

CHAPTER 1

INTRODUCTION

Myanmar – formerly known as Burma – is undergoing rapid political and social change. The transition to civilian rule, which was triggered by the May 2008 constitution and elections in April 2012 / November 2015, were a first step to an ongoing series of far-reaching political and economic reforms (UNPD, 2015). Sanctions and trade restrictions from the US and EU have been lifted, enabling cooperation which has been suspended for almost 20 years (GIZ, 2015b; Reuters, 2015).

Economically, agriculture represents the backbone of Myanmar. Agriculture contributed to approximately 31 % of the country's GDP and 20 % of the total export earnings in 2012/2013. Almost 70 % of the population live in rural areas and rely primarily on crop and livestock production. Thus, improvements of farm output critically determine the rural population's standard of living (MOAI, 2014b). Regarding Myanmar's natural resources and advantageous geographical location to produce and market a large variety of crops and horticultural products, the country is well-positioned to participate in regional and international agricultural markets (MDRI & CESD, 2013). Moreover, as a member of the WTO (World Trade Organization) and ASEAN (Association of Southeast Asian Nations), Myanmar intends to vitalize its economy by ongoing structural changes. A major part of the plan is to foster international trade on the basis of the agricultural sector (Sanyu, 2013).

The integration of developing countries in global supply chains generally contributes to stimulate economic growth in these countries (Maertens & Swinnen, 2008). In fact, horticultural products from developing countries are facing a particularly increasing demand on domestic and international markets. Studies from Southeast Asia illustrate the positive linkage between higher farm incomes, better labor opportunities and horticultural production (Weinberger & Lumpkin, 2010). However, in conjunction with these developments, higher consumer requirements concerning food quality and safety become apparent and standards (public and private) have started to play an important role.

As a result, on farm practices and whole agri-food systems are subject to substantial changes in order to integrate in modern supply chains (Colen & Maertens, 2011).

Although there are several crops in Myanmar (e.g. rice, maize and pulses) that are crucial for the national economy and farmers income (OECD, 2014), fruits, especially mango are believed to have a potential on high-value international markets (OECD, 2014). Improving fruit yields in terms of quality and quantity alike is fundamental for farmers to join emerging international supply chains.

1.1 Problem statement

Mango (*Mangifera indica* L.) is a native horticultural crop in Southern Asia. Its origins can be traced back to the Indo-Burmese region, in particular, Myanmar and Eastern India. Today it is widely cultivated in the tropics and subtropics and plays a major role for local consumption and (inter-)national trade. Commercial mango production takes place in more than 87 countries with India, China, Thailand, and Indonesia being the most prominent producing countries (FAOSTAT, 2015; Sivakumar *et al.*, 2011). In Myanmar, despite of an increasing share of land dedicated to horticultural production (for mango Central and Eastern Myanmar (Shan State) (Myo, 2009)), international trade and trade within ASEAN countries develops slowly with Myanmar and Singapore being responsible for less than 0.1 % of mango export (FAOSTAT, 2015; Myat, 2012). The Mekong Institute attributes the differences in mango export to differences in “*quality and safety of ASEAN-produced fruits [...] due to the wide diversity of systems, infrastructure, resources and capacities in the region*” (Mekong Institute, 2013a) and in particular, that those countries such as Myanmar and Lao PDR “*have struggled to develop and implement Good Agricultural and Postharvest Practices (GAP)*” (Mekong Institute, 2013a; Mitv, 2015; Myo, 2009). Currently most of the mango trade takes place at relatively low prices with China by (road) border trade as no certificates are required (Ksoll *et al.* 2013; Mitv, 2015).

Since its development in the late 1990s, GlobalGAP, a private standard originating from Europe, has evolved to the de facto standard in international supply chains. According to the Food and Agriculture Organization of the United Nations (FAO), Good Agricultural Practices (GAP) are “*practices that address environmental, economic*

and social sustainability for on-farm processes, and result in safe and quality food and non-food agricultural products” (FAO, 2007). In general, it is assumed, that GAP certifications are associated with several benefits including improved quality and safety of food, enhanced market access and competitiveness of farmers as well as a reduced non-compliance in relation with permitted pesticides and further contamination hazards (FAO, 2007). Since its introduction in 1999, the worldwide number of GlobalGAP certifications increased constantly. Moreover, different public GAP programs with varying degrees of compliance were launched such as MyGAP (Malaysia), Q-GAP (Thailand), PhilGAP (Philippines), VietGAP (Vietnam), JGAP (Japan), (AseanGAP). Most of these schemes aim to be benchmarked against the GlobalGAP in order to strengthen recognition by retailers and consumers (FAO, 2007).

In relation to the current development of a GAP program in Myanmar, the Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ) launched the Myanmar German Private Sector Development (PSD) program in close collaboration with the Myanmar Fruit and Vegetable Producer and Exporter Association (MFFVPEA) to support small and medium sized enterprises (SME), focusing inter alia on strengthening value chains for two commodities, namely tea and mango in the Southern Shan State in Myanmar (Sanyu, 2013). According to the GIZ mango is a product with very high growth potential however, poor agricultural techniques and logistics create quality problems (GIZ, 2016).

1.2 Research objectives

In order to assess, how the fruit quality and quantity of marketable fruits can be improved, this master thesis will draw on measures and structures of one of the world's top three mango exporting countries, namely Thailand (FAOSTAT, 2015), to:

1. Analyze current pre and post-harvest management techniques to produce (high-quality) mango (*Mangifera indica* Linn) in the Shan State, Myanmar (against the backdrop of international GAP measures concerning fruit quality)

2. Identify opportunities, challenges and perspectives of mango farmers in the Shan State, Myanmar

The hypotheses to be tested in this study are:

- A direct correlation between mango growing practices and fruit quality can be established based on GAP guidelines.
- Based on the *status quo* analysis, recommendations for improved pre- and post-harvest management can be elaborated.



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