held by females in national parliaments amongst all ASEAN countries. The seats held by women in the parliament during 2009 was 13.3 percent which increased to 15.8 percent in 2011–2013 and further declined sharply to 6.1 percent with a minimum of 4.8 percent in 2017. In 2019, it suddenly increased to 16.2 percent, highest in the last decade⁹.

⁵ National Statistics Office, T. (2020). Labor Force Survey in Thailand, 392. Retrieved from http://www.nso.go.th/sites/2014en/Survey/social/labour/LaborForce/2020/march_2020.pdf

⁶ United Nations. (2020a). Employment by economic activity. https://data.un.org/_Docs/SYB/PDFs/SYB63_200_202009_Employment.pdf

⁷ Women in Business 2020 Report: Thailand's Private Sector Leads the Way, While Government Still Lags Behind Despite Minor Improvements. Retrieved February 02, 2021, from <https://www.grantthornton.co.th/press-releases/press-release-2020/women-in-business-2020-report2/>

⁸ <https://www.statista.com/statistics/995649/thailand-total-number-doctors/>. Retrieved February 02, 2021

⁹ <https://www.statista.com/statistics/730330/thailand-proportion-of-seats-held-by-women-in-national-parliament/>

Sexual harassment and physical violence

Sexual harassment is faced by women of all ages in Thailand. A recent study on Facebook usage behavior by teenagers in Bangkok that affect on the sexual harassment occurrence indicated that females between 5 to 20 years or teenagers are mostly the ones sexually harassed. It indicates that 60.6% of all women are exposed to sexual threats and 30.9% of them are in the age of 41 to 60 years old. Furthermore, according to the World Health Organization (WHO), a result survey indicates that 7 women are sexually abused and face physical violence in a day and about 30,000 women per year proceed towards complaints and justice. One of the most important reason for not reporting sexual harassment was embarrassment (YouGov June 2019). About 53% of women harassment occurred through acquaintances or family members and 38.2% by unknown people and only 8.8 % through people known on the internet. The youngest facing it was seen to be only 12 years old¹⁰.

A recent study including 2,462 women aged 20-59 years interviewed in 4 regions of Thailand indicated 15% respondents experienced psychological, physical, and/or sexual violence in their life time. Of the 15% of women who reported intimate partner violence within the past 12 months, psychological violence was the most common (60–68%), followed by sexual violence (62–63%) and physical violence (52–65%) (Chuemchit, Chernkwanma, Rugkua, & Daengthern, 2018)¹¹.

Thai Gender equality policy

Thailand ratified the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) in 1985 and its Optional Protocol in 2000, endorsed the Beijing Platform for Action (BPFA) in 1995 and the United

Nations Sustainable Development Goals (SDGs) in 2015. Thailand has made significant efforts to integrate the international principles and instruments into the policy and program frameworks, as evident in instruments such as the Constitution (2017) that has gender equality provisions. Gender Equality Act (2015) targets at diminishing inequality between genders and upholding justice to all. The act established a Committee to Promote Gender Equality (CPGE) to enact the Act's legal policies and mechanisms to advance gender equality. In addition, the Women Development Strategy (2017-2021), developed by the Ministry of Social Development and Human Security, sets out goals, objectives and targets in the area of gender equality which will be steering tools for effective budget allocations.

SDG Gender Index and Thailand

SDG Gender Index, which is available for 129 countries, provides an internationally comparable measure of gender equality. It has linkages with 14 of the 17 Sustainable Development Goals (SDGs) and includes 51 indicators ranging from health, gender-based violence, climate change, decent work and others. In 2019, Thailand ranked 52nd amongst 129 countries with an index score at 70.3. One of the major highlights was that Thailand performed better on indicator (3c) which indicate that they have their need for modern methods of family planning as compared to higher income countries like Canada, Norway and Sweden¹².

According to the ILOSTAT, female share of economic occupation is dominated by low skill work such as clerical jobs, sales workers and elementary occupation. In Thailand, women are responsible for 68% of clerical work, 60% of service and sales work, 48% of agricultural, forestry and fisheries work and 48% elementary operations¹³. The female migrant population comprises of 48.4% mainly from China, Myanmar and Lao PDR¹⁴.

¹⁰ Facebook Usage Behavior by Teenagers in Bangkok that Affect on the Sexual Harassment Occurrence, <http://dspace.bu.ac.th/bitstream/123456789/4524/7/nicha.pumm.pdf>

¹¹ Chuemchit, M., Chernkwanma, S., Rugkua, R., & Daengthern, L. (2018). Prevalence of Intimate Partner Violence in Thailand, 315–323. Retrieved from <https://link.springer.com/content/pdf/10.1007/s10896-018-9960-9.pdf>

¹² https://www.equalmeasures2030.org/wp-content/uploads/2019/07/EM2030_2019_Global_Report_English_WEB.pdf

¹³ Projected Gender Impact of the ASEAN Economic Community, <https://library.fes.de/pdf-files/bueros/singapur/12676.pdf>

¹⁴ ILO estimates, 2014.

The long-term progress of human development, which is measured by the Human Development Index (HDI)¹⁵ on the three basic dimensions of human development such as health, education and standard of living, Thailand's HDI value increased from 0.577 (1990) to 0.777 (2019). In the same period, Thailand's life expectancy at birth increased by 6.9 years, mean years of schooling increased by 3.4 years and Thailand's GNI per capita increased by about 153.4 percent¹⁶. However, the Inequality-adjusted HDI (IHDI) for Thailand shows a 16.9% decline to IHDI value of 0.646. The 'loss' in human development due to inequality is given by the difference between the HDI and the IHDI, and can be expressed as a percentage.

In 2014, Human Development Report introduced a new measure, the Gender Development Index (GDI), which is based on the sex-disaggregated Human Development Index, and is defined as a ratio of female to male HDI.

In 2019, the GDI value (F-M ratio) for Thailand was at 1.008 with HDI values of female and male at 0.782 and 0.776 respectively (Table 4) placing it in the category of Group 1 countries indicating high equality in HDI achievements between women and men.

Table 4: GDI for ASEAN countries

	F-M ratio	HDI values		Life expectancy of birth		Expected years of schooling		Mean years of schooling		GNI per capita	
	GDI value	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
Thailand	1.008	0.782	0.776	80.9	73.5	15.8	14.7	7.7	8.2	15,924	19,737

Source: Adapted from UNDP, Human Development Report, 2020.

¹⁵ HDI is measured in terms of life expectancy, years and level of education, and gross national income (GNI) per capita. The figure is based on the latest UNDP Human Development Report 2020

¹⁶ UNDP, Human Development Report 2020, The Next Frontier: Human development and the Anthropocene.

Another indicator introduced in 2010, the Gender Inequality Index (GII) reflects gender-based inequalities in three dimensions – reproductive health, empowerment, and economic activity. Reproductive health is measured by maternal mortality and adolescent birth rates; Empowerment is measured by the share of parliamentary seats held by women, attainment in secondary and higher education by each gender; and Economic activity is measured by the labor market participation rate for women and men. The GII can be interpreted as the loss in human development due to inequality between female and male achievements in the three GII dimensions. Thailand has a GII value of 0.359 (Table 5), ranking it 80 out of 162 countries in the 2019 index¹⁷.

Table 5: GII for ASEAN countries

	GII value	GII Rank	Maternal mortality ratio	Adolescent birth rate	Female seats in parliament (%)	Population with at least some secondary education (%)		Labour force participation ratio (%)	
						Female	Male	Female	Male
Thailand	0.359	80	37.0	44.9	14.1	43.5	48.6	59.2	76.1

Source: Adapted from UNDP, Human Development Report, 2020.

Considering the socio-economic empowerment of women in Thailand,

- 30.1% of females are graduates from science and technology, engineering, and mathematics in tertiary education,
- 79.8% women have accounts at financial institutions or with the mobile money service provider,
- 31% females are employed in senior and middle management (SDG 5.5) and they receive a mandatory maternity paid leave for 90 days (SDG 1.3)¹⁸.
- 58.7% of Thai female were using mobile cellular (5.b.1) as compared to 60.1% of males in 2018¹⁹. In the same year, female usage of mobile phones has been higher in other countries for instance 94% in Republic of Korea, 65.9% in Japan and 88.8% in Hongkong, China.

There are gaps in data availability regarding violence against girls and women. In addition, many areas such as gender and poverty, women's access to assets including land, physical and gender and the environment currently lack comparable methodologies for comprehensive and periodic monitoring.

¹⁷ UNDP, Human Development Report 2020, The Next Frontier: Human development and the Anthropocene.

¹⁸ UNDP Women Empowerment Statistics, <http://hdr.undp.org/en/composite/Dashboard3>

¹⁹ SDG Gateway Asia Pacific, 2018, <https://dataexplorer.unescap.org>

Although Thailand has made endeavors to integrate international policies into national policies, for instance the Gender Equality Act in 2015 which penalizes gender-based discrimination throughout the country still faces challenges like wage gap and limited access to high level jobs in business and politics. Challenges like lack of disaggregated data, traditional values, attitudes and stereotypes regarding violence against women, vulnerabilities of women in ethnic groups, rural areas and in the informal sector, prevalence of HIV, trafficking and exploitation still persist. The need for gender equality is still pertinent in Thailand, where the poverty rate is declining but women and girls are still at risk of sexual and domestic violence.

Various initiatives have also been taken up by local and international NGOs to address these issues supporting and economically empowering women in the country, for example:

- Prathanadee Foundation, a Thai and US charity-based NGO, provides free training to empower economically underprivileged women and girls in Thailand²⁰.
- Women's Education for Advancement and Empowerment (WEAVE) focuses on empowering indigenous women in the area of education, health, economic empowerment and self-reliance targeting the wellbeing of women refugees and their children from Myanmar to Thailand²¹.
- Women Empowerment Project and volunteer tasks at the Friends for Asia Foundation focuses on women and girls in Bangkok slums having poor living conditions and socio-economic challenges. Many young girls in the community are ill-equipped with many single mothers struggling for basic livelihoods²².
- Foundation for Women (FFW) is an NGO especially focuses on supporting and building social awareness regarding various forms of sexual violence against women in Thailand. One of the successful project of the foundation was 'Women's News Center' that provided information regarding work and travel abroad to prevent women from prostitution and also educating young girls regarding various possible occupations²³.
- The International Republican Institute (IRI) in collaboration with the U.S. Embassy and the Young Southeast Asian Leaders Initiative (YSEALI) established an interactive workshop series called Young Women Lead (YWL) to encourage sharing success stories and building capacities encouraging civic engagement and economic empowerment of women in Thailand²⁴.
- Thai Women Empowerment Fund policy was announced in 2012 on the occasion of Her Majesty the Queen Sirikit's 80th Birthday Anniversary for better access of education, employment and healthcare services²⁵.
- Pavena Foundation for children and women provides health rehabilitation together with education and occupational training²⁶.

²⁰ Prathanadee Foundation, <https://prathanadee.org/aboutus/>

²¹ WEAVE, <http://www.weave-women.org>

²² The Friends for Asia Foundation, <https://www.volunteerthailand.org/women-empowerment-bangkok/>

²³ Foundation for Women (FFW), <http://womenthai.org/>

²⁴ U.S.Embassy & Consulate in Thailand, <https://th.usembassy.gov/young-women-lead/>

²⁵ <https://www.wikigender.org/wiki/the-thai-women-empowerment-fund/>

²⁶ Pavena Foundation for Children and Women, <https://pavenafoundation.or.th/en/about-us/>

Introduction of The Doi Tung Development Project

Introduction of the Doi Tung Development Project

In 1988, the Mae Fah Luang Foundation under Royal Patronage (MFLF) started the Doi Tung Development Project (DTDP), which was initiated by HRH Princess Srinagarindra. Mom Rajawongse Disnadda Diskul, also known as Khun Chai, Secretary-General of the MFLF then, was given responsibility for implementing the project on Doi Tung, a high mountain range in Chiang Rai, covering approximately 15,000 hectares which was once a secluded area in the heart of the Golden Triangle—a leading region of illicit opium production. The problems of Doi Tung were complex. The watershed area was denuded by slash and burn cultivation, and further accelerated by opium growing. The residents of six ethnic groups without Thai citizenship lived in abject poverty, without basic infrastructure nor government support. Armed groups occupied parts of the area, which made it even more difficult for government officials to provide any assistance to the local residents. In addition, drug, arms and human trafficking were prevalent in the area.

After the Princess Mother's first visit to Doi Tung—then the barren hills—in January 1987, the Princess Mother announced “I will reforest Doi Tung”. Recognizing that the root causes of such problems were poverty and lack of opportunity, the Princess Mother decided to improve the conditions of Doi Tung, socially, economically, and environmentally and provide opportunities for all people regardless of race, religion, or nationality. The Princess Mother demonstrated her devotion and commitment by building her home in Doi Tung, giving hope to the ethnic groups and gaining trust from the people. Her vision was to allow people and nature to coexist in harmony, by aligning the people's interests with the preservation of the natural environment.

“Nobody wants to be bad, but they do not have the opportunity to do good”
- Princess Srinagarindra

Livelihood Development

The development model at the DTDP is broken down into three phases:

Phase I “SURVIVAL”: tackling immediate health issues through health education and disease prevention as well as mobile medical units. A 1,000-day drug rehabilitation programme was established to support drug users by working with related government agencies to help with detoxification, provide vocational training and prepare the community to welcome the former users once they return home to prevent stigmatization. Simultaneously, basic life necessities such as water for consumption, irrigation system, soil improvement and opportunities for job combining with skills-training were provided to the community members.

Phase II “SUFFICIENCY”: long term income generation was the main focus in this phase. The DTDP introduced the value-chain concept to rural development. This involved moving beyond the cultivation of agricultural commodities to processing, branding, marketing, in order to realize higher and more stable income for the community. This led to the establishment of diverse social businesses under brand

DoiTung. Access to basic education as well as revival of natural resources were also ensured at this stage.

Phase III "SUSTAINABILITY": this phase highly emphasized elevating DoiTung social businesses to implement green process and circular concept to contribute further positive impact to the triple bottom line as well as addressing the climate change issue. Capacity building, empowerment, and youth development are also in focus, so that the people are equipped to carry on the development of their own lives and their communities.

“Help the people to help themselves”
- Princess Srinagarindra

Financial Sustainability

From the beginning, the Princess Mother aspired that the DTDP had to be able to finance itself. Sustainable development is realized when financial stability is coupled with social and environmental progress. The Mae Fah Luang Foundation therefore created the DoiTung brand as the main channel of income generating activity to finance social and environmental activities of the DTDP. The DoiTung brand comprises diverse business units: food, café, handicrafts, horticulture, and tourism. The DTDP has been financially self-sustaining since 2000.

The project had a transformational impact (Figure AA (a) and Figure AA (b)) on opium farmers that were converted into reforestation workers and later on provided on-the-job training opportunities to work in diverse industries from agro-forestry, horticulture and handicraft to tourism.

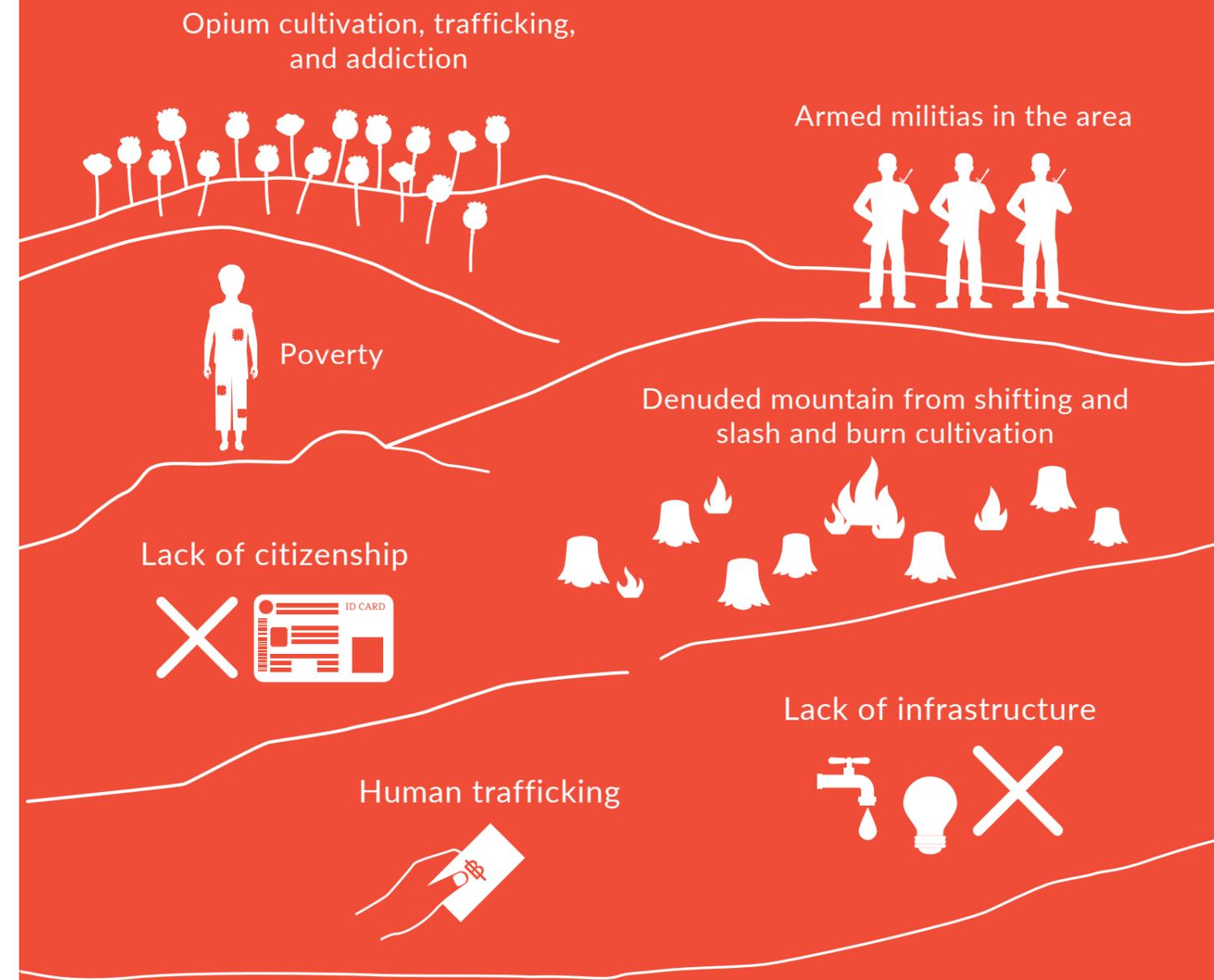


Figure AA (a): Situation before the Doi Tung Development Project

Education opportunity



	Year 1993	Year 2002	Year 2017
Senior High School	1%	9.4%	23.2%
High Vocational Certificate	0.2%	1.4%	3.5%
University	0.2%	2.2%	12.6%

Average income per person per year



Year 1988

3,772
THB

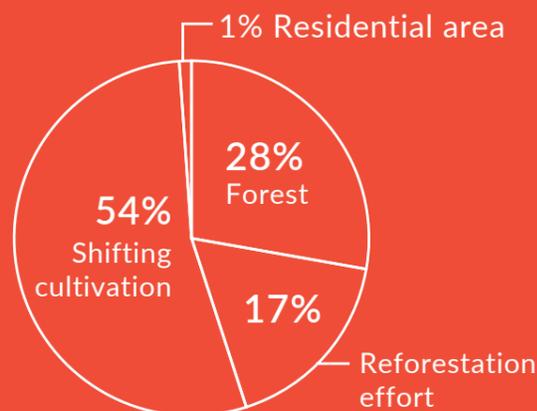


Present

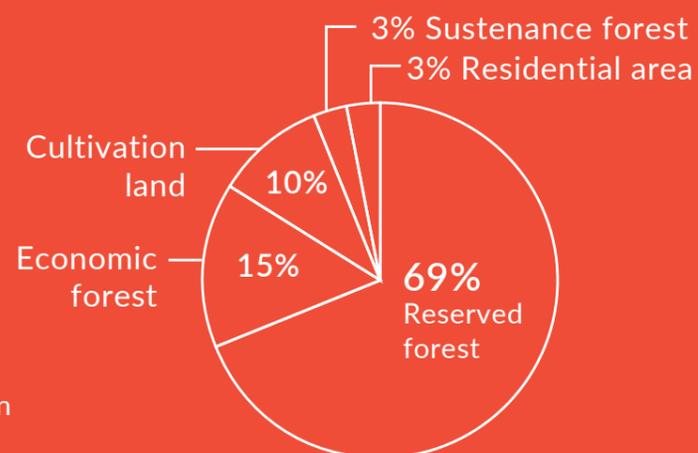
106,137
THB

Environment

Year 1988

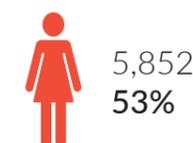
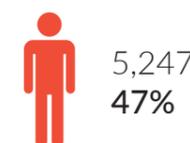
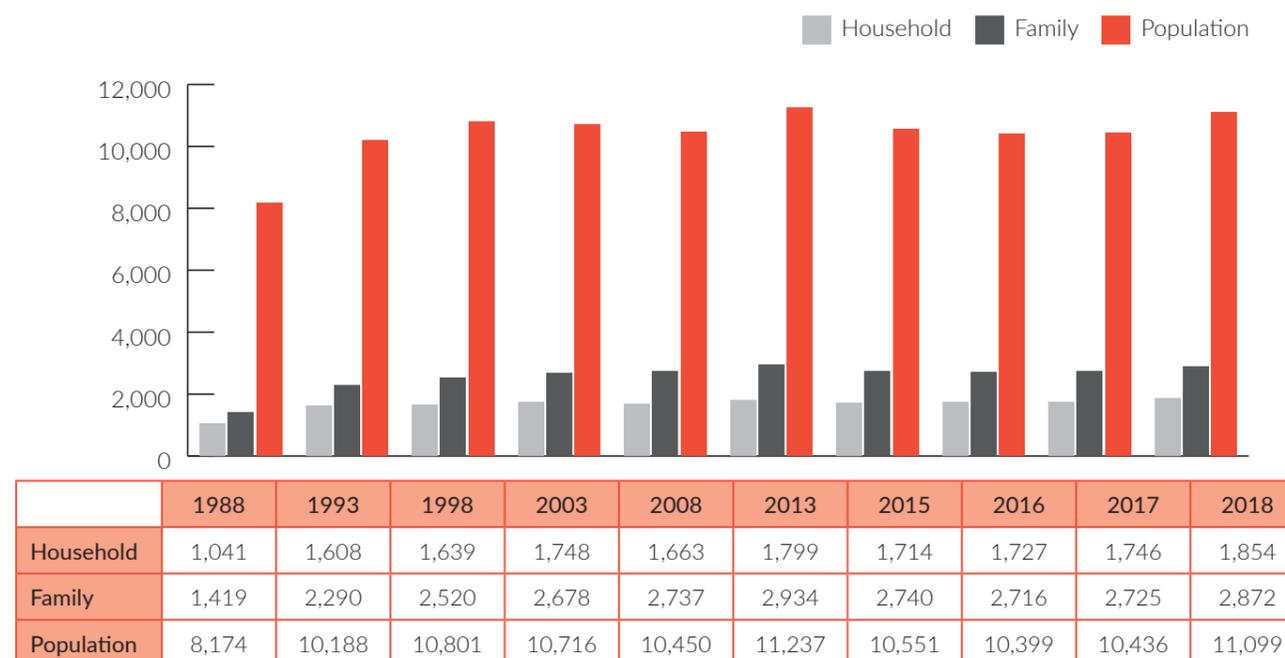


Year 2020



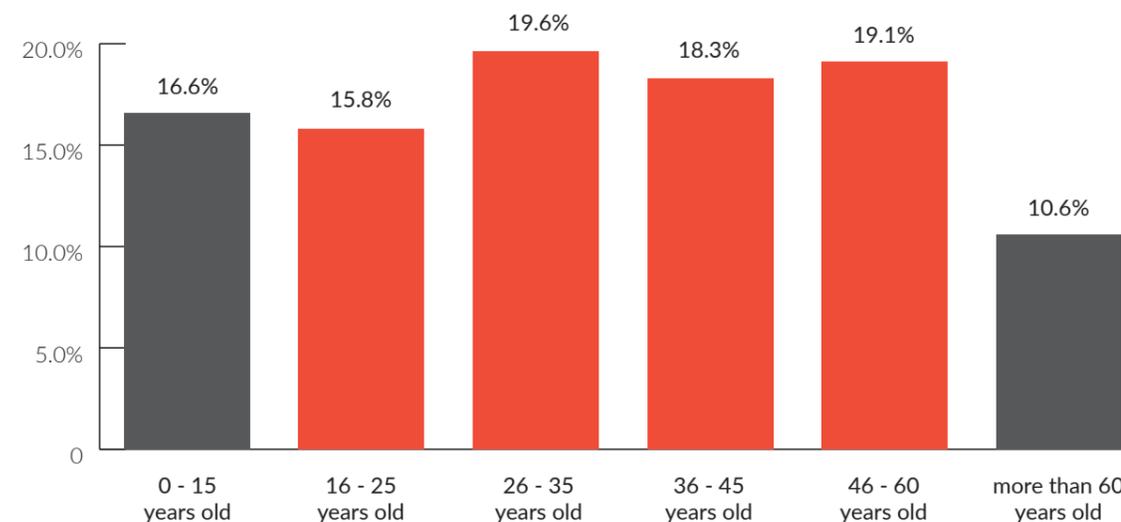
The DTDP comprises of 29 villages, which includes 6 main ethnic groups. Since the projects' initiation in 1988, the total number of families in these villages have doubled.

Figure CC: Demographic change in the DTDP (1988-2018)



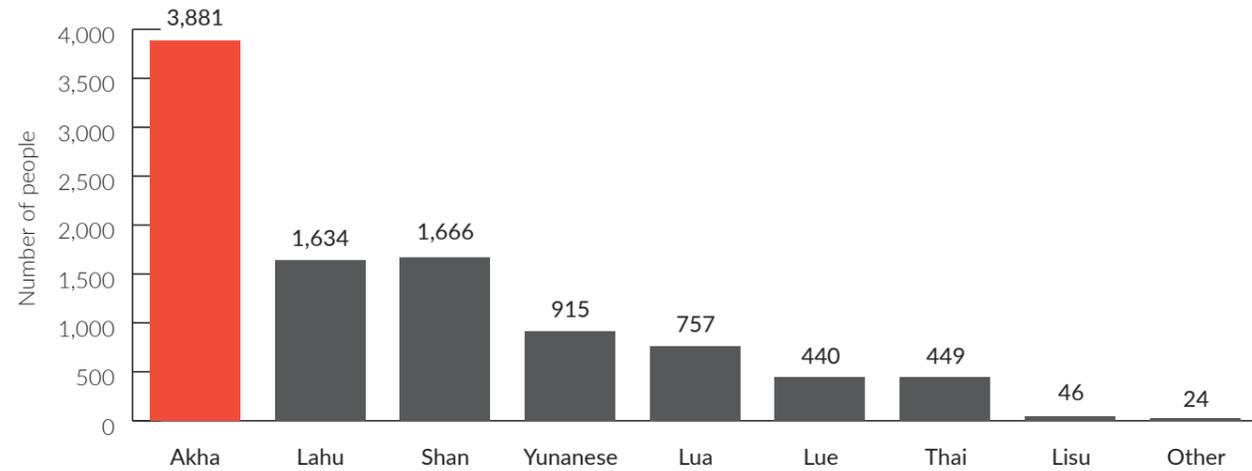
The population includes 16.6 % children and young adolescents, 72.8 % working age population and 10.6% elderly.

Figure CC: Population by age



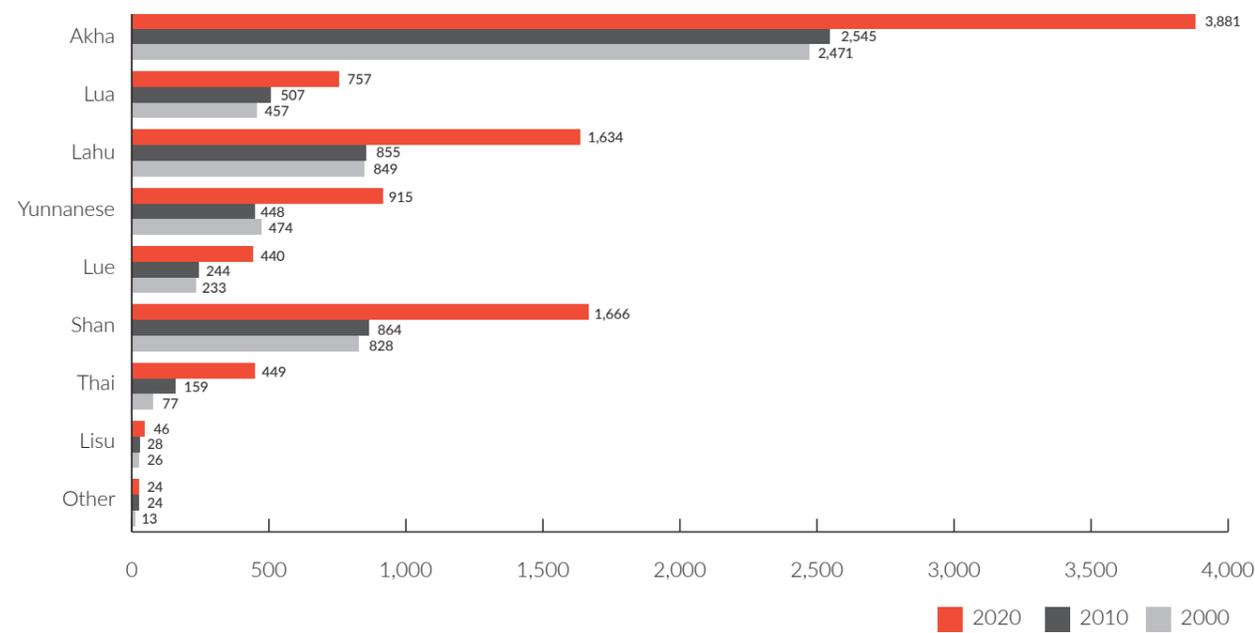
Amongst the ethnic groups, Akha community has the largest population with about 3,881 people in 2020, followed by Shan, Lahu, Yunannese and Lua.

Figure CC: Ethnic groups in the DTDP (2020)



Over the last decade maximum change in population was observed in Thai and Yunnanese community at 182 and 104 percent. Akha, Shan and Lahu community having the maximum population in 2020 growing at 52, 92 and 91 percent respectively.

Figure CC: Ethnic groups population change in last 3 decades (2000, 2010, 2020)



Percentage Growth in Doi Tung Villages HH Income (1988-2018)

In order to understand the actual income growth in Doi Tung Village, year-on-year average income growth in Doi Tung villages was compared with the inflation rate²⁷ in Thailand. Since 2008, the actual income is higher in these villages compared with the income required to compensate for the inflation rate in Thailand (Figure VVV).

Figure VVV: Inflation and income growth (1988 - 2018)

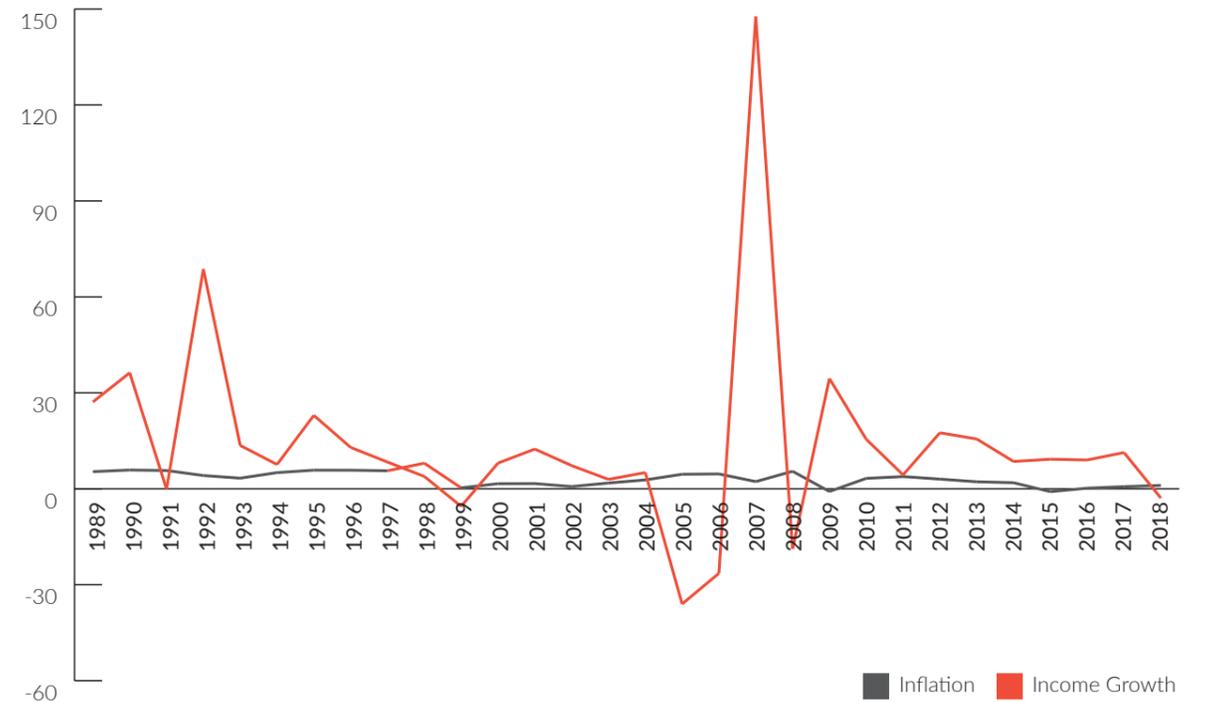


Figure VVV: Actual Income and Income required to compensate for Inflation YoY (1988 - 2018)

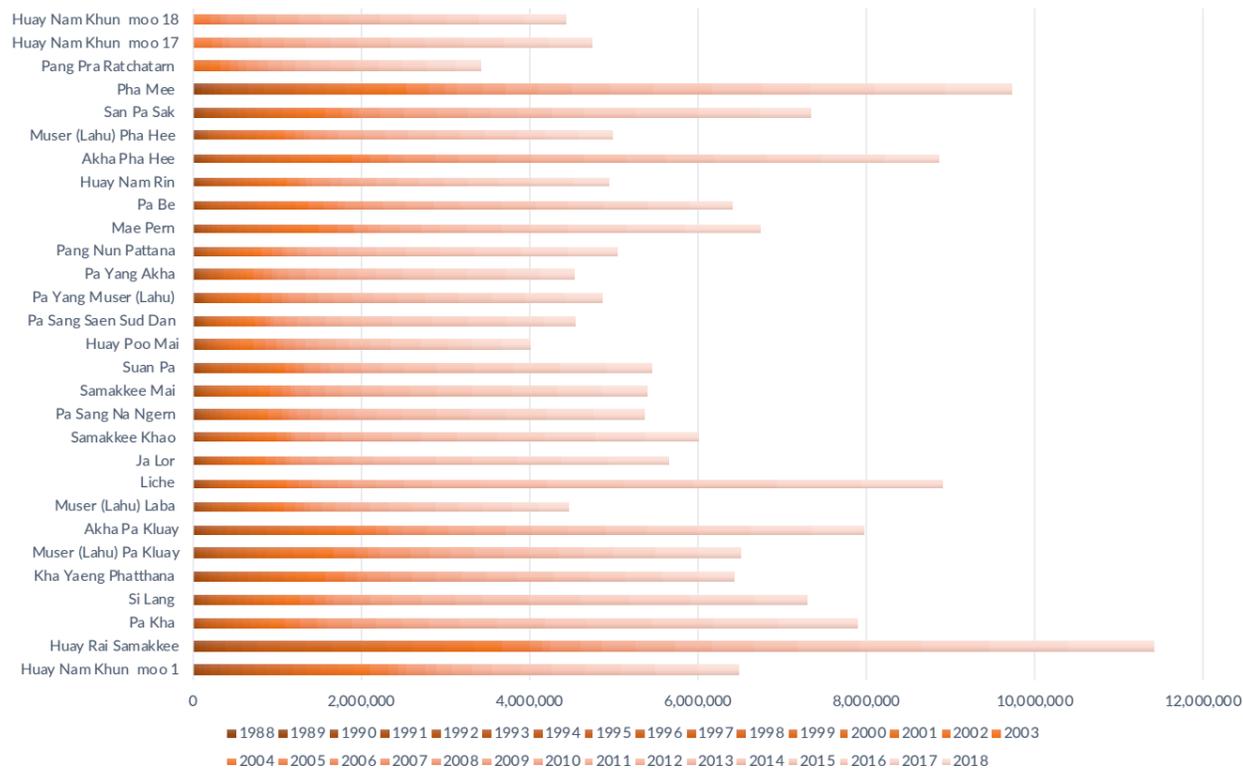


²⁷ World Bank Data

Village Yearly Household (HH) Income (1988-2018)

In last 3 decades (1988-2018), Huay Rai Samakkee, Pha Mee, Lichee, Akha Pha Hee and Akha Pha Kluay have highest income, while Pang Pra Ratchatarn, Huay Poo Mai, Muser (Lahu) Laba, Huay Nam Khun moo 18 and Pa Yang Akha had the lowest household income. It is important to note that two villages Pang Pra Ratchatarn and Huay Nam Khun moo 18 were recognized in 2001 and 2004 respectively.

Village Yearly HH Income (1988-2018)

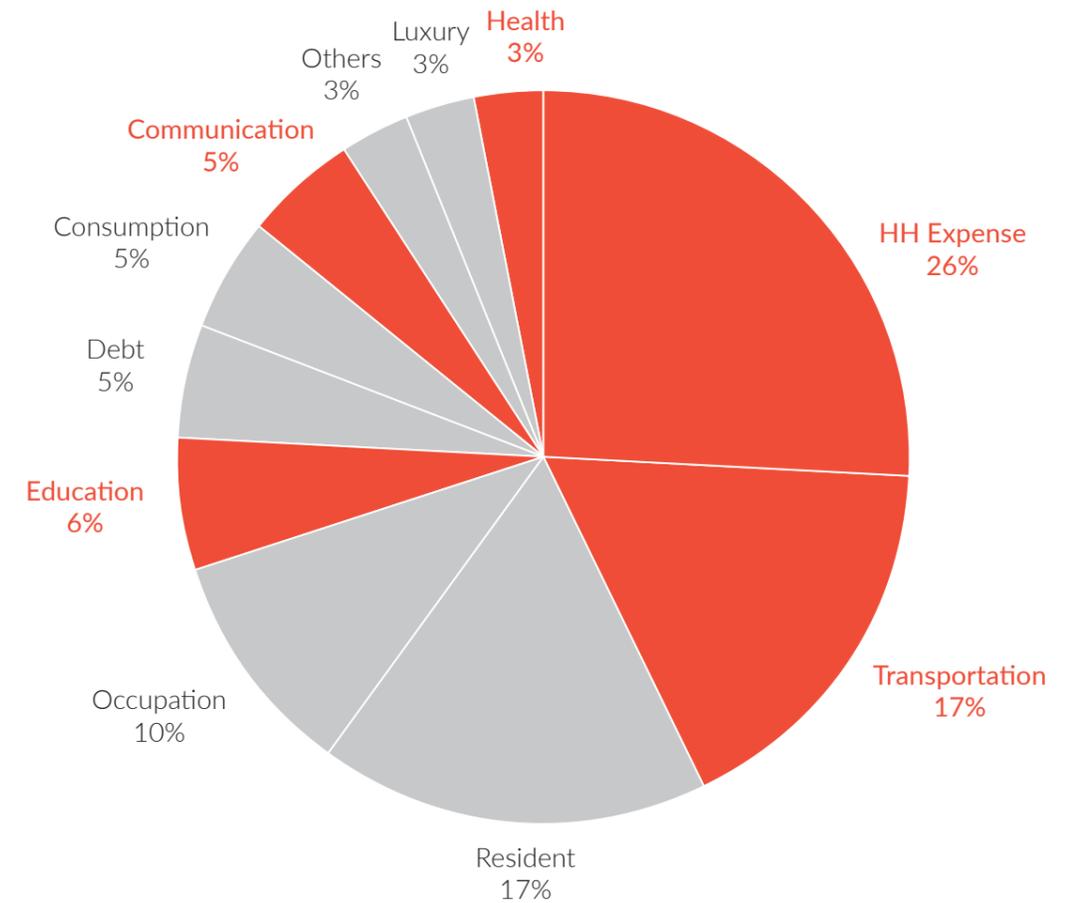


The growth in the top five villages were largely driven by income from community members working as skilled labor overseas, value-added processing activities and entrepreneurship; while, the low income villages largely resulted from lower working age in comparison to other villages as well as proximity.

Doi Tung Villages HH Expenditure

On an average, 26 percent of Doi Tung earnings are spent on HH expenses, 17 percent on transportation, 6.4 percent on education, 4.5 percent on communication and 2.9 percent on health-related expenses. In addition, the villagers receive education and health benefits such as schools in the area as well as health centres and child centres. Since, at the present day, they received Thai citizenship, they gain access to basic health and education provided by Thai government and local authorities. In addition, for a few community members who have not received Thai citizenship, they are able to use services provided by the health centres and also schools. They also gain further support from the Subdistrict Administrative Organization.

Doi Tung Villages HH Expenditure



Sustainable Development through Progressive Initiatives

Economic forestry

Economic forestry is one of the most successful outcomes of the project that has delivered brands such as DoiTung Coffee and DoiTung Macadamia Nuts. This outcome is a result of long-term endeavor, when the concept of Social Enterprise (SE) and corporate social responsibility (CSR) was not prevalent. The concept of economic forestry was initiated to generate long-term and stable income for the people of Doi Tung. The cash crops selected to be in the economic forest have to be perennial trees whose produces are of high value and can be processed into various kinds of products throughout their value chain. They have to be in market demand and, definitely, match the elevation and temperature of the area.

For the DTDP, the economic forest comprises of arabica coffee and macadamia nut. Since economic forest initiative requires high and long-term investment, the DTDP sought out cooperation from private sector organizations to contribute to the area of social enterprise and development. 6 private companies agreed to put together initial fund to create a company called Navuti company whose purpose was to cultivate and nurture economic forest at Doi Tung to generate jobs and income for the Doi Tung communities, and the company explicitly stated that if the company have profit, no shareholder would receive the dividend but it would be used for other development initiatives. As a result, Navuti Company was considered one of the first social enterprise in Thailand.

In order to create jobs and income to support the community, six sites in Doi Tung project area were chosen as economic forestry plantation. As the road infrastructure was not well developed, these sites were located near the village areas to ensure villagers could commute comfortably. The organization implemented the cultivation process and conveyed to the Mae Fah Luang Foundation for processing. This innovative economic forest program was led by its architect, Khun Chai.

Some of the major initiatives under the DTDP are:

The Cottage Industries Center and Outlet

A cottage industry center was set up to create jobs for all walks of life particularly women. The cottage industry center comprises of textile factory, ceramic factory, mulberry paper factory, carpet tufting factory and coffee processing factory. This adoption to a new business required a change of mindset including incentives to adopt skills required and economic benefits therein.



Weaving Factory – 100 percent women workers

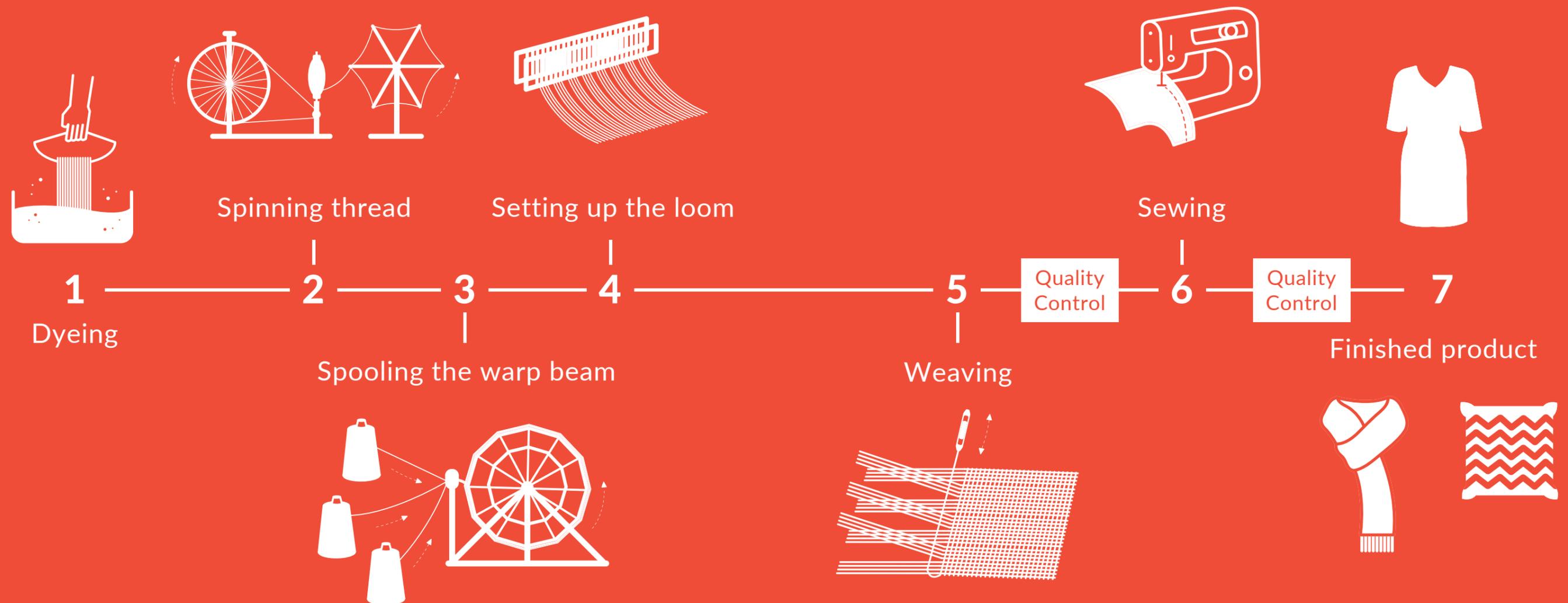
This initiative was started when the women in the communities were recognized to have skill and wisdom in weaving, embroidering and sewing. It started with just 6 women in 1990 and has grown to 160 women (2020) with three generations working together.



One of the great inspirations is a 4th generation daughter from the community that has undergone designing course from Bangkok and, with high hope, will return to join the weaving factory as a designer. As all the workers are women here, special care has been taken to develop a child care facility behind the factory to add convenience to the women working environment.



When combining local wisdom and market-driven approach, home made cloth becomes world class fashion



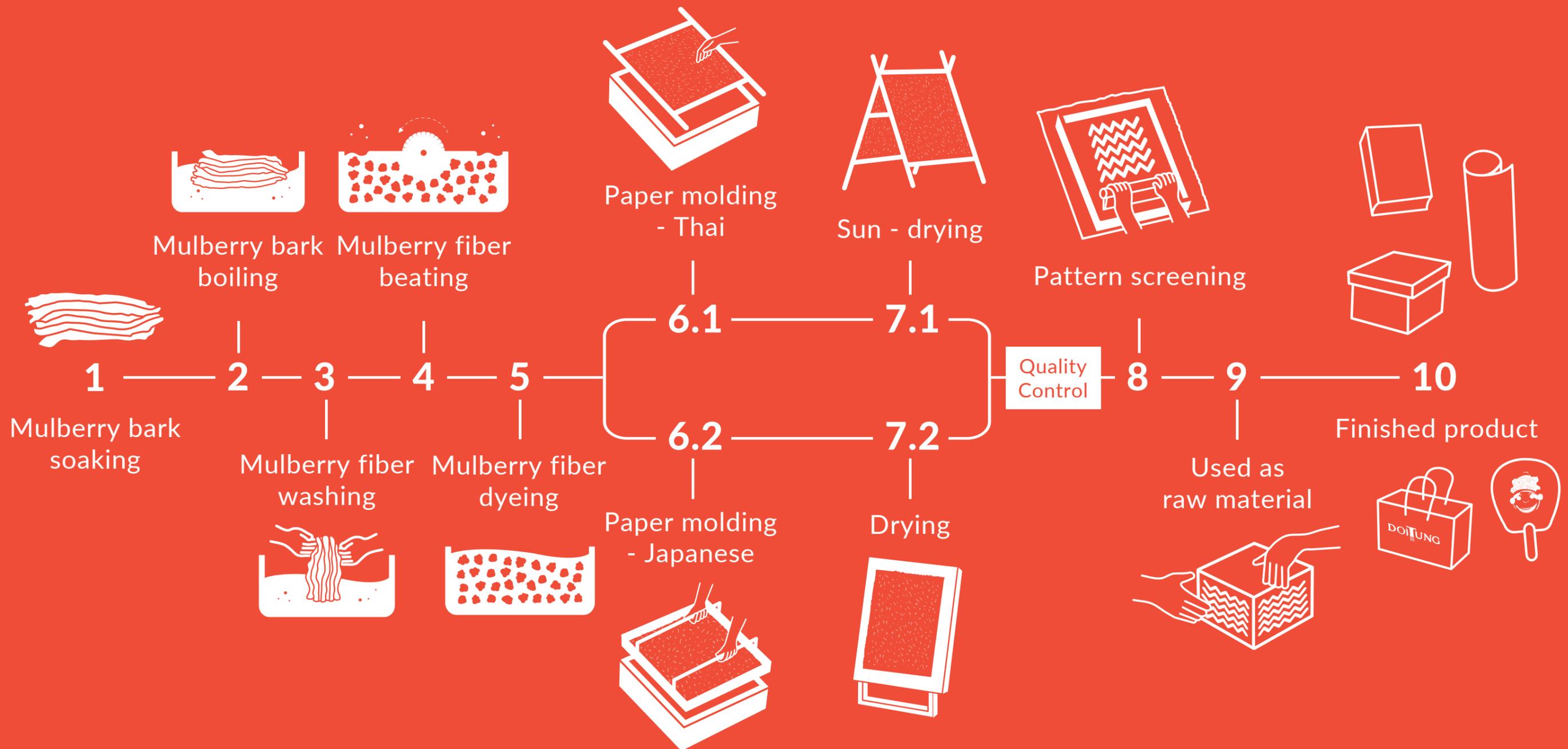
Paper Factory – 68 percent are women workers

A paper factory has been set up to develop a variety of paper products based on indigenous plant in the area. The products were also influenced by Japanese techniques. As these factories are labor intensive, specialized equipment help to generate quality products. However, the Japanese paper making equipment are expensive, not very durable as it needs to be submersed in water each day.

The MFLF believes in human capability and front row workers. They know their work the best. The MFLF offer them an opportunity to initiate methods that help them work more conveniently. Therefore, the workers in the factory have been innovative in improving the processes. Workers in the factory are working to replace the Japanese bamboo with Thai bamboo, which reduces the cost to from 3,000 to 1,000 baht. They are also testing equipment (black netting used at the Project's tissue culture lab) that cost only 45 baht, is more durable and have 5-6 years life and each can produce 200-250 papers a day.



By sustainably harvesting mulberry bark, forest is nurtured and people prosper



Coffee Roasting Factory – 45 percent are women workers

Coffee processing begins by accumulating coffee through 44 buying spots/locations scattered in the DTDP. There are more than 3 million coffee trees in the DTDP. In the early years, the average yield of a coffee tree was 0.5 kg.

The villagers were being trained on the job in the basic procedures of planting coffee, caring for the trees, and harvesting methods, by both Thai and foreign experts. These were basic skills they used for their own coffee farms in later years. As employee, some people tend to lack discipline and sufficient attention to the importance of proper procedures, and this led to several problems such as not using fertilizer when they should, or not pruning the trees at the right time. These contributed to the low yields and poorer quality coffee beans in early days as mentioned above. Moreover, the workers did not pick only the ripe, red or yellow cherries as instructed, but instead picked all the cherries together, whether ripe or green.

Khun Chai identified a key cause of the problems: the lack of ownership and incentives by the workers and foremen. This led to a lack of interest and inadequate sense of responsibility, because whatever happened they still received their wages. Most urgent was the need to find practical experts on coffee and macadamia who could help solve the problems of productivity and quality control, and train the staff to understand the importance of proper procedures and how to solve problems themselves.

The DTDP initiated a project of transferring the ownership of the coffee trees to workers so that they could invest more time and improve the overall productivity. The trees were given on rent at 1 baht per tree as a symbol signifying that

the land remains a reserved forest so that they are able to utilize the land but cannot own it. Also, 50 percent of the rent was covered by the DTDP and the farmer had to pay 50 satang per tree each year. Within a year, the yield of the tree increased from 0.5 kg to 1.5 kg per tree.

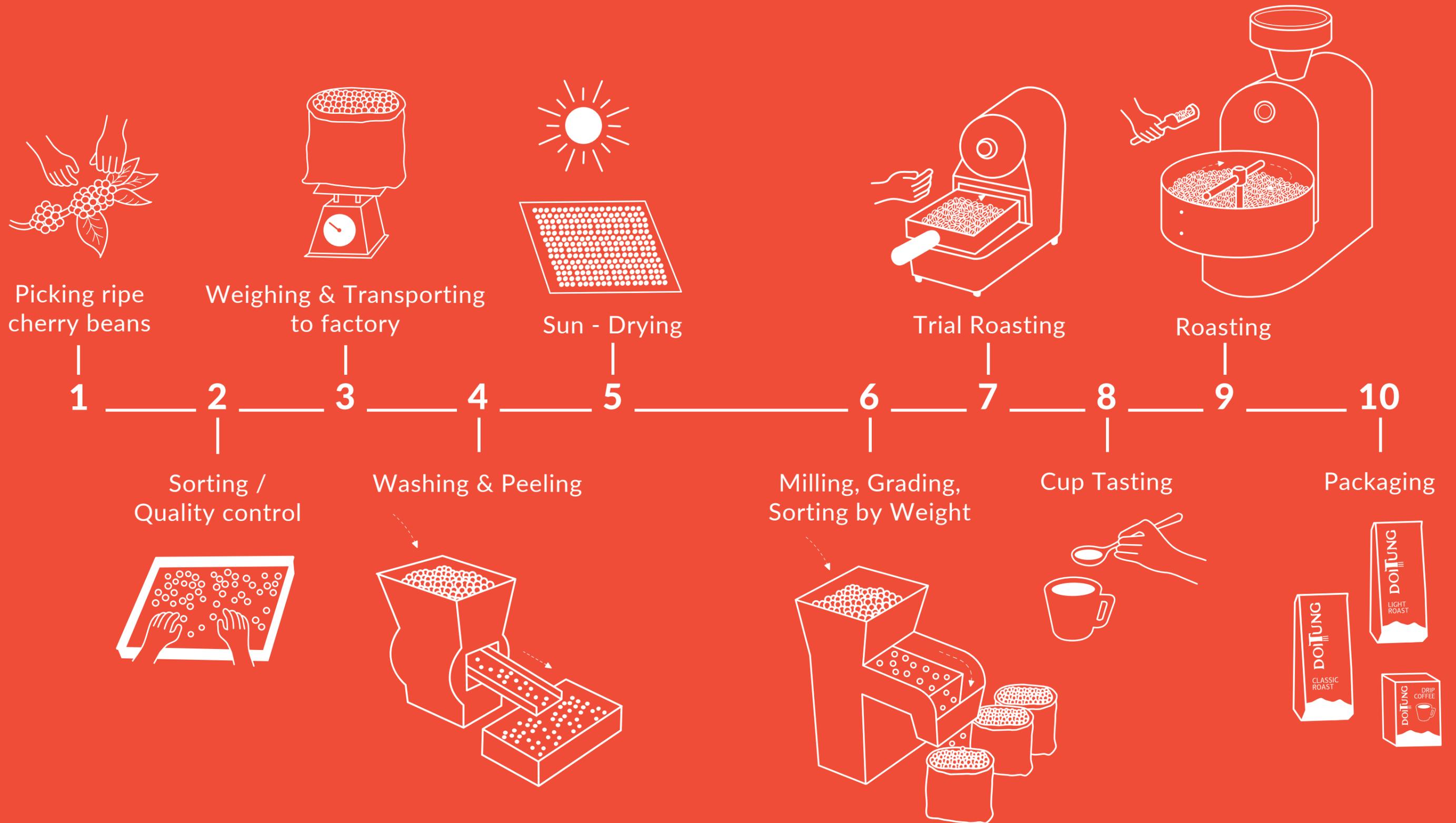
On an average, a household has access to 4-5 rai of land with about 400 trees per rai and a yield of 1.5 kg per tree (2,400–3,000 kg per year per household). In case good care is taken, the productivity also increased to 5-10 kgs per tree in best-case scenarios (16,000-20,000 kg per year per household). The coffee farmers have also been trained on agricultural management techniques. For example, methods to rejuvenate the trees to increase the quality and productivity of the coffee plantation. However, this requires cutting of the trees taking it out of income in that particular year. Accordingly, only some trees are chosen for rejuvenating each year to ensure income continuity.

Also, earlier coffee farmers picked up ripe and unripe cherry beans together impacting the quality and taste of the coffee thereby reducing the price. But once they were given the ownership, they made sure they picked up only the ripe beans, which further improved the quality and the price for the coffee.

Buying spotted scattered around the DTDP and quality control at the spots by visual sorting and also water sorting. Each bag represents 25 kilogram of coffee cherries from each villager and there is a card in each bag stating the name of the farmers, the village, buying spot and amount of kilogram.

The coffee processing facility implements another quality control by selecting 10% of coffee cherries from each bag for quality checking. If the quality does not match the factory standard, the factory will inform the coffee farm team who work with villager and take care of buying spots in order to improve their quality checking and also work with villagers to improve their cultivation and harvesting process.

Meticulous care in every step





From farm to cup,
a commitment to sustainable life



Cherry Beans



Green Beans



Roasted Beans



Packaged & Branded
Roasted Beans



Coffee in a Cup
at Cafe Doi Tung

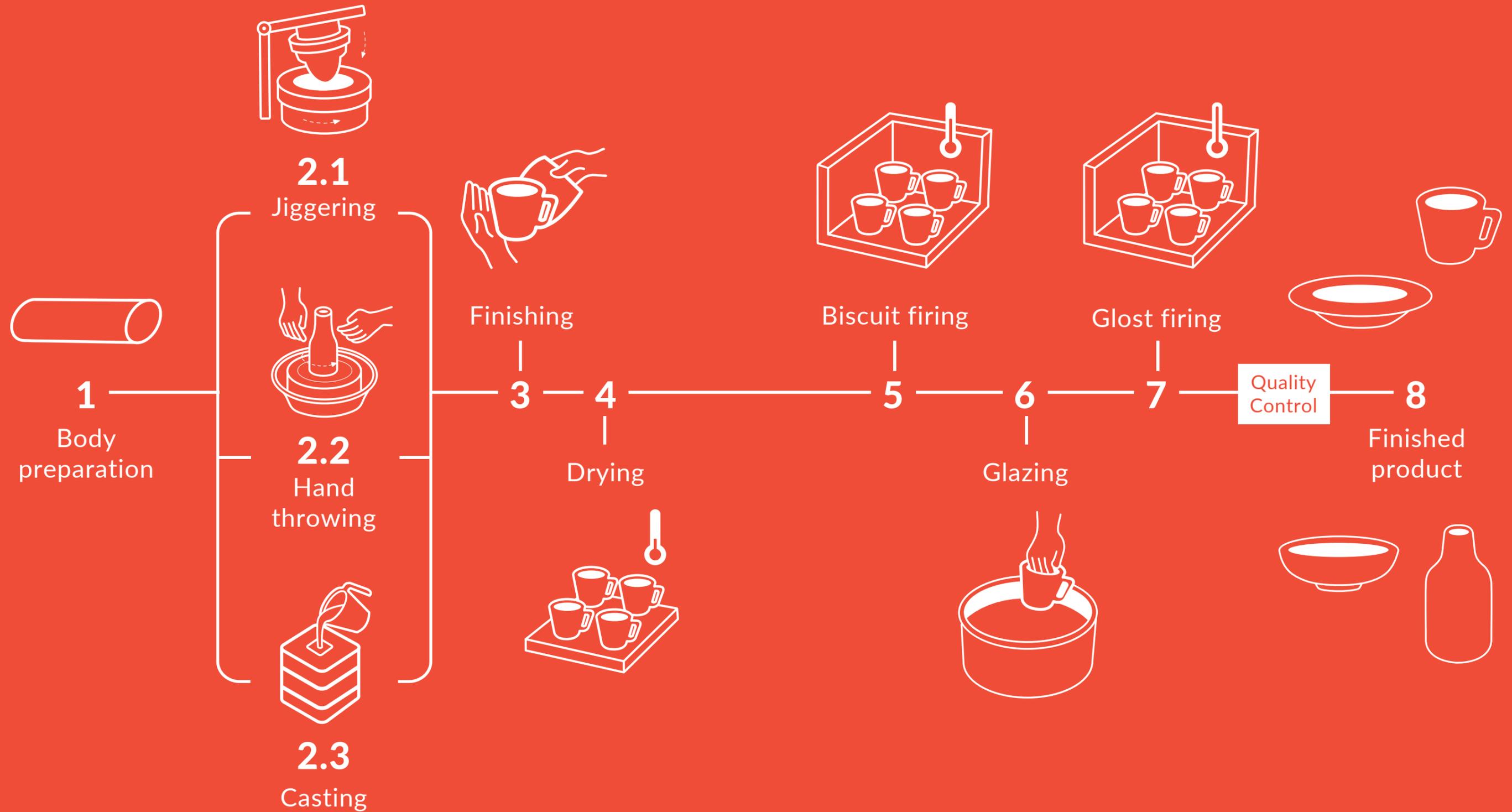
Ceramic/Pottery Factory – 54 percent are women workers

The DTDP has been frequently affected by landslide as a consequence of road construction. The project started to look at possible options to manage it locally. The Princess Mother consulted her son, His Majesty King Rama IX, who suggested the project should grow a plant called vetiver grass as it helps with soil erosion. The root of vetiver grass is quite deep about 5-10 meters which helps in holding land and trees together. The DTDP created a vetiver center to research and develop this grass for better application in the area to avoid landslide.

Initially, a lot of plastic bags were used to grow these plants and were also expensive. To introduce sustainable practices, the DTDP initiated a pottery factory to make clay pots that could be used for planting vetiver grass in huge quantities to cover the whole of area. Also, to maintain the vetiver grass for a better growth, the leaves needed to be cut from time to time and were mixed with the clay creating a new texture that was very creative in designing different kind of clay pots and pottery which led to the creation of ceramic factory to offers jobs to a younger generation. With continuous improvement through working with global companies and ceramic experts from Japan, ceramics from the factory become more sophisticated and refined, and, nowadays, some of the workers become artisans.



When inspired by people and nature,
unique art pieces are created

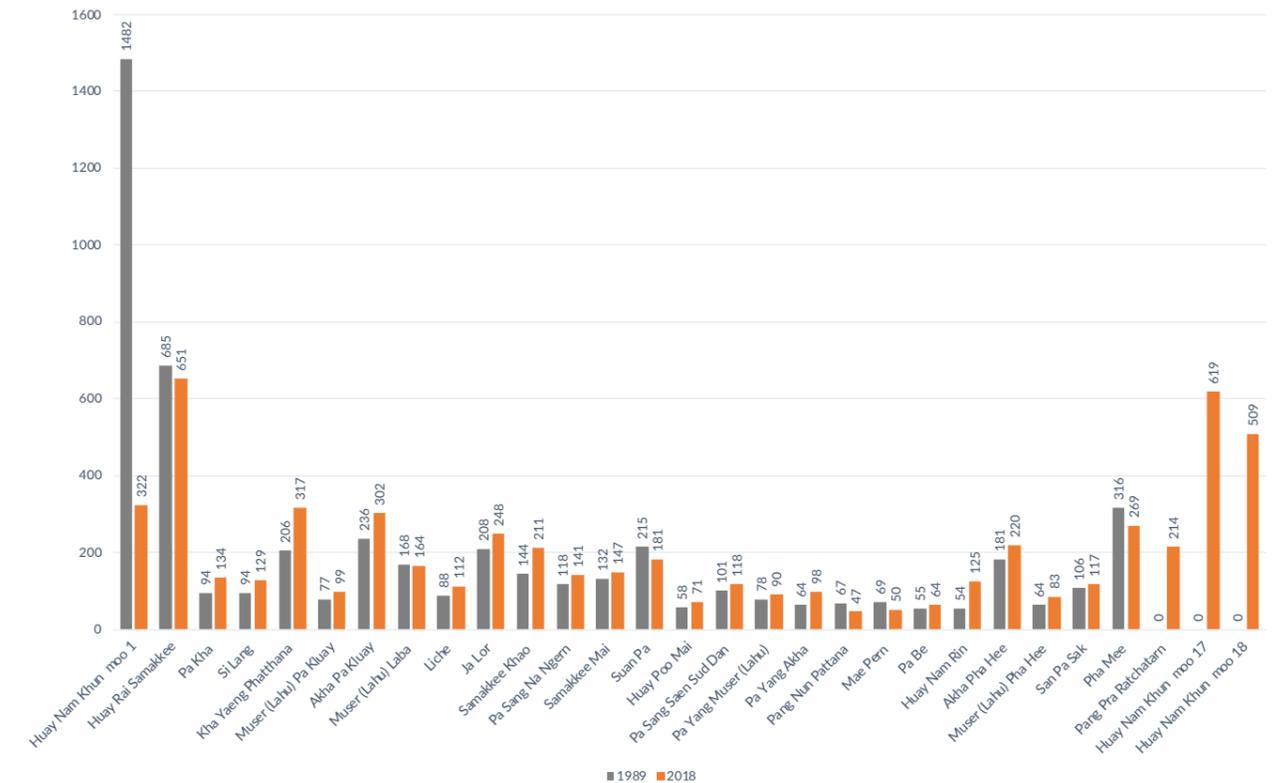


Impact on Women in the Doi Tung Development Project (DTDP)

Doi Tung Women Population

Women population in the DTDP (1989-2018) increased by 13.41 % in the last 3 decades. There were 5,852 women in overall 29 villages under the Project in 2018 with maximum women population of 651 in Huay Rai Samakkee village and minimum women population of 47 in Pang Nun Pattana village.

Figure TT: Village wise women population in 1989 and 2018



Huge decline in women population was seen in Huay Nam Khun moo 1 village. This dip took place in 1993 when the population declined from 1,532 to 418 and remained relatively low at 322 in 2018. This was because of the spread of HIV from human trafficking before the project started and smaller member per household.

Huay Nam Khun village was split into 3 parts over the last decade. In 2002, the new village named Pang Pra Ratchatarn was formed and villages like Huay Nam Khun moo 17 and Huay Nam Khun moo 18 were separated from Moo1 in 2004. These newly formed villages have higher population of women in 2018 as compared to other villages at 214, 619 and 509 respectively.

Huay Rai Sammakkee village has the highest population of women with 651 women, 63% of village population (1,028) with 141 households in total.

Pang Nun Pattana village has the lowest population of women with only 47 women, 52% of village population (90) with only 15 households in total.

Girls married below the age of 20 years has seen a decline over the decades. There were about 113 girls married under the age of 20 in 1993, increasing to 149 in 2002 but is further seen to decline to 41 in 2016. The number decreased to 28 girls in 2020.

Table 7: Girls married below the age of 20 years

1993	2002	2016	2020
 113	 149	 41	 28

Survey Results and Discussion

The survey was targeted at women from the major ethnic groups under the DTDP. Beyond indicators, the focus was on quantitative and qualitative research at the community level looking closely at household financial management and the socioeconomic implications of the income community level activities provides.

The survey involved 332 women from the ethnic communities under the DTDP, focusing on Akha, Lahu, Shan, Yunanese, Lua and Lue ethnic groups.

Ethnic Group	Women Respondents	Age Range	HH Size Range	Female headed HH
Akha	65	19-69	2-10	1
Lahu	53	23-71	2-11	3
Shan	62	16-59	1-9	6
Yunanese	51	13-68	2-15	8
Lua	59	15-67	1-11	12
Lue	42	14-65	1-9	4
Total	332	13-71	1-15	34

Age Range	Number of Female
0-12	0
13-21	32
22-30	61
31-40	95
41-50	61
51-60	66
61-71	17

The analysis was performed based on the study framework identifying economic, social and well-being indicators (Figure).

Economic	Social	Well-Being
<ol style="list-style-type: none"> I. Women and girls' education II. Gender related digital divide III. Women paid less than men IV. Women participation in labor market/ informal and vulnerable employment V. Women in unpaid care and domestic work VI. Participation in SHGs VII. Having a bank account VIII. Savings per month IX. Loan /borrowing, if yes, for what reasons? X. Earning per month XI. Family income from other sources 	<ol style="list-style-type: none"> I. Energy poverty and lack of safe, reliable, affordable and clean energy II. Environmental degradation and climate change have disproportionate impacts on women III. Women migration to cities <ul style="list-style-type: none"> • for education • for services and retail • for elementary occupations • for craft and related trades • for professional job • to work as clerk 	<ol style="list-style-type: none"> I. Infrastructure and social protection policies II. Women are less likely to be entrepreneurs III. Shared responsibilities within the household (role and expectations) IV. Women equal rights to economic resources V. Access to ownership and control over land and financial services VI. Role and expectations women and their family members have regarding domestic labor and paid work outside the home VII. How women participate in household financial decision-making VIII. Leadership positions/ household leaders IX. Best practices, training skills, access to knowledge

Economic Analysis

The economic analysis included taking a stock on indicators such as women education, employment, gender related digital divide, gender wage gap, women perception regarding unpaid care and domestic work, their participation in self-help groups (SHGs), owning a bank account and their contribution to monthly savings, reasons and access to loans and available alternate income sources.

Women education and employment

Table 8: Education in the DTDP

Indicators	Category	Age below 35	Age above 35	Total	Percentage
Education	Bachelors	28	8	36/332	10.8 %
	Diploma/ University Student	20	1	21/332	6.3%
	High School/ Vocational	48	20	68/332	19.5%
	10 th Grade and lower	40	53	93/332	29.2%
	Illiterate	9	105	114/332	34.3%

Table 9: Occupation / Employment in the DTDP

Indicators	Category	Number	Earnings last month (Baht) (per year)	Alternate work	Alternate incomes (Baht) (yearly)	Approx. Family Income (yearly)	From agriculture-related production/ activities	Other family income (exclude agricultural)	Do you participate in self-help groups?
Occupation	Deputy Village Chief	1	14,700 (176,400)	Farmer, handicraft	12,000	633,400	Rice fields	604,900	Yes
	Government Officer	5	5,000 - 25,000 (60,000 - 300,000)			352,800 - 727,800	2 of them had some agricultural related income	All of them had additional non-agricultural income	All participate in SHGs
	Farmer	28	300 - 17,000 (3,600 - 204,000)	Vendor, daily worker, etc.	6,000 - 120,000	26,000 - 380,000		An exception of 1.29 million baht income from other family members	42.8% do not participate in SHGs
	Employee	96	3,000 - 26,000 (36,000 - 312,000)	Handicraft, tutor, farmer, etc.	4,800 - 600,000	96,000 - 943,000	39.5% have income from agricultural activities	Almost 94% of employed have additional non-agricultural income	47.9% do not participate in SHGs
	Self Employed / vendors	67	200 - 42,000 (2,400 - 504,000)	Farmer, grocery store, driver, etc.	60,000 - 240,000	30,000 - 1.05 million	53.7% have income from agricultural activities	An exception of 1.16 million baht	49.2% do not participate in SHGs
	Housewife	52	2,000 - 45,000 (24,000 - 540,000)	Self employed through farming, handicrafts, vendors, daily workers, etc.	9,600 - 156,000	5,000 - 821,200	19.2% have income from agricultural activities	An exception of 80,000 baht through e-commerce activities	34.6% do not participate in SHGs
	Daily Worker	37	1,000 - 30,000 (12,000 - 360,000)	Farmer, village health volunteer	<60,000 baht	65,000 - 840,000	An exception of 3.7 million baht by producing pineapple		29.7% do not participate in SHGs
	Unemployed	10	0			144,000 - 620,000		Mostly non-agricultural income	No
	Others	36	200 - 8,000 (2,400 - 96,000)	Handicraft, farming, vendor, daily worker, etc.	2,400 - 96,000	30,000 - 1.8 million	About 22.2% have income from agricultural activities	77% have non-agricultural income	75% do not participate in SHGs

Access to finance

96.3% of women considered saving and investment as a priority. 81.6% of women had bank accounts. 69.2% of women had contributed to certain amount of savings in the previous month ranging between 100 to 50,000 baht. 28% of women have taken loans ranging from 2,600 baht to 300,000 baht from different sources like family, village fund, education loans and personal loans. Most of the loans were taken for family expenses, automobiles, farmlands and education. 48.1% of women confirmed that they have at some point of time borrowed money or taken loan. Loans were taken for various purposes such as 4.2% of women for house repair, 6.9% for educational purposes, 9.9% for acquiring land and assets, 11.4% for household expenses, 17.4% for business expansion, and a few more for other activities like festival, funeral and repayment of previous loans.

Gender digital divide

Talking about digital divide, 40% of women indicated the existence of gender digital divide in the community. When asked to share some examples, they indicated more of gender discrimination. 3% of women clearly indicated that male child is given higher value at home also in term of access to education, 4.8% of women mentioned domestic violence, 12.3% of women believed that men have more freedom and flexibility compared to women due to traditional practices and 17.1% of women indicated that men do not take responsibility of housework. Many families have men as the decision makers, have flexibility to re-marry or have many wives, particularly the older generation.

Although, there have been exceptions where women were holding the position of village leaders; for example, Huay

Nam Khun, Kha Yaeng Phattana, Huay Nam Rin and Huay Rai Sammakhee. The former head of the village Huay Nam Khun moo 17 was also a woman. She continues to provide motivation and inspiration to other women in the area.

93% women were found to be using ICT technologies for various purposes such as 46.6% for trade, 25.6% for payment, 12.9% for marketing and promotion, few for learning and entertainment purposes and almost all for communication.

68.3% women confirmed that women in the community contribute more to the unpaid care and domestic work as compared to men. 19.2% women believe that women are paid less than men in jobs that requires physical strength or labor work (as highlighted below in Table 10); while being paid similarly in other jobs.

Table 10: Gender wage gap at the DTDP

Work Area	Payment to Men (Baht)	Payment to Women (Baht)
Construction Work	12,000/month	9,000/month
	300 - 500/day	200-350/day
Coffee Picking	320/day	300/day
Lychee Picking	350/day	300/day
Painting House	300/day	250/day
Plantation Work	250	200
Rice Field	300	250
Slaughterhouse	300	250
Floor Tile Installation	300	250

The gender wage gap in Thailand has declined over period of time from 14 percent in 1996 to 10 percent in 2006 and then 1 percent in 2013 (Bui & Permpoonwivat, 2015)²⁸. Although the discrimination that favors men according to

²⁸ Bui, M. T., & Permpoonwivat, C. K. (2015). Gender Wage Inequality in Thailand : A Sectoral Perspective Gender Wage Inequality in Thailand : A Sectoral Perspective, (January 2015). <https://doi.org/10.144456/ijbs.2015.40>

Social Analysis

the unexplained part of wage gap was seen to be increasing in 2013 after a small decline in 2006. The degree of discrimination varies in different industries. Various studies at community and regional level indicate that wider wage gaps were seen in hotel and restaurant industry (22.2%), manufacturing (18%), construction (17.2%) and agriculture, fishery and forestry (17%) in 2013. Despite equal shares of male and females in these sectors, discrimination was observed to be high. Strategies and policies to understand and reduce the discrimination would depend on the dominance of male and female in the sector.

Thailand Development Research Institute (TDRI) in 2018 indicated a difference of about 30% salary (approx.5,000 baht) between males and females with the same education level of bachelor's degree²⁹. Gender wage gap could exist because of various reasons such as social norms, patriarchal mindset in society, attitudes, career stereotyping and other cultural factors.

The primary survey conducted at the DTDP helped in identifying individual preference, psychological factors, and institutional factors. These can further be utilized to design relevant policies and build development strategies in the region.

Work and migration

82.5% of women indicated their preference to work and only 2.1% of women are working out of compulsion. 44.2% of women had experienced migrating to cities for education, elementary occupation and business purposes. Most of them believe that they return back to work and contribute

in the villages as the basic labor wages remain the same irrespective of location nationally, meaning women now come back to work at Doi Tung as the labor wages are the same as national level.

Access to energy and water

40.3% of women in the survey indicated access to safe, reliable and affordable energy. Others mentioned experiences of power off when raining. 51.5% women in the area indicated access to energy in terms of electricity, gas and firewood. They also have access to village water and underground water but 34.6% of them indicated the need to buy drinking water for consumption. 3.9% women indicated not having access to affordable energy especially electricity being expensive. They also highlighted lack of access to water during summer seasons and turbid water during rainy season.

Impact of environmental degradation and climate change on women

47.2% of women believed that environmental degradation and climate change has had negative impact on women in the area. Droughts and reduced water availability subsequently reduced agricultural production. Increase in temperature and frequent storms make them prone to sickness like cold, cough and eye infection. Storms, heavy rainfall inducing landslides also impact the transportation within and outside the community. Forest fires caused issues of air pollution and PM2.5 raising health concerns. Waste management was also highlighted as rising concern in some villages.

²⁹ Thailand Development Research Institute. (2018). 3 ทศวรรษ ของการเปลี่ยนแปลงในตลาดแรงงานไทย. TDRI. <https://tdri.or.th/2018/03/3decade-thai-labour-market/>

When asked about environmental degradation and climate change having impacts more on women or men, 71.38 % of women expressed that the impact was same in case of men and women; while, 21.38% of women expressed that woman get more impacted as compared to men.

Equal	237
Women > men	71
Men > women	12
No impact	9
NA	3

Volunteer for Goods Program (Asa Tham Dee)

The “Volunteer for Goods program” (Asa Tham Dee), a programme for drug users was initiated by the MFLF in 2019. Under this programme, illicit drug users were invited to participate voluntarily. The participants underwent 1,000-day rehabilitation programme—the first 60-day with close supervision from medical staff and army officers and another 940 days of following up, vocational training and community engagement and preparedness.

Programme Details

Programme	Duration	Male	Female	Total
Asa Tham dee 3 (1 st batch in the DTDP)	16 th May - 16 th Jul	34	11	45
Asa Tham dee 4 (2 nd batch in the DTDP)	16 th Jul - 16 th Sep	56	7	63

The ultimate goal was to provide the volunteers a second chance to lead a normal life with pride and dignity as well as gain acceptance from the community. The volunteers got the chance to participate in occupational trainings which helped them to work with the project and earn licit income. The only condition for the volunteers was that while working for the project they must be tested negative against the drug tests.

Well-being Analysis

Discussing with women about the preference or compulsion to work, 82.8% of women expressed their preference to work. About 83.4% of women indicated receiving government support in the form of social security, child and elderly support grant. About 55.7% of women clearly indicated having access to universal health care (gold card) coverage. 24.6% of women also received covid 19 subsidy.

Shocks

48.4% of women were impacted by some kind of shocks in the past 12 months leading to unemployment, increase in loans and illness and other personal reasons. 29% clearly indicated some kind of impact due to COVID-19 leading to unemployment, loss in tourism, reduction in incomes and 2 of 332 women going bankrupt.

Impact of COVID-19

Women employed in informal sectors, migrants and ethnic groups that are majorly dependent on daily wages are most vulnerable to crisis such as COVID-19³⁰. Although, COVID-19 is non-discriminatory, women in rural areas and ethnic groups tend to suffer because of reduction in income and limited movement and thus it was important to understand the impact and how they respond to such crisis in the DTDP.

The DTDP recorded zero cases of COVID-19 in 2 years. Although the impact on each communities were recorded through individual and FGDs. Impact of COVID-19, their response to the crisis and their perception of being resilient and empowered to face such situations in the future was discussed. Technology played an important role as many joined online market for purchase and sales of self-generated commodities and e-learning for education. Community wise responses are as following:

Table 12: Impact and response of COVID-19

	Impact of COVID-19 (individual and family level)	Crisis Response
Akha	<ul style="list-style-type: none"> • Decrease in income level • Unemployment • Decline in tourist affected some livelihoods • Stressed and feel uncomfortable due to movement restrictions during covid 	<ul style="list-style-type: none"> • Maintaining social distancing and hygiene was high priority • Economize needs and expenses • Implement Social Economy Principle (SEP) by growing their own vegetables, managing livelihood by taking stitching orders through phones • Shift to online shopping • Look for additional income and save more • Keep track with covid news to take appropriate actions
Lahu	<ul style="list-style-type: none"> • Income affected because of decline in tourism • Expense has increased for covid prevention (mask, gel sanitizer, etc.) • Social distancing creating stress 	<ul style="list-style-type: none"> • Maintaining social distancing and hygiene was high priority • Shift to online market to sell agricultural products such as herbs, honey, tea and avocado • Economize needs and expenses • Register for subsidy from the government • Keep track with covid news to take appropriate actions

³⁰ United Nations Thailand, <https://thailand.un.org/index.php/en/51835-against-odds-stories-women-thailand-during-covid-19>

	Impact of COVID-19 (individual and family level)	Crisis Response
Shan	<ul style="list-style-type: none"> • Unemployed and afraid of losing jobs • Expense has increased for covid prevention (mask, alcohol, etc.) • Online schooling, difficult to follow and understanding • Village health volunteer has more work to perform • Stressed and feel uncomfortable due to movement restrictions during covid 	<ul style="list-style-type: none"> • Economize needs and expenses and save for needed emergencies • Implement Social Economy Principle (SEP) by growing their own vegetables and livestock • Continue with the current job and not look for change in the crisis situation apart from additional activities in e-commerce and in the local village
Lue	Similar problems as other communities (no specific comments)	<ul style="list-style-type: none"> • Maintaining social distancing and hygiene was high priority • Save and control expenses • Implement Social Economy Principle (SEP) by growing their own vegetables • Use e-learning platforms for continuing education
Lua	<ul style="list-style-type: none"> • Low or no income because market demand has declined • Cost of living is high, price of goods and services have increased • Forced to reduce living expenditure by growing vegetables at home and manage other expenses • Social distancing creating stress and mental health problems 	<ul style="list-style-type: none"> • Using Thai Chana application to manage and monitor social distancing and maintain hygiene • Have been watchful and fearless by regularly monitoring covid related news online • Save and control expenses • Agricultural planning depended on the online market demand and also looked for new markets and sales promotion
Yunnanese	Similar problems as other communities (no specific comments)	<ul style="list-style-type: none"> • Save and reduce expenses following SEP concept • Looked for additional income by selling home-grown vegetables and livestock online • Find alternate markets, develop marketing and advertising strategies • Made masks and did vocational training • Stay fit and positive through exercise and maintain hygiene • Keep track with covid news to take appropriate actions

Resilient and empowered for the future

The overall perception of the communities in terms of being resilient and empowered was seen to be positive and strong. Although being located in the rural areas the concept of good health and hygiene is quite developed. The women believed in medical technology and taking care of themselves. They were seen to be alert and proactive in terms of managing their finances and cut down unnecessary expenses. They were also well aware of applying SEP in building their day-to-day livelihoods. The women from Shan, Lue and Lua ethnic groups were seen to have immense faith in their rituals and participated in Buddhist ceremonies. Amidst the uncertainty causing social and economic impacts, women in the community were looking at building and ensuring resilience as community health workers. They also indicated that the villagers believe they have immunity and can manage their livelihood applying alternate strategies for generating income and sustaining themselves during the crisis. Some of the family members that returned to the community due to COVID-19 after working in other provinces were well taken care by the DT families as they are food secure and have the capacity to grow vegetables and raise livestock for self sustenance.

Focused Group Discussion (FGD) with 6 tribes in the DTDP

Focused Group Discussion (FGD) was conducted to understand the development and extent to which female farmers/producers are becoming agents of their own finances over the last three decades. All together 16 meetings were held with six communities (Akha, Lahu, Shan, Yunanese, Lua, Lue) with a total of 240-300 women participation.

Major interventions in the last three decades, benefits and challenges were discussed and identified:

Table 13: Interventions, benefits and challenges identified through FGD

Economic	Social	Well-being
<p>Education: Better quality of education with updated curriculum, nearby schools more accessible creating higher number of graduates, vocational centers help generating more income, availability of scholarships, creative learning space like youth centers and kid's camp</p> <p>Challenges:</p> <ul style="list-style-type: none"> • Younger generation is more interested in creating income than studying • Youth sometime do not finish compulsory education because of family problems, adolescent pregnancy, etc. • Youth is addicted to phone and games • Villagers do not have education certificate, as they do not have Thai ID and face difficulties in applying for jobs. • Lack of teachers in the village Chinese school 	<p>Environment: Green environment and forest conservation, food security, economic forest, reforestation, campaign for reuse of bags</p> <p>Challenges:</p> <ul style="list-style-type: none"> • Environmental challenges include landslides, water turbidity, longer droughts as compared to the past, polluted air because of wildfires • High waste, unmanaged landfills and lack of waste management practices • Flash floods in 2015 affecting canal side village 	<p>Self-protection: Have access to rights, project ID card, house is generally on the name of the head of the family but believed to have mutual right of ownership, common agreement on decision making, finances ideally managed by the women in the house</p> <p>Challenges:</p> <ul style="list-style-type: none"> • Drugs related issues create a feeling of being unsafe • Akha community was observed to be male dominated and most decisions are taken by men

Economic	Social	Well-being
<p>Job activities and income: Better employment opportunity available locally, stable job and income through factories (macadamia nut processing, mulberry paper, weaving, ceramic), employment through agriculture, reforestation and economic forest, option of transition from labor work to more convenient work, possibilities of business and entrepreneurship, available jobs for all age and gender</p> <p>Challenges:</p> <ul style="list-style-type: none"> Working population migrating to towns and have more children and elderly in the villages Coffee production in lost Middleman impacting the price of agricultural products Access to markets for agricultural products like lychee and longan 	<p>Development:</p> <ul style="list-style-type: none"> Existing regulation of drug and crime Sharing drug knowledge and prevention measures The DTDP played a crucial role throughout with its development programs 	<p>Infrastructure: Easy access to road, electricity, water for consumption and irrigation</p> <p>Challenges:</p> <ul style="list-style-type: none"> Power outage during heavy rainfall Sometimes have to purchase water for consumption because of dirty water during rainy season
<p>Tourism: Attractions like Royal Villa and Mae Fah Luang garden help the communities to generate income as a part of the DTDP</p> <p>Challenges:</p> <ul style="list-style-type: none"> Impacts on income and businesses due to lack of tourist during the pandemic 	Relationship	<p>Technologies: Access to technologies and better communication, possible online sale and purchase,</p> <p>Challenges:</p> <ul style="list-style-type: none"> Youth is addicted to phone and games
<p>Income dependency on the DTDP:</p> <ul style="list-style-type: none"> Allocation of cultivation and residential area are based on the DTDP rules and regulations The DTDP related occupations, sale of coffee cherry to the project Knowledge and information from the project such as tea, coffee, macadamia plantation, history of the local environment used for income generation The colors of DT festival help young entrepreneur to explore the market and generate income Agriculture related training such as time of plantation, amount of fertilizer used are very useful to improve production and crop management Additional assistance in critical situation 		<p>Living condition, health and welfare:</p> <ul style="list-style-type: none"> Health center and police station conveniently accessible to the community Social security and provident fund through DT cooperative <p>Challenges:</p> <ul style="list-style-type: none"> Wildfires generate smoke and pollution causing cough, eye allergy and other health issues Common illness include influenza, dengue, high blood pressure and diabetics Residents experience lack of residential area because of the increasing population

Training and skills needed to empower development and sustainable living for women in the DTDP

When asked about the future opportunities for learning and skill development needed for women in the communities, they mostly highlighted the following:

- Training and education on innovative technologies
 - online marketing would be very useful as many women have limited access only through social media like Facebook
 - e-commerce
 - creating applications
 - data collection
 - conduct market survey and demand
 - income and expense tracker
- Language training of Thai and foreign languages (English, Chinese and Korean)
- Soft skills and leadership development to make them independent, confident and better decision makers, capable to take decisions for their children.
- Vocational training centers to promote handicraft, embroidery, weaving and food processing would benefit many women looking for income opportunities
- Create voluntary programs to encourage women involvement in area of waste management and sufficiency economy program (SEP)
- Training to better self-manage and do multitasking taking care of work, house and family
- Training regarding mental health and stress management would be beneficial for women to manage themselves efficiently

Additional requirements to empower women in the DTDP

- Increase women rights
- Fund new entrepreneur
- Establish women groups to develop skills and knowledge for all ages
- Create access to government privilege for example Thai ID card
- Create opportunities that have monthly income rather than daily income

Highlighting Success Stories of Women in Doi Tung

Success Story of Khun Arunya Apisatienpong (Pim)

Age	36
Village	Laba
Tribe	Lahu
Occupation	Knowledge Management Analyst, the DTDP
Household	7 people



“Women move out for education but return and are willing to work in the villages, we want to explore the world, visit places, learn and adapt for a better future.”

Khun Arunya was around 4 years old when the DTDP was launched in her village. During those days, there were no roads, lanterns were used as there was no electricity, and they had to walk down for about 20 minutes to access water for bathing and carried water back home for consumption. As a child, she was very excited to see the roads being

built. When the project started, there was a remote school established in the village for all aged people limiting classes for grade 1 and 2 only. She laughs as she recalls repeating the same grade many times.

Eventually when the project work started, Doi Tung involved children above 8 years to enroll as development volunteers to learn, support in the projects and also go to the school nearby. This school was initially till grade 6 and later was extended to grade 9. She later moved on to do vocational course in Chiang Rai and completed a diploma in accounting. In those times, there were no accounting vacancies in the factory and so she joined the field team as a daily wage laborer in electricity and road construction projects for a few months. Later, she worked as a local research volunteer without pay in a project linked with Mahidol University, to identify the local problem in the community. She chose to work on water related problems inspired by her own hardships.

While working as a volunteer, she got an offer and joined the factory as an accountant. Later in 2008, she joined the knowledge and learning center team in the DTDP and works as a knowledge management analyst in the team.

Before the DTDP, her family did not have much income and they grew rice, vegetables and livestock for subsistence. Only her mother (71 years old now) had some source of income as she sold food to tourist in the nearby tourist attraction areas.

After the project started, most of the people in the household started working on project related activities, especially when Thailand raised minimum wage to 300 baht in 2010. This inspired many people moved back to the villages. For around 70 households in the village, apart from those working in the factory, all households are involved in coffee plantation that add to their monthly income.

Pim calls her family an extended family including 7 people, with herself and one nephew fully employed and her mother who works on crafts and local offices occasionally. Her three children are studying locally, and one is in Chiang Rai.

Talking about the expenses and the facilities, she confirms that the nationwide policy of zero tuition fee for schooling and free health facility is very useful.

	Payment/Facilities	Challenges/Others
Bank Account	Yes, owns bank account Government provides facility of micro finance of 1 million baht to every village through the community	
Electricity	Free, payment only when it exceeds 150 units	
Water	Free	
Education	Zero tuition fee, pay for 50% of transportation cost only which is about 250 baht per child	Concerned about the education of her children in the future and how to generate more income
Health	Free including dental facilities, health center nearby with good quality doctors	Have health volunteers for every 15 households

She recognizes her village as one of the high-risk areas for landslide and also faces challenges regarding waste management.

Talking about investments, she shared that woman with financial resources normally buy land as investment or provides loans to other people. She was proud to share that she had taken a loan of 50,000 baht from the community to renovate her house 7 years back and has repaid the loans completely. She feels empowered as a decision maker at home and leads the household. In other households in the community decision-making is done through mutual discussions.

Overall, she experiences balanced gender equality in the community. “Ideally in village households, males are more involved in community activities and women holds the money. However, there is no difference between a male and a female child. Also, the property distribution depends on who continues to stay with the parents and take care of them during their old age.”

Success Story of Khun Mayura Silawongsakonkun

Age	56
Village	Kha Yaeng Phattanna
Tribe	Lahu
Occupation	Village committee member



Mayura was born in Akha ethnic group and married into Lahu ethnic group. Her husband passed away 10 years back and she has four grandchildren. Mayura experienced that Lahu community was more accommodating on gender neutrality and gives more opportunity to women as compared to Akha community.

In the past, she experienced issues related to gender inequality, in terms of the potential and opportunity for male and female development in the community.

Spending her childhood in Akha community, Mayura recalls “Various challenges existed for women in the Akha community. During my growing days, women were forced into prostitution for survival reasons, women were married young and were not involved in household decision making, women worked more than men. Akha households were more patriarchal and traditionally men were allowed to have many wives, which put a lot of pressure on women to sustain themselves”. She expressed that things are changing with the new generation now. Mayura was married at the age of 17, her daughter at 24 and recently a bride in the village was 30 years old.

Also, Laha community is more open as compared to Akha community. Today, women have more options for livelihoods and access to other sources of income. The exposure to the outside world has also benefitted women helping them take roles as decision makers in the household and produce various traditional and cultural local products for additional income. She earns 12,000 baht/month as a village committee member and an additional source of 3,000 baht/month, saving around 20% of her total income monthly. She also had a government bank account (Kasikorn Bank). Although Mayura had never applied for loan as she belonged to a well to do family in the community, she confirmed that it is a common practice in the community to take loans as villagers are allowed to borrow from a 1-million-baht fund provided by the government yearly for livelihood development, agricultural and livestock expansion, handicraft business, etc. Mayura has also not witnessed any women migrating to cities, claims that the income in the village is sufficient for a healthy livelihood.

Talking about environmental challenges, she highlighted that water management was a problem in the area, minor forest fires and flash floods but did not have any substantial damage and none of the harvest have been destroyed.

Mayura uses ICTs for both personal and professional purposes. She prefers Line (mobile application) for communication and Facebook for sales.

She also has access to credit card but has never used it online and most of the bank transactions are done as direct bank transfer through the Bank APP. She acknowledges it's usefulness and recognizes that these technologies have made life easy for her.

Using ICT	Yes
Technology/Applications	Facebook, Line APP, Bank APP
Marketing	Yes
Promotion	Yes
Payment	Yes
Trade	No
Communication	Yes

She has an additional income of 6,000 baht for the 3 days service she provides to people coming in from Myanmar for medical tourism. It includes transportation and translation services provided to the tourists from Myanmar. During COVID-19 there have been no tourists from Myanmar and she raised and sold chicken during the pandemic to mitigate the impact.

Initially, only men participated in the community meetings but since last 10 years more women are getting involved. "Things are progressing in a positive direction but still today the Lahu community is headed by a male. Men do not object women taking up positions based on their capability and performance, but creating more opportunities for women would be useful." She particularly highlights about handicraft and how local skills can be used to inspire and transfer knowledge from one generation to another.

Success Story of Khun Piyaporn

Age	40
Village	Akha Pa Kluay
Tribe	Akha
Occupation	School Teacher



Khun Piyaporn recalls the challenges they faced prior to 1989, "the village had a school from grade 1-4 only, there were no roads and they had to walk long distances of about 10 kms to buy some food. It took about 30 mins walking down and about 1 hours to return." The main income in those days was through opium and the parents also consumed opium. Roads, electricity, television and cars came to the area after the launch of the DTDP and also gave local people an opportunity to get involved in coffee plantation and reforestation. The new school in the village today has classes from kindergarten to grade 9. She recalls working in the weekends, singing in restaurants for 100 baht an hour to support her food expenses as her schooling was sponsored by the Akha community. Not many females were sent to school in those days. She recalls being looked down in those days also by the teachers, her performance was initially poor, but she worked hard and improved herself over the years. After her secondary school, she moved to do vocational courses to earn and be independent as she also had to take care of her two younger sisters.

She started working as a teacher in the government school at the age of 25 but continued to face the challenges in the society. She was never encouraged for her involvement in education and for working. Her family and the community did not believe in investing in the girl child education and believed that girl child would eventually get married and move out of the house. Although, people appreciate her as a model and want to send their girl child to school to make them independent but unfortunately, the culture in the village still remains the same and investment in girl child is discouraged.

Piyaporn works in Akha Pa Kluay village and is married outside the village. Akha Pa Kluay is a unique village of 90 households that follows the culture of male child inheriting all the property rights in contrast to equal right to male and female child in all the other villages of the DTDP. This makes it complicated for her as she is no more considered a resident of the village after her marriage. She will lose all property rights if she moved out of the village. Piyaporn along with other women in the village believe that there should not be any discrimination between men and women and they should have the freedom and opportunity towards development.

Her household has 8 people including her parents, husband, daughter and grand-daughter. Although the income generation are through various sources, herself being a teacher, 2 sisters working in Bangkok and Korea, family involved in coffee plantation, and home stay services. Her husband owns a restaurant but is temporarily shut down because of COVID-19.

She is well equipped with technology, using laptop, comfortable working on Microsoft office, google, uses social media such as line, facebook, uses Pinterest to create student activities and also uses bank applications for money

transactions. She also has a facebook page for her home stay service that is useful for booking rooms online and using other services.

She had taken loan from the community for coffee plantation and has paid it back, also other members in the family have taken loan for the homestay business. She expects to have more scholarships for undergraduate students in the future. She also highlights that the cultural beliefs should change within the community. She is quite content with her life and is interested to have the village transformed as a community village for promoting conservation tourism in the next few years.

Key Findings

Economic Aspect

The household survey conducted in the DTDP involved a total of 1,684 people, 53.6% being women including child and adolescent females. The 332 women respondents were in the age group of 13-71 years with their household size range between 1-15 people. 34 of these 332 women were heading their households.

“Unemployed women have other sources of family income and housewife are involved in activities like farming, handicrafts that generated alternate incomes apart from other family income. Saving and investment was considered as priority by 96.3% women and 81.6% women owned a bank account. About 28% women confirmed taking bank loans ranging between 2,600 to 300,000 baht mostly for expansion of business, household expenses and acquiring land and assets.”

Over the last 3 decades the DTDP has supported women populations in the community through various initiatives. Some of the enterprise solutions like the weaving factory and paper factory had 100% and 86% women workers. Many of these women witnessed 3 generations successfully involved and contributing through such initiatives. Also, the coffee roasting and ceramic factory employed 68% and 45% women respectively, which clearly indicates the equal opportunity available to women in the community. Early marriages for women of less than 20 years declined over the past three decades from 113 in 1993 to 41 in 2016 and hopefully better results could be seen in the recent upcoming survey due in 2021. This decline could also be a result of increasing opportunities for women in the community.

Education has contributed to women progression in the community as 10.8% women of women surveyed had bachelor's degree, 6.3% were either diploma or university student, 19.5% were involved in high school and vocational courses, 29.2% were in 10th grade or lower with 34.3% being illiterate. Women unemployed were seen to have other sources of family income and housewife were seen to be involved in activities like farming, handicrafts (called themselves self-employed) that generated alternate incomes apart from other family income. Employed women had monthly salary ranging between 3,000 to 26,000 baht. Many of them had skill based alternate income and additional income from agriculture related production and activities. Amongst all women working as government officer, employee, farmer, self-employed more than 40% participated in self-help groups (SHGs).

Saving and investment was considered as priority by 96.3% women and 81.6% women owned a bank account. About 28% women confirmed taking bank loans ranging between 2,600 to 300,000 baht mostly for expansion of business, household expenses and acquiring land and assets.

According to the survey, 40% women indicated the existence of gender divide in the community but later when discussed as a part of FGD, they indicated more towards gender discrimination. About 93% women were found to be using ICT technologies for various purposes such as 46.6% for trade, 25.6% for payment, 12.9% for marketing and promotion, few for learning and entertainment purposes and almost all for communication.

Social and Well-Being Aspects

“Education, employment and economic independence over time has led to change the social culture and well-being aspects in the community where majority of women prefer to work.”

It was observed that education, employment and economic independence over time has led to change the social culture and well-being aspects in the community. About 82.5% women indicated their preference to work and only 2.1% women indicated that they are working out of compulsion. This also motivated the females to explore new opportunities as 44.2% women had experienced migrating to cities for education, elementary occupation and business purposes. Most of them believe and are confident that they can return back to work and contribute in the villages as the basic labor wages remain the same irrespective of location at national level in Thailand.

About 83.4% women indicated receiving government support in the form of social security, child and elderly support grant and 55.7% women clearly indicated having access to universal health care (gold card) coverage. Further discussion also indicated that 24.6% women had also received COVID-19 subsidy in 2020.

Considering hard times and shocks, 48.4% women had been impacted by some kind of shocks in last one year that led to unemployment, increase in loans and illness with other personal reasons. Talking about the impact of COVID-19, 29% women clearly indicated some kind of impacts due to COVID-19 leading to unemployment, loss in tourism, reduction in incomes and the stress of losing jobs and going bankrupt. The cost of living was high because of additional expenditure, and they were forced to reduce their living expenditure and look for coping mechanism. Although, it was observed that the crisis response varied based on the

Issues and Challenges

community but the perception of the communities in terms of being resilient and empowered was seen to be positive and strong.

Various programs and initiatives have been administered by the DTDP for developing the social and well-being aspects in the community. These involve volunteer programs, vocational skill development programs for all ages, the DTDP youth activities and kid's camps organized on a regular basis.

Some of the issues and challenges identified through survey and FGDs are:

Gender discrimination was mentioned by women in the community. About 17.1% women indicated that men do not take responsibility of housework, 3% clearly indicate that male child was given higher value at home also in term of access to education, 12.3% women believed that men have more freedom and flexibility as compared to women as traditional practices. About 4.8% women clearly mentioned domestic violence. Women also shared that many families have men as the decision makers, have the flexibility to re-marry or have many wives, especially for Akha ethnic group. Also, only men could take up positions as the chair in the committee.

Although, there have been exceptions where women were holding the position of the deputy of the village for example, Huay Nam Khun, Kha Yaeng Phattanan, Huay Nam Rin and Huay Rai Sammkhee. The former head of the village Huay Nam Khun moo 17 was also a female who continues to provide motivation and inspiration to other women in the community.

Unpaid care work and domestic work was indicated by 68.3% women, and they believe that women in the community contribute more to the unpaid care and domestic work as compared to men.

Gender wage gap was highlighted by 19.2% women as they believe that women are paid less than men in the community. They indicated some examples of men and women wages across various work areas (especially labor using physical strength) with a difference in case of monthly and daily wages at 3,000 and 50 baht respectively.

Access to energy and water was a concern for some women. 40.3% women in the survey indicated access to safe, reliable and affordable energy. 51.5% women in the area indicated access to energy in terms of electricity, gas and firewood. They also acknowledged access to village water and underground water but about 34.6% of them indicated the need to buy drinking water for consumption. Also, about 3.9% women indicated not having access to affordable energy especially electricity being expensive. They also highlighted lack of access to water during summer seasons and turbid water during rainy season.

Impact of environmental degradation and climate change was a matter of concern for about 47.2% women that believed that environmental degradation and climate change has had negative impact on women in the area. Droughts and reduced water availability subsequently reduced agricultural production. Increase in temperature and frequent storms make them prone to sickness like cold, cough and eye infection. Storms, heavy rainfall inducing landslides also impact the transportation within and outside the community. Forest fires raise issues regarding air pollution and PM2.5 raising health concerns. Waste management was also highlighted as rising concern in some villages.

Need to further enhance skill building in areas including application of innovative technologies (online marketing, e-commerce, application development, data collection, conducting market survey and demand, etc.), language training, soft skills and leadership development, enhance existing vocational trainings areas, voluntary programs to encourage women involvement in area of waste management and sufficiency economy program (SEP), self-management and health and stress management.

Recommendation and Way Forward

Women empowerment and gender equality are critical to resilient recovery efforts. Globally, women are seen to be more susceptible to the consequences of COVID-19. Although women at the DTDP were seen to be ready for these challenges and used different coping mechanisms. Apart from additional capacity building in particular areas some issues need much attention such as increase in women rights, need of funds for women entrepreneur, establishment of women groups to develop skills and knowledge for all ages, access to government privilege for example Thai ID card and creating opportunities for women to have monthly income rather than daily income. Addressing the issues and challenges identified would help in empowering women and generating better livelihoods through decent work, income security and economic autonomy.

Recommended strategies based on challenges and expected outcomes to further empower women would be:

Table 14: Challenges, expected outcome and recommendations

Challenges	Expected Outcome	Recommendations
Gender discrimination	<p>Generate gender equality and inclusive growth</p> <p>Increase women freedom and flexibility in terms of mobility</p> <p>Increase in women respect and dignity</p>	<p>Create opportunities for women to take leadership roles that will encourage more women participation</p> <p>Sensitize families about the gender equality to empower women decision making</p> <p>Need for incentivize women's right to land ownership to reduce violence and equal rights</p> <p>Create the concept of "Women mate" and encourage to enrollment in SHGs</p> <p>Women against violence group</p> <p>Conduct standardized interviews and skill-based assessment (gender neutral recruitment process)</p>

Challenges	Expected Outcome	Recommendations
Unpaid care work and domestic work	<p>Reduction and redistribution of household work</p> <p>Better control on household work and resources</p> <p>Recognize value addition by women unpaid work</p>	<p>Identify and encourage working with members and role models in the community</p> <p>Establish women groups to develop skills and knowledge for all ages</p> <p>Promote flexible working to allow childcare and other duties</p> <p>Consider higher spending on childcare that can support and enhance female employment</p> <p>Increase better access to public services, child and elderly care</p> <p>Encourage open discussion on gender norms and stereotypes</p> <p>Measure the economic contribution of unpaid care work through time-budget household surveys for effective actions at community level</p> <p>Include campaigns, audio-visual strategies through youth activities and kids camp to promote effective change in attitudes towards unpaid care work</p>
Gender wage gap	<p>Increase in financial independence</p> <p>Improvement in livelihoods</p> <p>Boost women confidence</p>	<p>Close the gaps between laws, written documents and real practices by communicating the mission to eliminate gender bias and ensuring equal pay at all levels</p> <p>Women are less likely to negotiate their salaries, thus employers should encourage transparency and flexible working to reduce gender wage gap</p> <p>Increase employment security by hiring on monthly instead of daily basis</p> <p>Including pay brackets (salary ranges) can provide expectations for a particular work role and motivate women employees</p> <p>Gender wage gap is seen to widen after women have children, introducing shared parental leave policies would help parents share childcare equally</p>

Challenges	Expected Outcome	Recommendations
Access to energy and water	Access to energy and water ease the constraints on women's time and reduce drudgery	<p>Focus on improving infrastructure would reduce effort in informal unpaid work including food, fuel and water collection and other energy provision, family labor in agriculture, etc. that would benefit women in the community</p> <p>Promote solar energy, subsidy for solar pumps to well owners for underground water, encourage water harvesting techniques</p>
Impact of environmental degradation and climate change	<p>Increase in profit and livelihood</p> <p>Improve water access for human, agriculture and animal husbandry</p>	<p>Focus on climate friendly innovations by creating programs to</p> <ul style="list-style-type: none"> Study and analyze water deficiency based on human, animal and agriculture requirement (water budgeting and water treatment) encourage women involvement in area of waste management and other initiatives through sufficiency economy program (SEP) <p>Encourage availability of funds for women entrepreneurs</p> <p>Study and analyze drainage line treatment and development through water harvesting</p>
Need to further enhance skill building in areas	<p>Development of new skills aligned with change in business patterns</p> <p>Increase self-efficacy and ability to take better decisions</p> <p>Increase in bargaining power and negotiation</p> <p>Opportunities and access to new markets</p> <p>Increase in profit</p>	<p>Refine the existing training program to include new areas such as innovative technologies language training, soft skills and leadership development, self-management and health and stress management.</p> <p>Undertake skills need assessment every two years to refine and introduce new training programs</p> <p>Build capacities through education and knowledge</p> <ul style="list-style-type: none"> Awareness raising Technical and vocational skills Attitude and behavior for social transformation <p>Identify linkages with existing training providers, academic institutions and research organization</p> <p>Develop a plan for online learning</p>

The World Bank's Women, Business and the Law 2021 report indicated that women still have only three-fourths the legal rights of men, on average around the world³¹. The women, business and law index analyze economic rights and laws that affect women throughout their life beginning from their rights to mobility, workplace, pay, marriage, parenthood, entrepreneurship, assets and pension.

Thailand has taken measures in providing universal access to education, equal access to loan and credits, microcredits for women entrepreneurs to increase women's access to capital. Supporting these initiatives the DTDP has been successful in providing women a platform to learn, develop and create value at community level. These are promising steps towards achieving gender equality by eliminating poverty, creating economic progress, stimulating business growth and coping with climate change. Women involvement and participation in activities would not only develop their skills but also increase self-efficacy and better decision making which would further expand opportunities to new markets increasing financial independence and improving livelihoods.

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³¹ <https://blogs.worldbank.org/developmenttalk/women-business-and-law-2021-womens-economic-empowerment-critical-resilient-recovery>



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