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Youth and Agriculture in the Drylands – Realities, Viewpoints, Aspirations and Challenges of Rural Youth

A study from the Agricultural Dryland Areas of Midelt Province, Morocco

Final Report

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Content

Figures

Tables

Boxes

Photos

Acronyms

ALS	Agricultural Livelihood System
AR4D	Agricultural Research for Development
CRP	CGIAR Research Program
CRP WLE	CGIAR Research Program on Water, Land and Ecosystems
CRP DCLAS	CGIAR Research Program on Dryland Cereals and Legumes Agri-food Systems
DPA	Provincial Agriculture Direction of the Moroccan Ministry of Agriculture and Maritime Fisheries *(Directions Provinciales de l'Agriculture*)
EIG	Economic Interest Group (*Groupement d'Intérêt Economique - GIE*)
FAO	Food and Agriculture Organization of the United Nations
FGD	Focus Group Discussion
GIZ	German Corporation for International Cooperation (*Gesellschaft für Internationale Zusammenarbeit*)
HAFL	Bern University of Applied Sciences – School of Agricultural, Forest and Food Sciences (*Hochschule für Agrar-, Forst- und Lebensmittelwissenschaften*)
HCP	Directorate of statistics (*Haut-Commissariat au Plan du Royaume du Maroc)*
ICARDA	International Center for Agricultural Research in Dry Areas
ICT	Information and Communication Technology
IDO	Intermediate Development Outcome
INDH	National initiative for human development (*Initiative Nationale pour le Développement Humain*)
KIT	Royal Tropical Institute (The Netherlands)
NGO	Non-Governmental Organization
NOAA	National Oceanic and Atmospheric Administration
ONEE	National office for electricity and potable water (*Office National de l'Electricité et de l'Eau Potable)*
PMV	Green Morocco Plan (*Plan Maroc Vert*)
RQ	Research Question
SDC	Swiss Development Cooperation
UN	United Nations
YPARD	Young Professionals for Agricultural Development

Executive Summary

This report presents the final results of the study on Youth and Agriculture in the Drylands – Realities, Viewpoints, Aspirations and Challenges of Rural Youth, commissioned by the CRP Dryland Systems, a Research Program of CGIAR (a partnership of global agricultural research organizations). The study was organized by Young Professionals for Agricultural Development (YPARD). It was conducted in the province of Midelt, Morocco between October 2015 and May 2016 by a research team led by Bern University of Applied Sciences – School of Agricultural, Forest and Food Sciences (HAFL) with a contribution from the Dutch Royal Tropical Institute (KIT).

The study aims to providing a diagnostic analysis and investigating rural youth's realities, perspectives, aspirations, challenges, and opportunities in the selected study site in the three Agricultural Livelihoods Systems (ALS's) of dry areas, namely 'irrigated', 'rainfed' and 'pastoral'. The study further aims to obtain a better understanding of the target group so that appropriate programmatic interventions can be identified in subsequent phases of the program, with the ultimate goal of engaging youth in developing their future in agriculture. Based on this information, different options to improve the livelihoods of youth in the studied area are discussed.

Using a combination of qualitative and quantitative participatory research methods, data was collected through 106 in-depth interviews with rural youth. The study applied a purposeful sampling approach to target youth. Additionally, Focus Group Discussions (FGD) engaged youth in a participatory drawing of the 'village of their dreams'; and key informant interviews with a range of different stakeholders were carried out. Some short videos of interviews with rural youth were recorded. A final multi-stakeholder workshop was organized to present and discuss the results as well as the way forwards.

Midelt is located on a rain-sheltered plateau at about 1,500 m of altitude between the Middle and High Atlas mountains in the Northern part of Morocco, characterized by steep mountain slopes and numerous valleys. The main irrigated crops are fruit trees (dominantly apple trees), fodder crops and vegetables. The main rainfed crop is barley. Nomadic (sheep, fewer goats) and sedentary (sheep, goats, cows) forms of pastoralism are highly present.

In areas where food security is assured, prior to expressing their aspirations in their rural life and career, youth first raised the issue of unfulfilled primary needs, i.e. access to education, potable water and heath care, as well as the lack of roads and infrastructure in the surveyed villages. The issue of outmigration from rural areas is controversial and not widespread; the majority of young people in the surveyed area does not want to or feel they cannot leave their parents and families (in particular young women). About half of the youth prefer in principle to stay in their villages, but under better conditions than the present ones. The image of agriculture among the interviewed youth and across the three ALS's seems to be balanced (not as negative as in many previous studies). Some 30% of the youth interviewed see agriculture as their only source of income. For many male respondents, it is the only profession in which they feel well experienced. Female youth respondents value the peacefulness and calmness of rural life. However, young people depending on rainfed farming are the most vocal about the insufficiency or fluctuations of their income due to scarce and unpredictable rainfall. In general, young women perceive agriculture more negatively than young men. More than 70% of women (compared to the 47% of their male peers) say that agriculture is not financially viable. Another major reason for the negative perception of agriculture by young women is that the physical work required in agriculture is in their view hard and demeaning.

In term of aspirations, more than half of all young male respondents wished to successfully expand and manage their own farms for their future livelihood. Two thirds of male youth expressed the desire to stay engaged in agriculture, provided the agricultural conditions are good and life in the village improves. However, some other young men (approximately 20%) aspire to live in urban areas where they wish to find a job not related to agriculture. Young women most frequently expressed the wish of getting educated and educating their children.

They also wish to have sewing and handicraft opportunities, when undergoing the exercise of creating 'the village of their dreams'. A smaller percentage wishes to leave the villages, while some others expressed no aspirations for their future life, either due to lack of hope for change or to a self-perception of not being allowed to dream. Among the aspirations of both young men and women is the wish to form their own family and be independent from their family of origin.

A large number of youth are illiterate, they own little or no land, and only few livestock, no property, and they cannot access job opportunities offered in the surrounding areas due to a lack of infrastructure. The use of modern information and communication technology (ICT) is limited to mobile phones; internet use is not very widespread. Consequently, most youth surveyed do not experience the potential benefits of these tools (e.g. improved marketing of agricultural produce, organizational development, etc.).

Decision making structures showed that the majority of young women were very much excluded. The degradation of natural resources (such as forests, shrubs and agricultural land) and poor water management in the surveyed area strongly affect the livelihoods in all three systems. Current means of accessing opportunities, i.e. training and credit, is mainly through associations, which presently include limited youth involvement. It was also found that a variety of development entities operating in the area have programmes and funds but lack youth groups integrated into structures/association to access them, or youth with viable projects that are ready to be implemented.

Though the majority of agricultural produce is destined to the market, rather than for subsistence, value addition within the agricultural sector area is very limited. Only few youth report processing or adding value to their produce, while most youth have problems understanding the concept of value addition, which is probably a result of the lack of opportunities and exposure to this in their villages. The situation is similar for the adoption of innovations.

The 'village of their dreams' depicted by the youth's drawings is a rural place where they have a more comfortable life with their own families and farm better, rather than chasing their 'dream job' in urban areas. To support the youth's dream and help the rural youth improve their livelihoods and stay in agriculture, there is a need for governmental or non-governmental infrastructural and regulation interventions on land provision and restoration, water management, etc. Furthermore, specific training on agricultural practices targeting youth is required – including livestock management, the use of inputs, etc. and this should be made available to youth in remote villages. While more research is needed, at the same time, action is also needed as an increasing number of young people are entering the labour force every year. The results show that none of the young respondents run their own farms, but there is a clear aspiration to work on their own farm among half of them. Youth must be enabled to run own farms and in order to do this, the research team suggests that action research is carried out. Thus, activities addressing the gaps and opportunities outlined in the research should begin, while at the same time ongoing learning and continues to shape programmes through the undertaking of additional research.

In this research on youth and agriculture, the findings support the need to reiterate the heterogeneity of youth populations and the need to understand different contexts, drivers, experiences and influencers of youth in rural areas. High youth unemployment continues to be a concern among many governments and development players and while agriculture is one possible employer, efforts to attract youth to agriculture must be implemented in conjunction with broader rural development efforts. Strong youth leadership and young role models in the agricultural sector are furthermore essential, to create a wave of change among rural youth and to support agriculture as the driver of pro-poor development.

1 Introduction

The Middle East and North Africa, areas characterized by dryland systems, face some of the highest youth unemployment rates in the world (ILO 2016). Growing populations mean that increasing numbers of youth are entering the work force every year and there is concern about how already stretched national systems, organizations and the private sector will be able to absorb these new workers. This 'demographic dividend' is a challenge or an opportunity, depending on how prepared we are to engage and work with these youth. While some research has been undertaken in this field, more information is required to develop appropriate strategies, policies and programs. Youth remain a highly diverse group, with different backgrounds, drivers and experience leading to varying ideas, aspirations and challenges.

To better understand this diversity and be able to develop appropriate and effective strategies and programs, there is general consensus by professionals in Agricultural Research for Development (AR4D) on the need for more age-disaggregated data. There are few studies and data available on youth (Proctor, Lucchesi 2012) and there is a lack of recent experiential research on their aspirations (Leavy and Smith 2010) as this area remains a relatively new one for researchers and has struggled to obtain the recognition and importance it requires. Understanding the specific context of youth is critical to developing appropriate and effective strategies and programs.

The CGIAR (a partnership of global agricultural research organizations) Research Program (CRP) on Dryland Systems (http://drylandsystems.cgiar.org/) was an early leader in confronting the challenges of youth targeting and engagement within the CRPs. This study falls under Intermediate Development Outcome (IDO) 5 of the CRP Dryland Systems on: *better access to, and control over, productive assets, inputs, information and market opportunities for women and young people so that they can obtain a more equitable share of increased income, food and other benefits* as well as being part of one of the cross-cutting themes on youth. The youth strategy[1] for the Dryland Systems CRP outlines the risks of neglecting youth and reaffirms their importance in the research, which is particularly relevant to drylands. The youth strategy identifies knowledge gaps, which are addressed by this study, specifically those on aspirations of rural young women and men and places priority on studying these aspirations.

YPARD (Young Professionals for Agricultural Development, www.ypard.net) became involved in the early stages of the Drylands Systems CRP, providing viewpoints at planning workshops and insight on possible youth focused and researchable activities. A proposal was developed for research on better understanding youth aspirations and challenges in dryland areas.

Aspirations enable us to better understanding the life trajectory that young people want to take. It enables marginalized groups to exercise 'voice' and enables them to reflect on ways to change their situation (Appadurai 2004). Aspirations are also considered as 'hopes and dreams' not necessary embedded in reality (Leavy and Smith 2010) but can also be what people expect to achieve (MacBrayne 1987).

Agriculture is not the first career choice by many and young people cannot be forced into the sector, but have to want to choose it. By collecting information on aspirations, we can match these with specific AR4D targeted programs.

1.1 Rationale – youth strategy development process in the CRPs

The CRPs are collaborative programs among the international CGIAR research centres. Among these, the Drylands Systems CRP was the first to identify the critical importance of focusing on and targeting youth in AR4D by developing a youth strategy, providing "a framework for effective youth engagement across the dry areas – helping to position youth as

[1] http://drylandsystems.cgiar.org/sites/default/files/YouthStrategy.pdf

'agents of change' and drivers of new agricultural innovations"[2]. This study is guided by the CRP Drylands Systems youth strategy, in particular its Objective 1, Research Question 2, which focuses on youth aspirations and how they are affected by trends in social norms, cultural and religious values, class characteristics, and economic incentives (CGIAR Research Program on Dryland Systems 2015).

The study further aims to obtain a better understanding of the target group so that appropriate programmatic interventions can be identified in subsequent phases of the program, with the ultimate goal of engaging youth in developing their future in agriculture.

Youth are now considered to be important stakeholders in the CGIAR research program's second phase[3] of international cross-sector agricultural research, as well as in international climate change negotiations.[4] The guidance notes for the second phase CRP proposals indicate that each CRP is required to have a youth strategy. While the youth strategies are limited in scope and are not required to have significant financial backing, it provides the imperative for each CRP to examine how it will begin to address youth in its programs.

While the Drylands Systems CRP will not be renewed in phase two, portions of it will be included in other CRPs, in particular, Dryland cereals and legumes agri-food system (DCL) and WHEAT. DCL's recently developed youth strategy recognizes the need for a "multidimensional approach that combines education, strengthening and modernizing agricultural infrastructure, access to land and policies that support the more immediate employment opportunities in small-scale agriculture" (CGIAR Research Program on DCLAS 2016). It is suggested that Flagship Program 1 and/or Flagship Program 5 integrate the findings of this study to inform program interventions and youth strategy development.

The WHEAT CRP will seek to "progressively address youth-focused research questions and plans to develop a strategic framework for engaging with young people and youth-related issues" (CGIAR Research Program on WHEAT Agri-food systems 2016).

The CRP on Water, Land and Ecosystems (CRP WLE) recently asked "why do we need research on youth in agriculture and natural resource management?" and stated that "there is too little knowledge about youth in agriculture to support an answer with evidence. We can stress youth agility, sustainability and numbers on youth (…) but further analysis is difficult because we don't have enough data on the complex relationship between youth and agriculture in particular contexts."[5] At the CGIAR meeting, "Mobilizing Youth in Agriculture" in 2015[6], it was emphasized that the research agenda should include more rigorous impact assessments of pilots, surveys to understand occupational choice and age-disaggregated data on program beneficiaries for all programs.

1.2 **Objectives of the study**

The study aims at providing a diagnostic research and identifying rural youth' viewpoints, aspirations, options, challenges and opportunities in the selected sites in dryland systems.

In doing so, a better understanding of their Agricultural Livelihoods Systems (ALS's) and the factors that have implications on their choices and decisions (e.g. decision to stay or migrate), and the overall agricultural development is sought. On that basis, the potential role of AR4D to improve youth livelihoods can either take the role of supporting youth perspectives or ensuring AR4D activities are better informed by youth views and aspirations, improving their livelihoods.

[2] A youth strategy for agricultural development in the drylands: http://drylandsystems.cgiar.org/sites/default/files/YouthStrategy.pdf
[3] http://www.cgiar.org/our-strategy/research-on-gender-and-agriculture/
[4] See the CGIAR Gender Network site: http://www.cgiar.org/our-strategy/research-on-gender-and-agriculture/gender-network/
[5] http://wle.cgiar.org/thrive/2015/12/01/how-should-we-engage-youth-agriculture
[6] http://www.cgiar.org/consortium-news/announcing-key-workshops-to-mainstream-youth-in-agriculture-and-private-sector-engagement-in-future-cgiar-work/

The study intends to gain further insights on rural youth (in the selected site) in dryland agricultural systems, namely i) pastoral (nomadic and sedentary), ii) irrigated, and iii) rainfed, based on their appreciation of their current situation and fill the knowledge gap on youth's aspirations in agriculture.

An additional objective of the research is to develop and test a methodology to collect qualitative and quantitative data through a pilot research in the selected site, for further adaptation, replication and scaling-up and scaling-out.

1.3 Scope of the study and research questions

The study is designed to:

- Identify and analyze the challenges and opportunities being faced by rural youth in the selected sites in dryland systems.
- Study the ALS's and the factors that influence both the overall agricultural development of the study site as well as the choices and decisions (e.g. to remain in rural areas or to migrate to urban centers) made by the rural youth in the area.
- Understand what rural youth in the study site see as their potential options for the future (near- and long-term) and the support they need to achieve these

Based on the above, the study will also endeavor to discuss the entry points for (and/or potential role of) AR4D in order to contribute to improving livelihoods of young people.

For the determination of possible research entry points that can contribute to filling existing knowledge gaps about the realities, perceptions and aspirations of youth in agriculture, a review of relevant literature and previously conducted research was done during the initial phase and continuously over all stages of the project. Partly building on these findings and also taking into account the discussions held with experts who engage in the field of gender and youth studies, four main research questions (RQ), each with a range of specific sub-questions to be addressed (Annex 1), were formulated:

RQ 1: What are youth's realities of agricultural livelihoods in dryland systems in the study area?

RQ 2: What are the livelihood aspirations of rural youth in agricultural dryland systems in the study area? Do the aspirations they have correspond to the perceived and existing options in their respective ALS?

RQ 3: What are the challenges and opportunities encountered by rural youth in agricultural dryland systems in the study area according to their perceptions and to those of other stakeholders?

RQ 4: What are the implications of rural youth's aspirations, challenges and opportunities for AR4D interventions in the study area?

2 State of the art in youth and agriculture research

2.1 Limitation of existing studies about youth in agriculture

Already as early as in 1969, a study by Pascon and Bentahar (1969; (Bossenbroek et al. 2015; Pascon, P., Bentahar, M. 1969) recognized the importance of the role of youth in agrarian change but the literature has largely excluded youth as change agents in agriculture. Scientific literature around youth in agriculture is limited. Very little quantitative or qualitative research has been carried out on youth issues in agriculture (Proctor, Lucchesi 2012; Paroda, R., Iftikhar A., Bhag, M., Saharawat, Y.S. and Jat, L.M. (eds) 2014).

An online analysis of the scientific services of Web of Science conducted by the authors in November 2015 (Figure 1) unveiled that despite more research has been done in recent years on the topic of 'youth' in different relevant (to this study) fields, research activities still

remain on a very low level. Particularly the topic of 'rural youth' has seen a sharp increase in terms of scientific publications in recent years (however from a very low basis in the mid-2000s), while the interest of the researchers, according to the conducted analysis, has been relatively lower for the specific topics of 'youth aspirations' and 'youth and agriculture'. These results clearly point out that, despite having gained some more interest in recent years, youth research (be it related to rural areas, aspirations, and in particular to agriculture) still requires more serious and systematic attention of the scientific community.

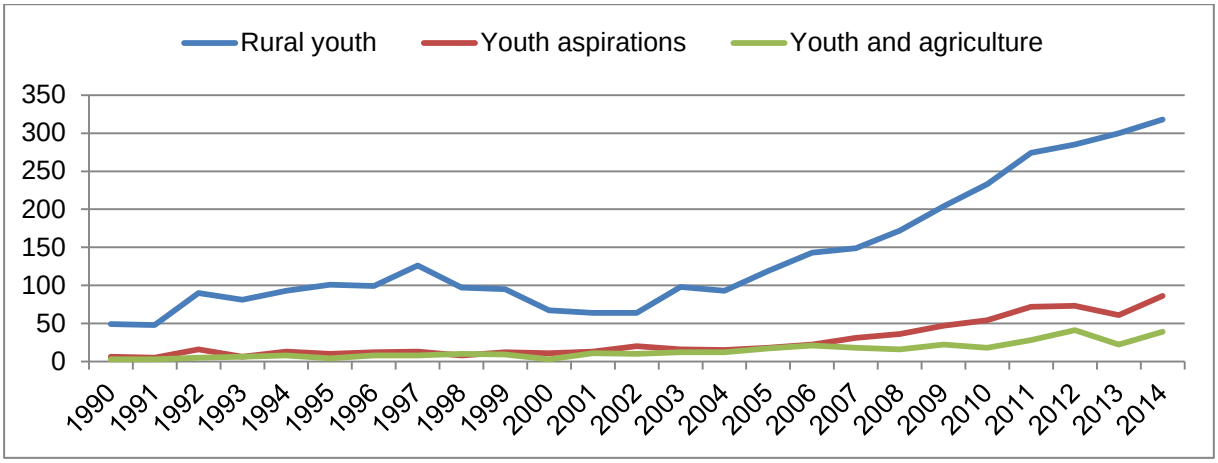


Figure 1: Web of Science online research on the topics of 'rural youth', 'youth aspirations' and 'youth and agriculture'
Source: Web of Science (2015)

National statistical databases on employment, agricultural labor (total or by sub-sectors or value chain nodes) or land and livestock holdings rarely disaggregate data by age (adult/youth/child) or gender. The thematic area of 'youth' is unexplored terrain with little evidence or best practice to draw from, despite many arguments that highlight the root causes of the apparent disinterest of youth in the sector (Bennell P 2007, 2010). To exacerbate this, efforts to accelerate agricultural growth and improve food security have often been separated conceptually from efforts to create jobs and opportunities for young people (Filmer and Fox 2014). Limited attention is given to shaping young women and men's futures in the agricultural sector and few development projects and programs successfully reach them, despite efforts by multilateral organisations (Hivos 2014). Even household surveys carried out by CGIAR or other researchers usually fail to collect data on youth. Case studies on 'vulnerable' or 'excluded' groups in agricultural systems tend to focus on women, indigenous peoples or child laborers (Pyburn et al. 2015).

2.2 Current state of research on the aspirations of youth in agriculture

There is a dearth of recent, empirical studies on their aspirations, and even less for young people in rural areas (Leavy and Smith, S. 2010).

Aspirations are the process of forming the goal, but achieving that goal requires varying levels of intervention. Understanding aspirations can help to identify more attractive forms of agriculture (such as engagement along the whole value chain, i.e. in post-production activities, and value addition, or connection to innovative, eco-information technologies), which could fit within modern day aspirations of young people. By collecting context-specific information on aspirations, we can match aspirations with relevant programmatic interventions. Aspirations are context specific. The CGIAR cross-center Gennovate program includes aspirations research for youth as part of their data collection instruments, although the results of data analysis are not available yet[7].

[7] https://gender.cgiar.org/collaborative-research/gennovate/

Scattered studies about the different realities and aspirations of rural youth can be found from a number of countries and regions where a negative image of agriculture among the youth appears. Studies conducted in Tanzania (Anyidoho et al. 2011; Juma 2007) and Ethiopia (Anyidoho et al. 2012; (Tadele, Ayalew Gella 2012) found that a career in agriculture is not appealing for many young people, while farming is mainly considered as a 'dirty activity', and thus 'an employer of the last resort'. A negative view of farming was also reported from another research in Tanzania (Kritzinger 2002) on teenage girls working as laborers on fruit production. The bad image of the work in agriculture was linked to low salary as well as to the social problems linked to this activity, such as alcohol abuse, social isolation, low status and lack of privacy. From these studies, agriculture does not appear to be the first career choice by many young people and the sector suffers from a poor image. The changing aspirations of young people are arguably one of the primary reasons that so many are turning away from farming as their choice of occupation.

Nevertheless, Anyidoho et al. (2011) state that these studies do not provide sufficient empirical evidence for the claim that young people in sub-Saharan Africa as a region are choosing to reject agriculture wholesale. Another approach is used in the case study of young people in Ghana's cocoa sector, which looks at how differences in young people's backgrounds and experiences with cocoa influences their expectations of the role of cocoa farming in their future. This particular case study looks beyond simply young person's perceptions, but rather the structural factors behind these perceptions (I.e. differences in young people's education, socioeconomic situation of their family, and experience with agriculture) (Anyidoho et al. 2012).

Appadurai (2004) explains that aspirations enable marginalized groups to exercise 'voice' and reflect on ways to change their situation. This makes them very important tools for inclusive research. Thus, understanding aspirations is important to see how different aspects of the agricultural sector can fit into existing opportunity spaces' (Leavy and Smith 2010) or 'life projects' (Bossenbroek et al. 2015). Aspirations must be further understood within the constraints of the individual and researchers must be mindful of how these can impact desired futures. Leavy and Smith (2010) indicate that social influences on aspirations are more powerful in rural areas, hence the inclusion of 'influencers' in the study.

In Asia, additional research was undertaken in Indonesia on youth aspirations and attitudes to farming futures, which did not show that entrepreneurial and innovative farming was among youth's desires. However, it is recognized that this was context specific and it would likely to be different in other parts of the country (White 2015). Other studies in the Sahel targeting youth aspirations in agriculture were published in a 2015 Cahiers Agricultures journal. This includes a study by (Bossenbroek et al. 2015) in Morocco's Saiss region, which found that agrarian transformations were closely linked to aspirations. Another study in Tunisia on youth aspirations (Collard et al. 2015) found that a strong entrepreneurial spirit emerged from asking youth of their dreams, but it was not clear how they would overcome the barriers to the youth achieving these dreams (i.e. lack of water for intensive agriculture).

2.3 **Who are 'youth'?**

A first challenge in engaging youth in agriculture is defining 'youth'. Definitions vary (Leavy, Smith 2010) from 12 to 35 years in some countries and, in others, as young as 8 years old to beyond 35 years old (FAO 2002). The UN considers youth to encompass people between 15 and 24 years of age and the African Union extends those parameters from 15-35 years of age.[8] Flynn and Sumberg (2015) report youth savings initiatives targeting people of up to 35 years of age. However, in addition to age, defining factors of youth include: capacity to engage in labour markets; marital status; gender; legal status; education; and independence from senior household members. 'Youth' generally refers to the transitional period from childhood to adulthood where new roles and responsibilities are taken up (Fussel 2006; Var-

[8]African Union's *African Youth Charter* http://africa youth.org/sites/default/files/African%20Youth%20Charter%20(English).pdf

gas-Lundius and Sutti 2013). While capacity to engage in labor markets is often taken as an indicator of adulthood, changing patterns of education mean that entry into labour markets may happen later than 24 years old and; only using this as an indicator for adulthood can be misleading (Proctor, Lucchesi 2012). The transition from child to youth to adult is non-linear and multi-dimensional; some aspects of adulthood are linked to age, others with status, education, independence and work situation. Collectively, this illustrates the complexity of the 'youth' as a social category (Pyburn et al. 2015).

In the present study the youth age range 15 and 24 year old adopted by the United Nations is expanded to 15-30 for the specific research subject (working on agricultural related field), based on the CGIAR Research Program on Dryland Systems (2015).

2.4 **Youth as a heterogeneous group**

The social category of youth suffers from assumptions and knowledge gaps. Heterogeneity amongst youth lies in age differences, young women and men's backgrounds and the norms defining their abilities and opportunities. This means that in some contexts 'youth' can include ex-child soldiers, refugees, mothers, orphans, physically and mentally disabled men and women; a multi-faceted category of people (Pyburn et al. 2015). "For instance, what associates an ethnic-minority, poorly literate, married male small-scale farmer in rural India with a university-graduate bachelorette seeking formal employment in an African city? Does a 21-year-old male parent and household head in decent employ have needs in common with a single, unemployed 30-year-old female living with parents?" (Mader 2016). Therefore, policies and programs should not be pushing youth in a certain direction, but should create a diversification of options. It is very important to understand in which context, young people are placed in, i.e. in East Asia there is an aging rural work force and few young women want to marry farmers while in Central Asia, young men migrate to Russia (until recently) and women remain behind on farms (Brooks 2015). Not only countries, but also regions in one country could be highly different in terms of views and opportunities available for youth.

2.5 **Growing youth population**

Irrespective of the defining parameters of youth, it is clear that youth is a growing proportion of the world's population. Currently, Africans aged between 15 and 24 years old account for more than 20% of its total population. These numbers are growing: over 40% of the continent's population is under 15 years old (Zuehlke 2009). But this phenomenon is not unique to Africa. In 2007, the global population of young people aged twelve to 24 was already at 1.3 billion, projected to peak in 2035 (Bennell 2007). While the most rapid increase is foreseen in sub-Saharan Africa (SSA), Southeast Asia's youth population is also booming. Worldwide, people between 15 and 24 years of age will account for 14% of the population in 2050 (FAO, CTA, IFAD 2014).

2.6 **Rural youth in Morocco**

In Morocco, to achieve the aspirations and reach success in life is a real challenge for the rural youth, who often barely have access to productive resources (land, water, capital). Though youth is a heterogeneous group, rural youth in Morocco (like most global youth), view success as one's capacity to obtain their own, stable income that would allow them to meet their needs, be independent, and form a family. Income generation for rural youth in the research site is indeed heavily dependent on their access to productive resources. Hence, in most of the cases, young people still live and completely depend on their parents (usually their fathers), recognized as head of the household and are most often the only ones owning the land and taking decisions on the farm. These parents are then the only link between the youth and the public institutions and the research and development interventions, which still do not fully recognize the productive role of youth. Nevertheless, in recent years, some research and development agencies showed an increasing interest in rural youth by targeting

them in development and cooperation projects (e.g. a GIZ – the German public organization for international development cooperation – project,[9] FAO study[10]). Though Bouzidi et al. (2015) state that development agents who interact directly with farmers are fully aware of the active role of the youth in agricultural and rural development in Morocco, the present preliminary results show that there is still a long way ahead to fully consider and involve rural youth into development interventions in rural Morocco.

2.6.1 **Rural and agricultural development in Morocco**

In order to improve the agricultural sector's performance, the government launched the *Plan Maroc Vert* (PMV, Green Morocco Plan) in 2008, to support both small and large farms in becoming more efficient and market oriented. The PMV's goal is to increase agricultural production and diversity, and reduce rural poverty and rural-urban inequality. However, rural youth are generally cut out of any kind of assistance, as they often cannot have access to financial support from programs like INDH (*Initiative Nationale pour le Développement Humain*) or the PMV as they lack one of the most important required resources, the land (Bouzidi et al. 2015). Ghanem (2015) argues that supporting small family farmers requires the introduction of new social safety net programs based on cash transfers, and by building new inclusive economic institutions that represent small farmers and ensure that they have a voice in the policymaking process. Reducing poverty may enable more rural youth to access education beyond the primary level[11], which in turn enables access, in principle, to better education, thereby helping the person to be better equipped to find his or her way out of poverty.

2.6.2 **Youth and education in Morocco**

Much has been written about the unemployment rate among university graduates and the high numbers of Moroccans who do not finish secondary school. However, the statistics are even worse when looking at rural areas. The challenge is great: more than 95% of young children now have access to primary school education, but less than 15% of first grade students are likely to graduate from high school (Abinader 2015). Much of the educational gap can also be attributed to the difficult economic conditions in rural and overcrowded urban areas – communities that do not have a sufficiently strong local economy to sustain jobs for parents and young people that allow for savings and re-investment in household goods, services, and education.

Despite a long-term commitment to education and human rights, and the progress that has been made, the illiteracy rate[12] in Morocco remains alarmingly high: the 2014 general census indicates a 32.2% overall national illiteracy rate. Literacy rates look marginally better for youth as shown in (Table 1) in the period 2008-2012.

Table 1: Literacy rates in Morocco (2008-2012)

Literacy rates, Morocco (2008-2012)	**%**
Adult literacy rate (%)	67.1
Youth (15-24 years), male	88.8
Youth (15-24 years), female	74

Source: (2015; 2015))

[9] GIZ project: 'Promoting youth employment in rural areas'(2015-2017), https://www.giz.de/en/worldwide/33842.html

[10] FAO study TCP/SNE/3502 : 'Promotion de l'emploi agricole décent des jeunes en milieu rural dans les pays de l'Union du Maghreb Arabe'

[11] Only when the school cycle is completed with a sufficient level, which is not always the case among the youth in the surveyed sites

[12] Adult literacy rate - Percentage of persons aged 15 and over who can read and write.

Illiteracy is more prevalent in women and rural populations. Some estimates claim that five years post 'Education Decade', illiteracy rates for rural women and girls in Morocco remain as high as 90%, though official sources put the figure at 54.4% (Mouttaki 2015). There remains a startling division in literacy rates between Morocco's urban and rural populations. In many ways, the urban/rural achievement gap may not be so surprising: Rural villages can be many miles away from schools often without rural roads connecting the villages to the road network; temperatures are sweltering in summer and can be freezing in winter; main roads are often crowded and in poor shape; no public transport exists and private transportation is out of reach for many poverty-stricken families. Another issue in rural areas is the cultural constraint that favors males over females in terms of access to education and advancement. The unique obstacles faced by many rural women and girls – who enroll in lower secondary education at a rate of 26% compared to 79% for rural boys – are considerable (Mouttaki 2015). For traditional Moroccan families, it is simply not acceptable for young girls to walk to and from school alone, or to live away from home and attend school if a daily commute is too much to handle.

For the rural Midelt province, the illiteracy rate for rural woman is considerably higher than the national average for rural woman (63.8% compared to 54.4%, Table 2) although current disaggregated data indicating the youth literacy/illiteracy rates are not available from the 2014 general census conducted by the Haut Commissariat au Plan (HCP 2014):

Table 2: Education and literacy in the rural areas of the Midelt province (in %)

Indicator	Male	Female	Both
Illiteracy rate	40.7	63.8	52.1
% of Population aged 10 + years, literate in reading and writing literacy, per language			
Arabic only	32.4	38.2	34.6
Arabic and French only	38.3	34.1	36.7
Arabic, French and English	8.2	5.7	7.3
Other	21.1	22.1	21.5
Education rate of children aged 7 to 12 years	88.6	84.9	86.8
Level of studies			
None	46.9	65.2	56.0
Preschool	1.4	0.8	1.1
Primary	30.0	25.3	27.7
Secondary (junior high school / middle school)	14.4	5.9	10.2
Secondary (high school / vocational school)	5.3	2.0	3.7
Superior	2.1	0.8	1.4

Source: HCP (2014)

3 Methodology

The present study was commissioned by the CRP Dryland Systems and YPARD, and conducted by a study team led by Bern University of Applied Sciences – School of Agricultural, Forest and Food Sciences (HAFL) with the contribution of the Dutch Royal Tropical Institute (KIT) and other experts (Table 3).

The methodological framework of the research was developed and revised at several stages, and included a broad range of different tools. The methodology development played an important role in the research as it was one of the main outputs. The specificity of the research site strongly influences the results on the reality and aspirations of rural youth, so it is crucial to replicate and scale out the research in different countries and sites. To do this, it was important to develop and test a set of tools that can be adapted and applied for further research in the same field.

The methodology applied a multi-perspective participatory approach, meaning using different tools such as individual interviews with the youth and as well as Focus Group Discussions (FGDs) to triangulate the information and enable the youth to express themselves in different

ways (orally, through drawing, and discussing their ideas with other peers). The approach also included complementary opinions about youth realities from other actors (key informants/influencers), to triangulate the information once more, and get a more holistic understanding of the issues. The participatory approach forms the basis of the approach to empower the youth to speak out and share their outlooks in an atmosphere of openness and trust.

The data collection took place between October 2015 and March 2016. The survey included 106 individual in-depth interviews, 6 Focus Group Discussions (FGDs), 34 key informant interviews, in 25 villages located in 9 different communes in the Midelt Province.

The field data collection was a joint collaboration between the research team and the local team from the association *Al Amal pour l'Aide des Enfants aux Besoins Speciaux.* Before the actual collection of data, the tools were throughout discussed with the local team, adapted to local culture, tested and reviewed. Almost all the interviews and Focus Group Discussions were conducted jointly by the research team and local team members (Table 3), who well managed translation and cultural issues, to guarantee the best quality of data collection.

Table 3: Study team and field research participants with their respective functions/roles in the whole study

	Name	**Local function/role**
Commissioning of the study	Karin Reinprecht (CRP on Dryland Systems)	Commissioning of the study
	Courtney Paisley (YPARD)	Framing of the study, draft
Study team	Alessandra Giuliani (HAFL)	Research coordinator: Planning, organization, Field Research, analysis, draft
	Sebastian Mengel (HAFL)	Field Research, analysis, draft
	Ingrid Flink (KIT)	Field Research, draft
	Oliver Oliveros (Agropolis Foundation)	Senior advisor, draft
	Mariana Wongtschowski (KIT)	Senior advisor, draft
	Sarah Dettwiler and Pascale Wälti (HAFL)	Case study in Zagora (see annex 4)
Local coordinator	Nicole Perkins (Planet H_2O)	Coordination in Morocco, Field Research, draft
FAO local consultant	Malika Chkirni	Field Research
Local team	Aomar Melkaoui (president of the Association *Al Amal*)	Coordination of enumerators and facilitation of villages selection
	Salah Boudrine	Local organization, logistics
	Abdelatif Abdelaali	Enumerator
	Ben Youssef Aït Daoud	Enumerator
	Abdellatif Ouzougagh	Enumerator
	Mohamed Ouled Cherif	Enumerator

3.1 **Literature review, research questions and in-depth interviews with rural youth**

For the determination of possible research entry points that can contribute to fill existing knowledge gaps about the realities, perceptions and aspirations of youth in agriculture, a review of relevant literature and previously conducted research was done during the initial phase and continuously over all stages of the project. Partly building on these findings and also taking into account the discussions held with experts who engage in the field of gender and youth studies, the research questions were developed as well as the rest of the methodology.

3.2 **Selection of the research site**

The following criteria were defined for the selection of the research site:

- Dryland Systems CRP target country (and possibly also of the future CRP DCL AFSAFS target country where plans are at a more advanced stage, to build on existing projects (and possibly a CG site integration country + or ++).
- Presence of the three relevant ALS's: pastoral, irrigated and rainfed agriculture.
- Expertise of the research team and existing synergies with other projects.
- Pro-activeness of YPARD country representatives and the local YPARD network.
- Security reasons for involved team members.
- Existing contacts in the country and region for the identification of a local team; presence of ICARDA (International Center for Agricultural Research in Dry Areas) and YPARD staff.

The selected research site could not meet all of the above criteria to the fullest. However, the identified region fulfilled the most relevant criteria to conduct a pilot study and test the methodology.

Specific information about the research site is given in the following Chapter 4.

3.3 In-depth interviews with rural youth

According to the sub-questions identified for each of the four main RQs (Annex 1: Research Questions), a comprehensive questionnaire for in-depth interviews with young men and women in the target site including closed, semi-open and open questions was developed covering the respondents' characteristics (education, occupation, land ownership), realities of their rural lives, challenges and solutions, dreams and aspirations (Annex 2: Guideline for in-depth interviews with rural youth

The survey applied a purposeful sampling approach (Palinkas et al. 2015), using the criterion-i strategy during the visit of a village (*douar*), which served to select respondents that met the required, predefined criteria, facilitated by the local association knowledgeable about the surrounding rural villages of Midelt.

As such, the relevant criteria to participate in the survey were:

- Age: young men and women aged 15 to 30 years.
- Being involved in agricultural activities themselves or living in a household that depends on agriculture as the main source of income.
- Not more than one youth from the same household.
- Balance among respondents living in the three ALSs and between gender

A great value has been placed to the collection of sex-disaggregated data in the three ALSs, equally including youth of different ages, social backgrounds, etc. As regards to gender, the inequality appears that it is still more difficult to get young women to participate in an interview, despite the strong efforts undertaken made to achieve a gender-balanced dataset (Figure 2). Reasons include that sometimes young women (in particular the married ones) were not expected to be left alone for an interview with unknown people, probably as consequences of patriarchal societal structure (Elliott 2014).

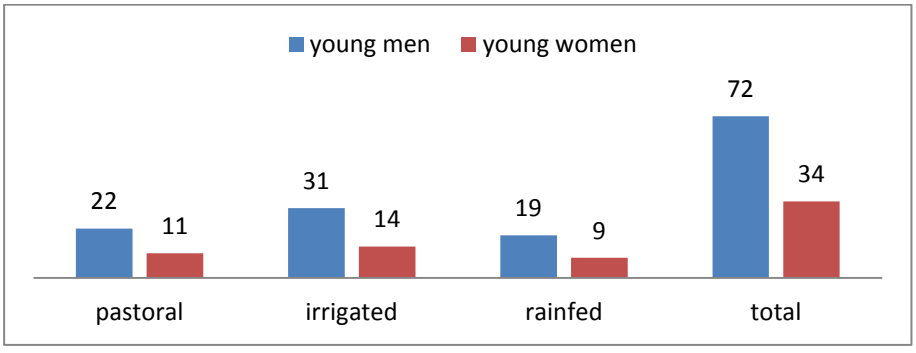


Figure 2: Number of individual interviews: Breakdown per ALSs and gender

106 youth in-depth interviews took place, each lasting about one to 1.5 hours.

3.4 **Focus group discussions (FGDs)**

FGDs were used as a methodological tool to triangulate information between respondents to get a deeper understanding of key issues that were observed during the interviews. For the FGDs a creative, interactive approach was used which asked youth to visually report their challenges and to propose suitable solutions in a collective drawing called the '*village of their dreams'*. FGDs were gender-specific – either with a group of young men or women. Six FGDs were carried out with the following breakdown (Table 4).

Table 4: Number of focus group discussions (FGD) by gender and agricultural livelihood system (ALS)

	Pastoral	**Irrigated**	**Rainfed**
Young men	0	1	2
Young women	2	1	0

3.5 **Interviews with key informants and influencers**

Different types of key informants were identified through a stakeholder analysis, who directly or indirectly influence youth in their thinking and acting. Interviews were carried out with a number of those *'influencers'* who directly or indirectly impact rural youth, namely parents, teachers, current and possible employers (in agri-business), association leaders, and urban youth, who had migrated to urban areas (Table 5). Representatives of national agencies (governmental, non-governmental and private sector) as well as external development partners active in the field of agricultural development and agricultural research in Midelt Province in and outside of the study region were also identified as influencers, and approached to understand their perceptions of issues that relate to rural youth.

Table 5: Type and number of key informants and influencers interviewed

	AR4D/ government	Teachers	Parents	Associations	Agribusiness	Urban youth	Total
Female	2	2	3	0	0	1	8
Male	5	2	2	3	10	4	26
total	7	4	5	3	10	5	34

3.6 **Multi-stakeholder feedback and validation workshop in Midelt**

In order to share the research findings with a relevant and diverse audience formed by policy makers, youth involved in the survey, and development actors in the region, a multi-stakeholder workshop was organized in Midelt in May 2016 with a dual purpose of i) restitution and discussion of results; ii) exchange and discussion among different stakeholders (rural youth and influencers from the surveyed villages, urban youth, associations, private sector, government representatives, multilateral and bilateral international organizations) about possible interventions with respect to youth in agriculture.

3.7 **Videos**

Short videos of interviews with rural youth were recorded to visualize their realities and aspirations and served as qualitative records. In addition, YPARD and the local team created a short video (two minutes) to be used for social media purposes to further engage youth and other stakeholders in a dialogue about the challenges and opportunities of youth in dryland agriculture. The video was first shown at the workshop in Midelt.

3.8 **Analysis of the results: tools**

Quantitative data analysis was performed with the support of Excel and SPSS tools, while the great amount of qualitative records was analyzed using qualitative research tools, such as content analysis and MAXQDA.

4 Information about the research site

4.1 **Geographic situation and classification**

The Province of Midelt is located in the Meknes-Tafilalet region between the Middle and High Atlas mountains in the Northern part of Morocco; geographically Midelt lies at 32° Northern latitude and 4° Western longitude (NOAA no date; Figure 3). While the town of Midelt is situated on an elevated plain at 1,500 m above sea level, steep mountain slopes and numerous valleys characterize large parts of the province. In the Köppen-Geiger climate system Midelt is classified with the typology Bsk, a mid-latitude dry steppe (de Bie, C. A. J. M. 2007; Hijmans et al. 2005). The climate diagram in Figure 4 clearly shows the semi-arid climate conditions, particularly during the warm season respectively the vegetation period from May to November.

Figure 3: Red circle indicating the research site in Morocco, located in between the High and Middle Atlas
Source: Ezilon.com Regional Maps (2015)

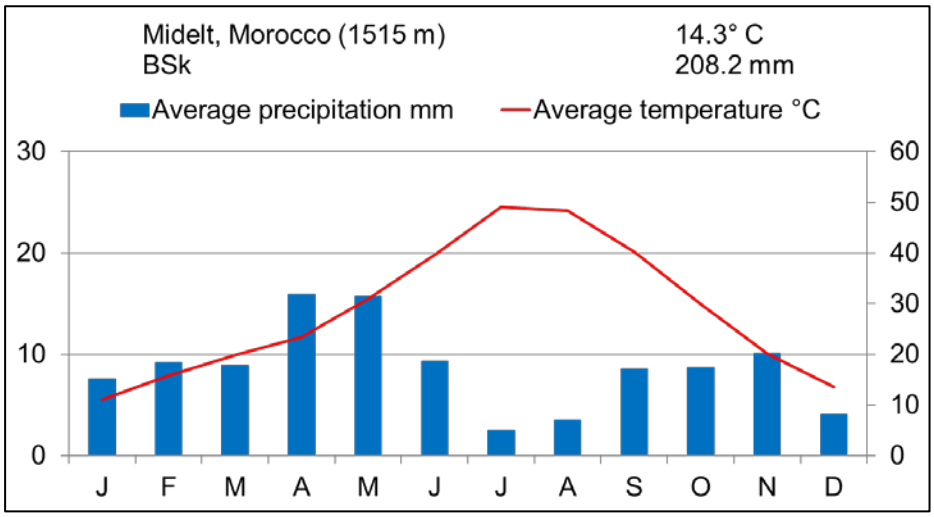


Figure 4: Climate of Midelt, Morocco
Source: NOAA (no date)

4.2 Temperature and precipitation and hydrology

The climate is semi-arid with a notable cold winter season. The annual average temperature lies at 14.3° C (NOAA no date).The daily minimum average values range from 0.6° C in January to 16.3° C in July and those of the daily maximum of 12.1° C in December to 32.6° C in July. The minimum monthly values can drop to -5 ° C in December and January, while maximum monthly values reach 35° C in July and August. The average annual temperature ranges are around 40° C, which is considerable. In Midelt, precipitation is very low throughout the year. According to data of the US-American National Oceanic and Atmospheric Administration (NOAA), average annual rainfall in Midelt is about 210 mm, with a maximum in April-May of 31.9 mm and 30.7 mm respectively. Two dry periods are noted: July and August are typically dry, with monthly rainfall of about 5 mm and another dry period in December with 8 mm of rainfall (ONEE 2013).

The Midelt area is part of the hydraulic basin of the Moulouya that extends over 70,910 km^2. It covers the sub-basin of the Moulouya, which drains the waters of the eastern Rif and the Middle Atlas to the west; the High Atlas to the south; Kert, the basin in the province of Nador; Bou Arfa basin in the Figuig area; and the Moroccan side of the Wadi Kiss and Isly basins (ONEE 2013).

4.3 Agricultural production

Fruit trees (very dominantly apple trees), fodder crops and vegetables are the main irrigated crops that were found to be grown. The main crops in rainfed farming were observed to be barley and some wheat as well. Nomadic (more sheep than goats) and sedentary (sheep, goats, cows) forms of pastoralism are highly present. Bee- keeping plays a certain role too, though this activity seems to be still not yet so widespread among farmers. As the landscape declines in altitude and the climate gets milder, more Mediterranean fruit-bearing trees such as olives, almonds and apricots dominate.

4.4 Surveyed site

The 25 villages in 9 rural communes that were visited to conduct the survey were spread throughout the province of Midelt and varied considerably in landscape, micro-climatic conditions, as well as in other regards such as access to infrastructure, public services, etc. An overview of the communes and the villages that were visited in the course of the field research is given in Table 6. A map of the province of Midelt is depicted in Figure 5.

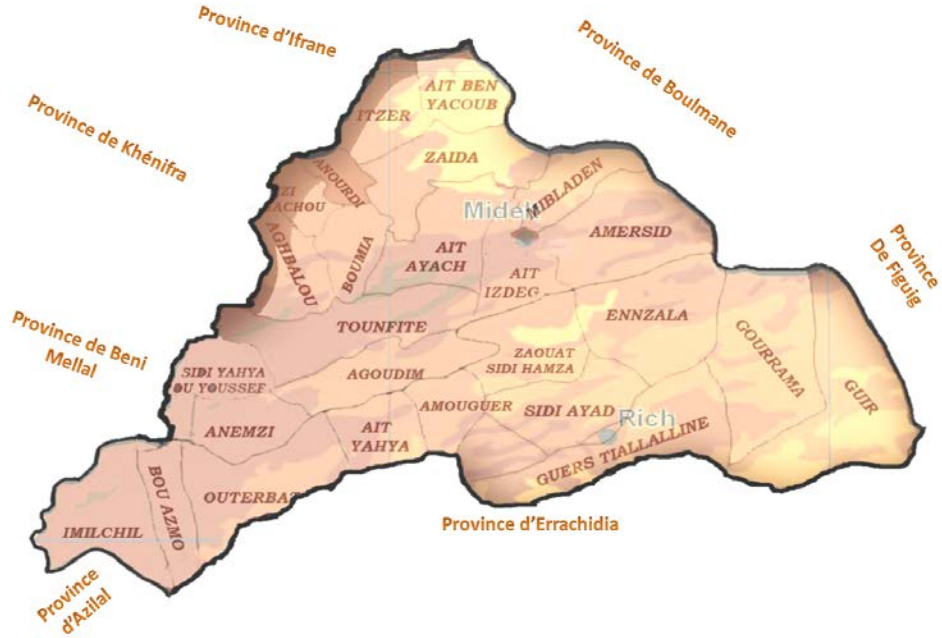


Figure 5: Communes in the province of Midelt, Morocco
Source: FAO (2015)

Table 6: Villages (*douars*) visited during the fieldwork

Rural Commune	Village
Aghbalou	Aït Boulmane
	Ouahi
Aït Izdeg	Assaka
	Berem
	Flilou
	Igrouane
	Tatouine
	Tissouite
Amersid	Taourirt
	Titourmas
	Zebzat
Boumia	Ait Moussa Oaouali
	Arma
	Boumia
	Friden
	Ighlan
	Ufrid Nboumai
Itzer	Sehb Rwa
Tanourdi	Aït Said Ouhddou
	Targot
Tounfite	Aït Ben Yahya
	Aït Brahim Ouichou
	Aït Lahri
	Ait Ouchchen
Zaïda	Aït Ylousan
Zaouat Sidi Hamza	No douar, nomadic

4.5 **Characteristics of villages (*douars*) visited**

Even though differences between the douars that were visited in the course of the two-week fieldwork were obvious, some important points and characteristics had been repeatedly observed and can be summarized as follows:

- Local populations perceive the availability of all-weather roads as a life-link for economic development, health and education.
- Access to the villages was almost exclusively on unsealed dirt roads, sometimes as far as 10 kilometers until the nearest paved rural road. Since the majority of the villages visited are located in a hilly or even mountainous landscape, dirt roads often traversed difficult conditions at considerably changing altitudes, and through terrain that is subject to regular flooding. During winter months and after heavy rains, snow and mud make these dirt roads entirely impassable.
- The lack of transport infrastructure was shown to be a major economic constraint faced by the people living in more remote places, particularly hindering access to agricultural inputs and livestock feed, market activities throughout the year (livestock) and especially during and after the time of harvest (vegetables, cereals, fruit).
- Difficult road conditions mean that teachers from outside the village do not regularly show up. The villages generally lack secondary and vocational schooling possibilities; only primary schools, if any at all, were present locally.
- The absence of hospitals or health centers was often pointed out to be a significant problem under the given difficult road conditions, particularly for pregnant women, the elderly, and others requiring urgent medical care. During the winter and rainy season, tractors and donkeys or mules provide the only potential means of transport for medical access.
- Many of the villagers reported to have an ancestral background as nomads. Over the generations some of their ancestors settled down in suitable areas such as valley floors, establishing a sedentary lifestyle with fruit, vegetable and cereal cultivation and sedentary pastoralism. However, given the topographical setup of the region, land for cultivation is limited, mostly in narrow valleys.
- Tourism only plays a minor role. Some villages get small revenues from mountain tourism, mainly during the summer months.
- As was experienced during the fieldwork, extensive landscapes, particularly in the mountainous regions, are highly degraded by deforestation and soil erosion: Large parts of the landscape around the villages are highly degraded by flood erosion, predominately due to an unsustainable use of natural resources such as trees, shrubs, and tree roots that have been collected from the wild for domestic firewood and for sale; deforestation was observed to be a major issue. This has a negative impact on farming land and greatly affects the livelihoods of people in all three ALS studied.
- A potable water system is, in the majority of all cases, not in place. The water supply comes from local wells and other sources. A few cases reported that water is only available from places farther away. Upstream water use and pollution (waste water, from the use of agricultural inputs, among others) was observed to be a problem, particularly for those downstream suffering from low water quantity and quality.
- Irrigated farming systems mainly rely on the use of furrow irrigation using the tradition seguia system of open irrigation canals typical in the Maghreb. Given the regional climate, these rudimentary systems involve substantial water loss through evaporation and infiltration. Irrigation infrastructure was often observed to be in a bad condition, though some (newly built) concrete irrigation canals could be seen too. In some places drip irrigation was widespread.
- Electricity supply in most villages was through connection to the national network. In some villages not connected to the public electricity network, decentralized systems such as solar panels provided limited supply.
- Houses are traditionally built with adobe. Only a few concrete buildings were seen during the field research. Strong weather exposure and the lack of a financial means to re-invest has, in many cases, lead to major leaks, degradation and collapse in the building structures, affecting housing and public infrastructure such as schools, social centers, etc.
- Youth and other villagers often mentioned the absence of local associations. However, even if associations or cooperatives were reported to be in place, their existence was often described as de facto ineffective due to different reasons (e.g. no activities, bad management, etc.).

5 Findings: Results from individual interviews with the youth

5.1 Key observations from the villages

Basic needs are the priority

- *Poverty.* Among the young rural people surveyed, there was the issue of *perceived poverty and lack of possession*. Interviewed youth see themselves as 'poor', or specifically 'resource poor'. We think that this perception is due to their realization of 'not possessing much' or 'not possessing anything', namely no land (nomadic herders) or very small patches of land (in the case of irrigated cultivated land, which belongs to the parents/family), very few animals, no owned houses, no bank accounts, or no savings. The perception of poverty may also be related to the comparison with the near surrounding urban areas. Interviewed young people, even when they were married and had own children, still live at their parents' houses. They strongly wish to have their own small house not to be shared with all the members of the family of origin. Furthermore, nomad herders are completely marginalized by other people as they are illiterate, and they are banished by the farmers because their animals graze on the farmers' land and ruin their produce.

"I know that I will never get married as nobody wants to marry a poor nomad herder without a house" Pers. Comm. with young male nomad herder from the village of Tatouine

"Agriculture here is not enough to make a living, I need to take up any work far from the farm, whatever helps to earn a little. Agricultural activities are concentrated only in one to two month(s), and us, young men, are at the risk of getting into drugs or becoming thieves, as other opportunities lack." Pers. Comm. with young male from rainfed system from the village of Ait Brahim Ouichou – Imtchimen)

"We live with animals, we live like animals"
Pers. Comm. with mother of a young male nomad herder

Photo 1: Young nomadic herder with grazing sheep and goats (Photo: S Mengel)

- *Lacking education*. The interviewed young people mentioned that reaching a certain level of education is one of their first aspirations in life. They suffer from too little education they receive in their villages. Most of the children and youth in the village have access to primary education (Table 7). However, the access to primary schools is most often limited to broken buildings, and the absence of teachers and teaching materials, low quality of teaching instructors, as well as the lack of interest from parents to check on their children's' school attendance. In some villages where the school is more than one kilometer from the house, children are threatened, particularly during winter months, by cold and snow, darkness, and wild animals on their way to school. The secondary schools are in nearby urban centers, and thus inaccessible for youth due to a) lack of time, as parents require their labor on the farm), b) lack of roads and means of transport to reach the schools, c) lack of basic education received in the rural primary schools to enter and to follow secondary school curriculum, d) traditional expectations for girls whereby parents do not want their daughters to live in students residences outside the home e) lack of capacity at the secondary school for additional students. The situation in the surveyed villages is similar to other parts of rural Morocco. Morocco has been suffering for several years from a very weak education status. Global monitoring located Morocco in 143rd place out of 164 countries (UNESCO 2014). Besides the formal education, the *Education Non-Formelle,* provided by associations and NGOs, plays an important role given the country's drop out and illiteracy rate. However, the non-formal education is predominately available in the urban centers and thus difficult access for those we interviewed.

Table 7: School system in Morocco

Education	School/level	Age from	Age to	Years	Notes	Project coding
Primary	Primary School	6	12	6	Primary school education is compulsory	Primary
Secondary (1)	Basic education (L'Enseignement Fondamental)	12	15	3	Certificate/diploma awarded: Certificat d'Enseignement Secondaire	Secondary
Secondary (2a)	General Secondary (L'Enseignement Secondaire)	15	18	3	Certificate/diploma awarded: Baccalauréat	High school
Secondary (2b)	Technical secondary	15	18	3	Certificate/diploma awarded: Baccalauréat Technique	High school
Vocational	Technical	18	20	2	Certificate/diploma awarded: Brevet de Technicien Supérieur	Tertiary
Tertiary	First university degree	*	*	2	Preparatory phase	Academic
Tertiary	Second university degree	*	*	4	Leads to the award of the Licence/Maîtrise /Diplôme (4-5 years total including preparatory phase)	Academic
Tertiary	Third university degree	*	*	2	Certificate/diploma awarded:Diplôme d'Etudes Supérieurs (DES), Diplôme d'Etudes Supérieurs Approfondies(DESA)	Academic

Source: Classbase (2012) * Not relevant

- *Lacking infrastructure.* The surveyed rural youth reported a lack of basic infrastructure as one of the major constraints in their villages. Though the surveyed villages are situated only 10 to 60 kilometers from urban centers, rural youth are isolated as paved roads are missing. After heavy rains these few roads are not accessible. Almost all the interviewed

youth do not own a vehicle, so reaching the urban areas, where hospitals, secondary schools, markets, and wage labor opportunities lay is problematic. Lack of basic health care in the village is also reported among the major constraints in the rural life. Hospitals and clinics are difficult to reach due to poor roads and lack of transportation. Lack of water in the houses is also reported by the interviewed youth as a great limitation in their everyday life in the rural villages. Concerning building or repairing a school or a road, or the housing of very low paid state-employed teachers, the notion of State responsibility figures prominently and can culturally act as a handicap to initiative-taking, aside from financial issues.

"We need healthcare in the villages; I saw my friend's mum dying while she was giving birth as she could not reach a hospital in time" Pers. Comm. with young male rainfed farmer from the village of Aït Lahri

Photo 2: Rural villages are isolated from the access to infrastructure (Photo: I Flink)

5.2 **Respondents' characteristics: age, household size and marital status**

About one third of the 106 interviewed youth from all three ALSs were young women; the remaining two thirds were young men (Figure 6).

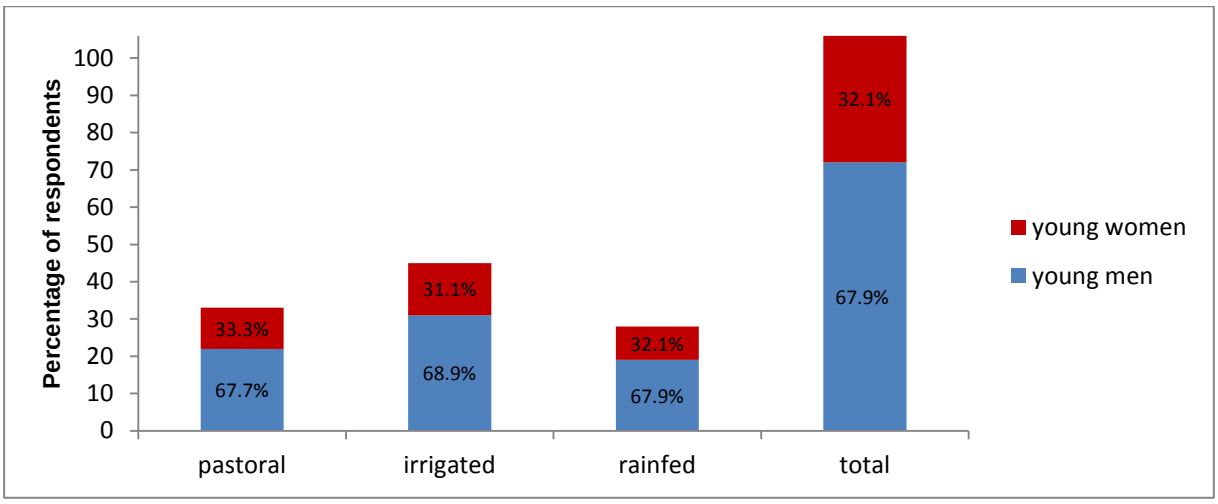


Figure 6: Interviewed rural youth distribution per ALS and gender

The respondents' age ranges from 15 to 30 years old, with an average of 24.24 years old. Frequencies of age are shown in Figure 7.

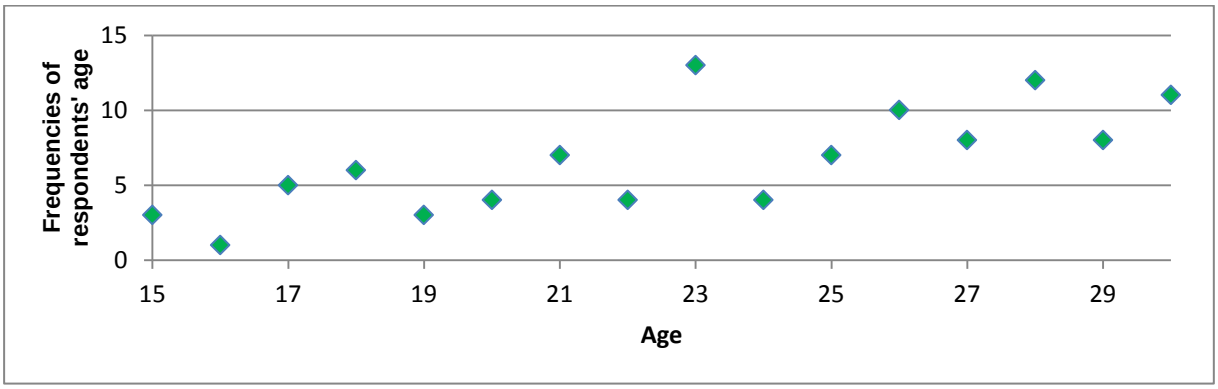


Figure 7: Frequencies of respondents' age (x=age; y=frequencies of respondents)

On average, the household size of the interviewees was 7.71 persons (with a slightly higher size of households of youth from pastoral system (7.88 members). Only 5 interviewees (less than 5%) live on their own or with their own family, meaning couple and own child/children. The remaining 95% of interviewed youths live with their parents and extended family (grand-parents, brother/sisters' family, etc.). This depends on the fact that the rural youth are still dependent on their parents and their income does not allow them to have their own house and be independent.

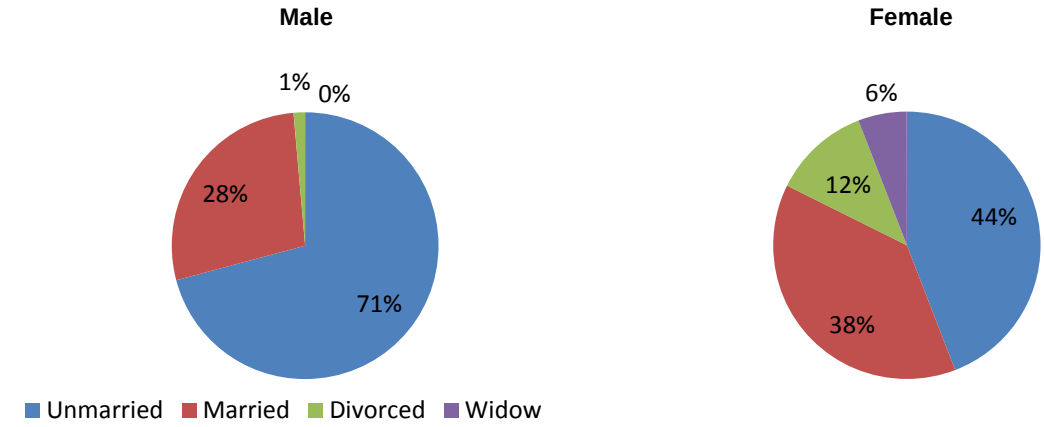


Figure 8: Percentage in the marital states of respondents (according to gender)

Among the interviewees, there is a higher percentage of married young women (Figure 8) compared to the male youth. Among young women, 12% were divorced (4), and three out of four had at least one child.

The age of married young women is lower than that of married young men (between 23 and 28 for women, and between 27 and 30 for men. The youngest respondents were unmarried girls aged 15-17. Among the respondents were also divorced women aged 23-27, and widow women aged 26-30 (Figure 9).

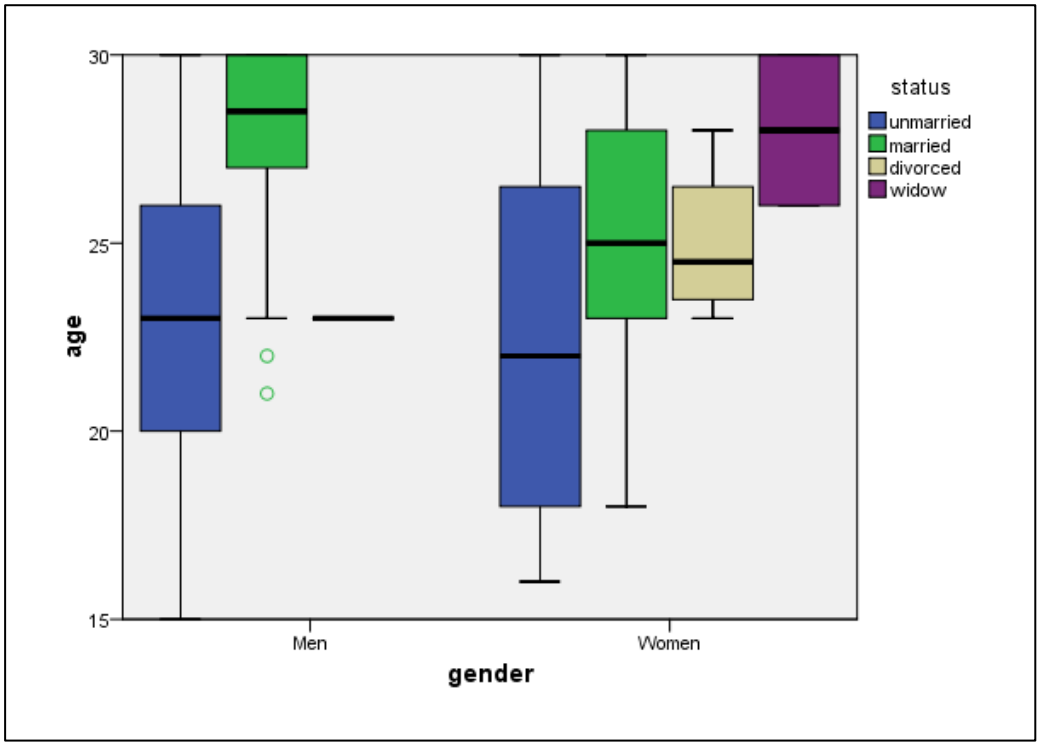


Figure 9: Clustered box plot of gender, age and marital status among the respondents

'I was obliged to get married as my mother got sick and we needed assistance in our household living in a tent' Pers. comm. with 25-year-old men from pastoral system from Boumia village

Most of the interviewed rural youth had no children (70.7%), with a very small percentage (15%) having two or more children. The young people who had children were aged 21 to30 years. No relation appears between the number of children and the different ALS's.

5.3 **Level of education**

The level of education refers to the following Table 8.

Table 8: Simplified table on the education system in Morocco

Level of education	Age
No education (not attending any school)	
Primary education	6-12 year old
Secondary – certificate of *d'Enseignement Secondaire*	12-15 year old
High school – *Baccalauréat*	15-18 year old
Higher education (academic) - university degrees	>18

Among the surveyed rural young people, the majority (43.4%) was found to have primary education, followed by a certificate of secondary education (25.5%), and lastly by the illiterate

youth (20.8%). A small part of interviewed youth had achieved high school certificates (5.6%) and only 4.7 % (equal to 5 respondents) had attended higher education.

Differences among youth from different ALS's and among gender exist. Figure 10 and Table 9 show that the highest number of illiterate youth is found in pastoral systems (almost 40%). The young people who could attend higher education institutes, like university, come from the three systems, and they are sporadic cases.

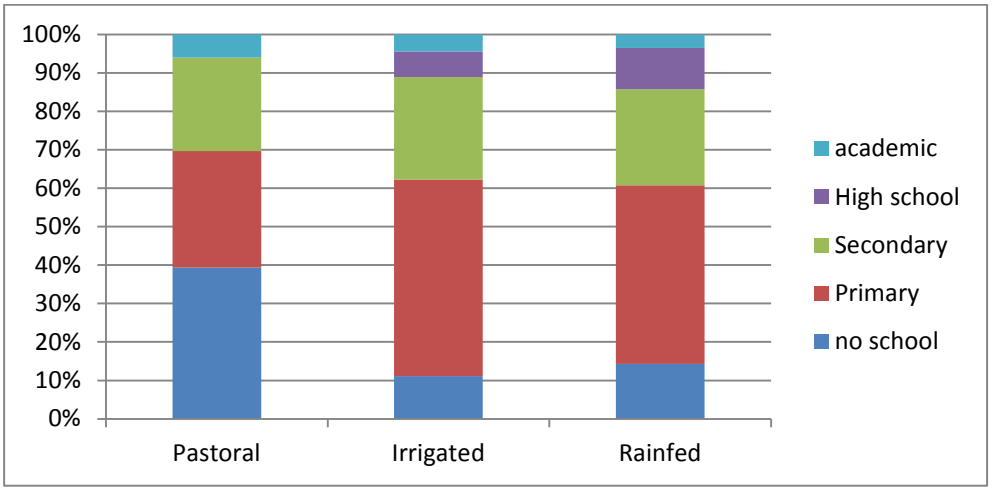


Figure 10: Percentage in education level per ALSs

The young people who could attend higher education institutes, like universities, come from the three systems, and they are sporadic cases.

Table 9: Frequencies of interviewees' level of education in different ALSs

ALSs * education Cross-tabulation							
		Education					Total
		No school	Primary	Secondary	High school	academic	
ALSs	Pastoral	13	10	8	0	2	33
	Irrigator	5	23	12	3	2	45
	rainfed	4	13	7	3	1	28
Total		22	46	27	6	5	106

Among the respondents, young women across the ALSs had a higher rate of no (formal or informal) school attendance (26.4% comparing to the 19% of the young men). Young men with secondary education were also found more frequently than female peers in our sample (Figure 11). However, in the small group of young people with an academic degree, 4 out of 5 youths were women.

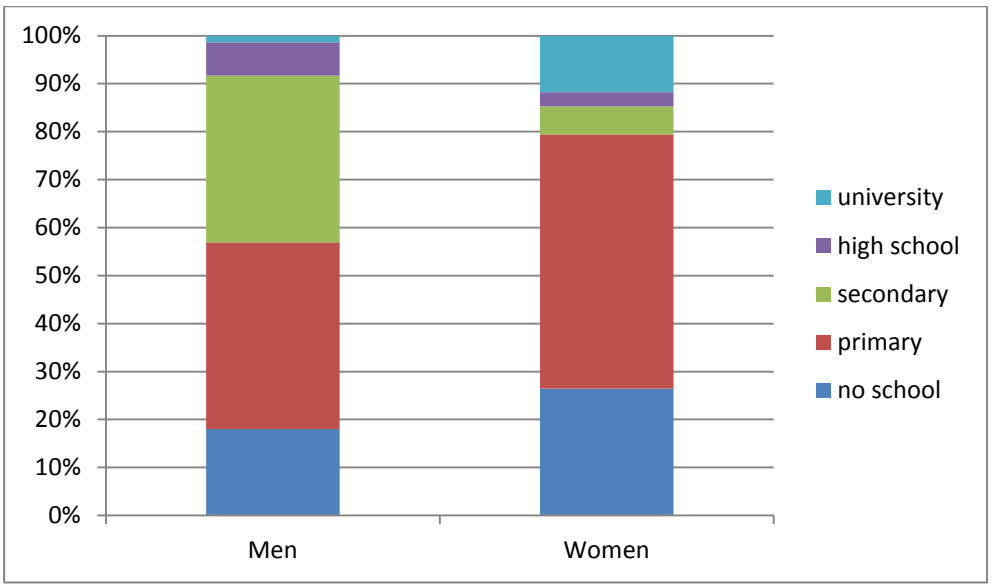


Figure 11: Percentage of educational level per gender

Youth who could attend academic education were rarely found. However, in our non-random sample we found two women with high level of education, both from sedentary pastoral systems. *"I am trying to find a job as a lawyer, and I wish to own a land in my village to cultivate apples, have refrigerated storage, have different breeds of sheep with somebody taking care of them and send my children to school".* Pers. Comm. with a young woman from the village Assaka, who studied for a 3-year-university degree in law (Bac +3)

5.4 Livelihoods and main occupation

5.4.1 Main occupation

The livelihoods of rural youth in the surveyed site rely on different income generating activities and occupation. The occupation categories reported in the in-depth individual interviews were:

- Working on the family farm;
- Sedentary and nomadic herding;
- Collection of wild plants (medicinal and aromatic);
- Working as labourer on a farm;
- Running an own agribusiness;
- Working as labourer at an agribusiness;
- Other activities.

The main source of to earn their living is the work on the family farm (54.7%), followed by sedentary and nomadic pastoralism and by working on other farms as laborers. The results show that in none of the three ALSs the youth run their own farms (not the family farm) (Figure 12).

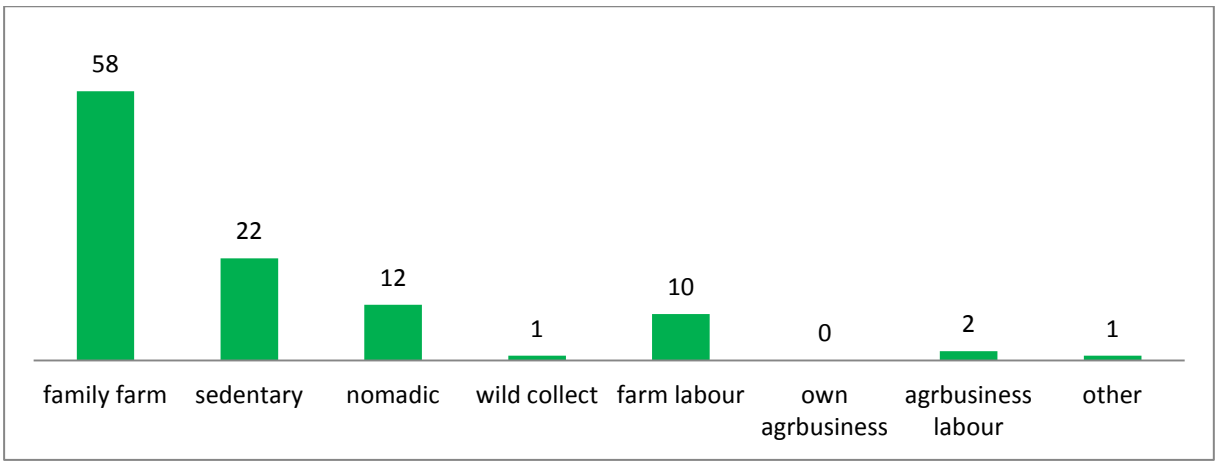
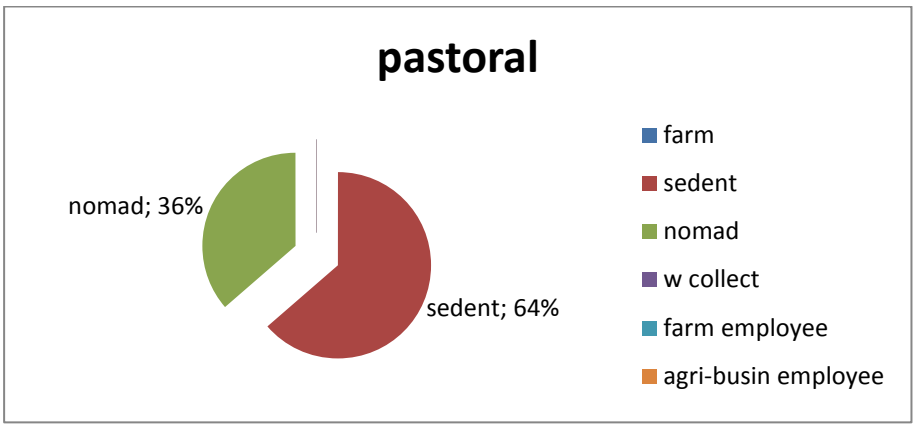
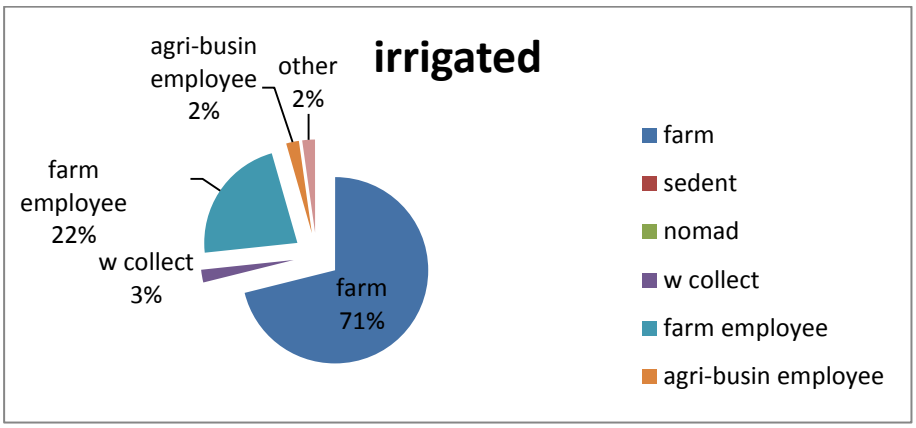


Figure 12: Frequencies of youth per reported main source of living

Though the collection of wild plants was reported only by one young woman as the main income generating activity, this activity was mentioned as a potential opportunity by key informants, in particular for the young women.

Looking at the differences in the three ALSs, in the pastoral system the principal youth occupation is obviously the nomadic and sedentary herding, while in the irrigated system, the main occupation of more than two thirds of the interviewed young people is the work on their family farms, followed by working as laborer at other farms. In rainfed systems, more than 90% of youth work on their family's farm as main occupation, with the exception of a young man relying on sedentary herding (Figure 13). For the remaining few youth one young lady relies mainly on the collection of wild plants (irrigated system), one young man is employed in an agribusiness (accountant in a big apple production and processing company) and a young woman as a shop assistant in an agricultural input shop (respectively in the irrigated and rainfed system). In the irrigated system, one young man's main occupation is in a construction company in the town of Agadir.





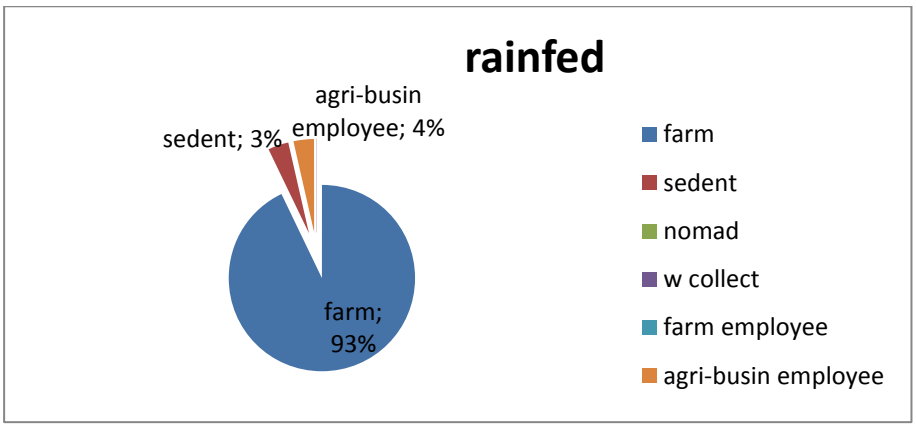


Figure 13: Main occupation of rural youth in the three ALSs

5.4.2 **Second and third source of income**

The majority of youth combine different activities to earn their living. Only less than 20% (17.9%) of the surveyed young people rely on one activity only, most of them being nomadic herders. The most common combination is working on the family farm and sedentary herding (33%). 19% of the youth relying on the work on their family farm, they also work as labourers in other farms. 7.5% of young men have a second source of income, and 10% a third one - not related to agriculture - such as (mainly seasonal) work as construction workers, painters and drivers. Only 2 young women reported to have an additional activity not related to agriculture (i.e. maid).

5.4.3 **Agricultural activities**

As shown in Figure 14, direct participation in farming activities generally appears to be lower among young women, whilst young men seem to have a larger direct engagement in agriculture. For all interviewed youth and the analyzed values, it can however not be excluded that respondents replied incompletely, e.g. not mentioning activities that they are involved in on an irregular basis or to a small extent only. Also, it is important to note that between the types of work there may be a certain level of redundancy, e.g. if youth had not explicitly mentioned being involved in harvesting but instead expressed a broader set of activities such as the cultivation of land.

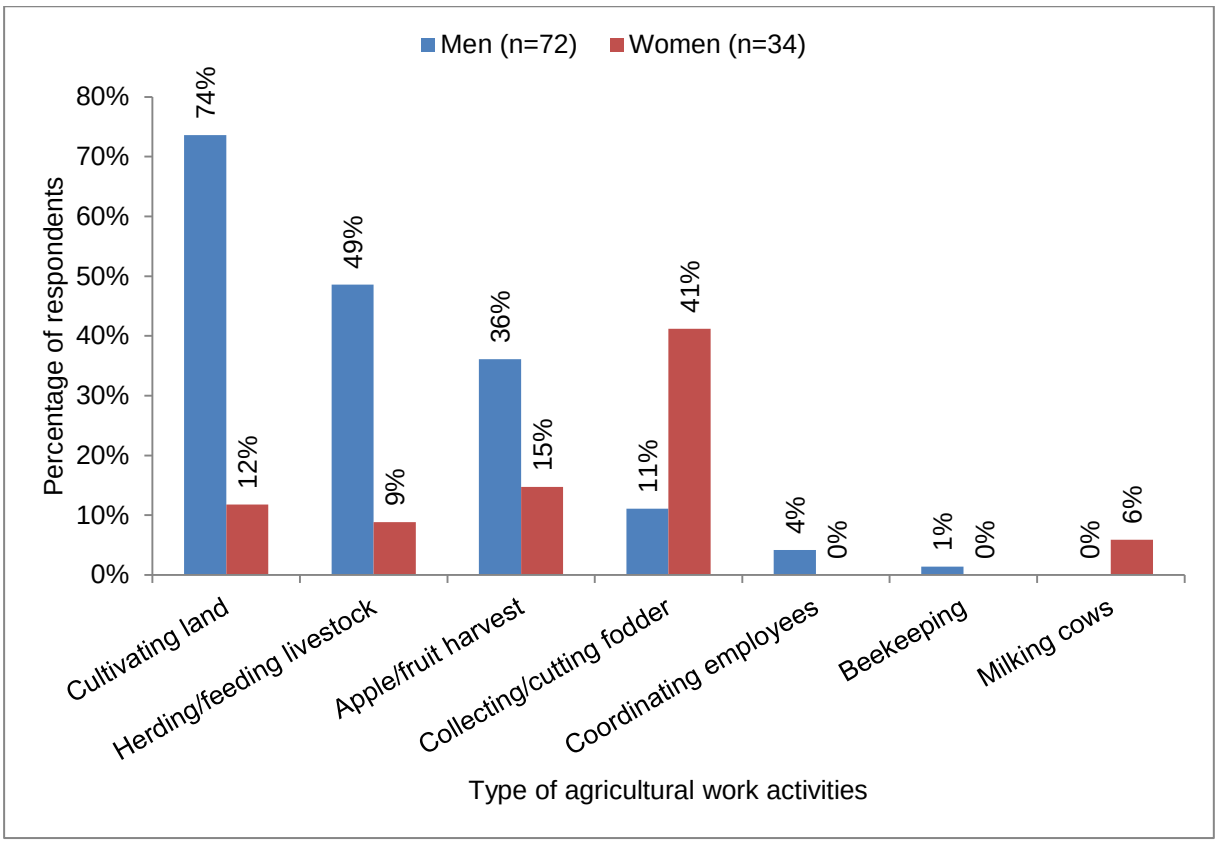


Figure 14: Agricultural work activities of interviewed young men and women

Among the young women that were interviewed, the main involvement in agriculture was stated to be the collection and cutting of fodder for livestock. Only relatively few female youth reported to be involved in the cultivation of land, the herding of livestock, harvest activities or the milking of cows. Young men's main agricultural activity was clearly found to be the cultivation of land and handling all sorts of livestock-related activities; although the collection and cutting of fodder for sedentary livestock is a task primarily handled by their female peers. Harvesting apples and other fruit was also found to be an important youth activity. Across all mentioned agricultural activities, both young men and women frequently stated they help out at other farms if possible when they are not fully busy with their own work.

5.4.4 **Other work activities**

In parallel to their work in agriculture, many of the interviewed youth reported to be involved in other occupations which may have no or an indirect link to farming only. Figure 15 clearly shows that the main non-agricultural occupation of young men is the seasonal migration – over the winter months – to urban and peri-urban centers for construction work; both male and female youth stated that viability of agricultural/rural life often requires men to leave their families for a certain amount of time during the cold season with no work or limited work opportunities to subsidize the income that they achieve with their agriculture.

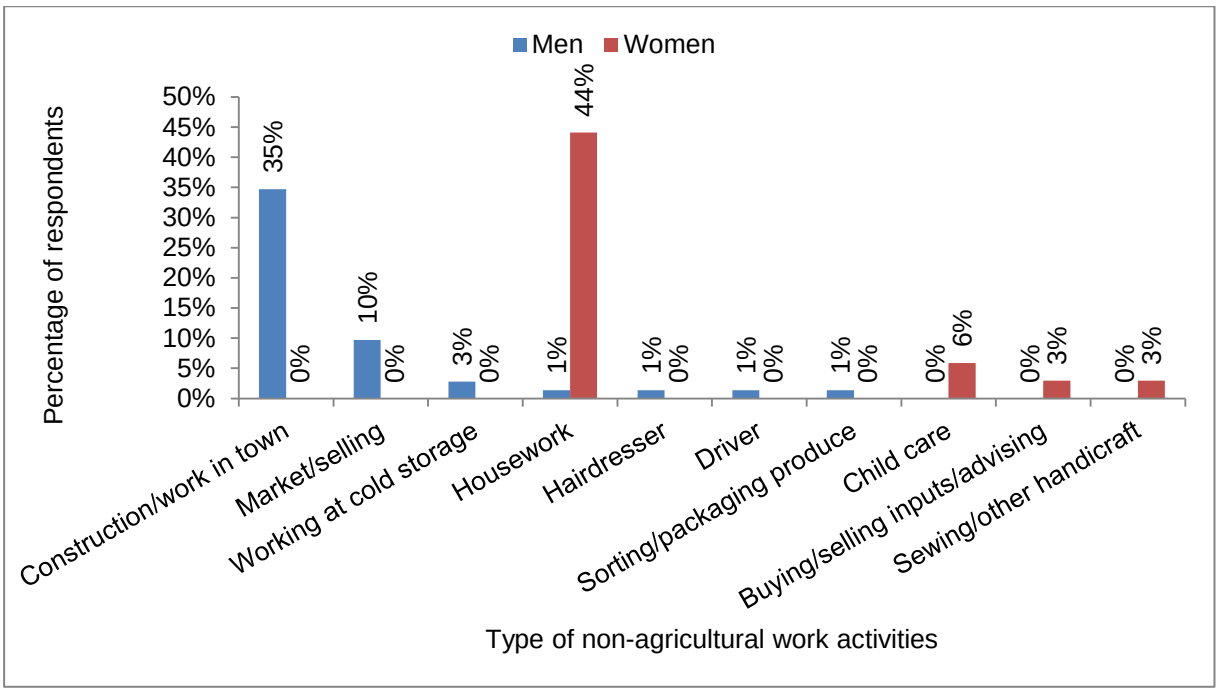


Figure 15: Non-agricultural work activities of interviewed young men and women

Young women's main non-agricultural occupation is clearly the handling of all housework-related activities (though without a salary). Seasonal migration for work is not very typical for female youth; two young women (6% of the 34 interviewed female youths) did however state to seasonally spend time in other places to work in child care.

5.5 Land ownership and market-subsistence production ratio

The vast majority (88 out of n=106) of the interviewed youth stated to have access to own agricultural land within their household, only 18 youths responded to have no access to own land. Considerable differences do however exist between the type of land that youth and their households have access to. As shown in Figure 16, land ownership is most often limited to rather small plots for irrigated land, with youth either owning less than one hectare or one to five hectares of land. Few of the interviewed youth own more than five hectares of irrigated land. Most interviewed youth with rainfed land (41 total) own between one and five hectares, and a relatively higher number also own larger plots between five and even more than 15 hectares.

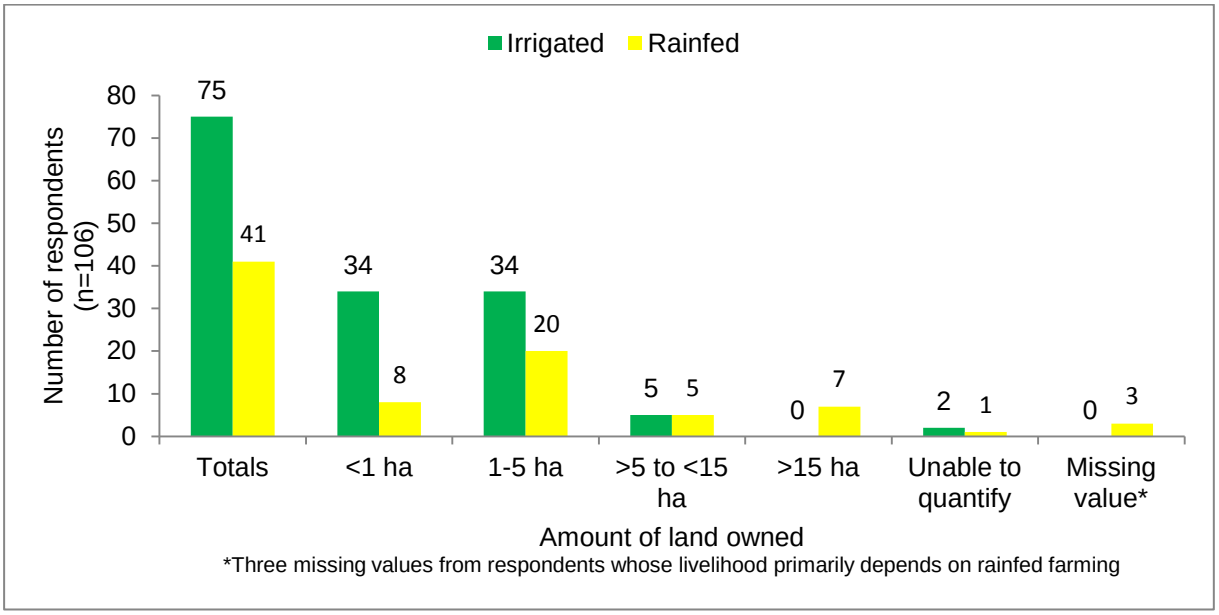


Figure 16: Land ownership among surveyed youth by agricultural livelihood system

Interviewees across all three targeted ALS's reported to have a relatively strong market orientation for their produce (Table 10).

Table 10: Market-subsistence production ratio

ALS	Market production share	Subsistence production share
Pastoral (n=33)	87%	13%
Irrigated* (n=45)	86%	14%
Rainfed (n=28)	66%	34%
Total average (n=106)	81%	19%

*Five missing values from respondents whose primary income depends on irrigated farming

Although these figures remain indicative as a considerable number of interviewees reported rather vague estimations rather than precise figures, it seems that youth involved in rainfed farming produce a relatively lower share of their goods for the market and more for their household subsistence.

5.6 Value addition activities

Value addition activities in agriculture were rarely mentioned by the interviewed youth, despite clearly targeting this important point during the interview. Firstly, it is important to note that 27 out of 106 respondents did not fully understand what value adding activities are. Out of the 79 youths who understood what value added activities were, only 26 said they do any, and these were often limited to rather simple activities (Figure 17).

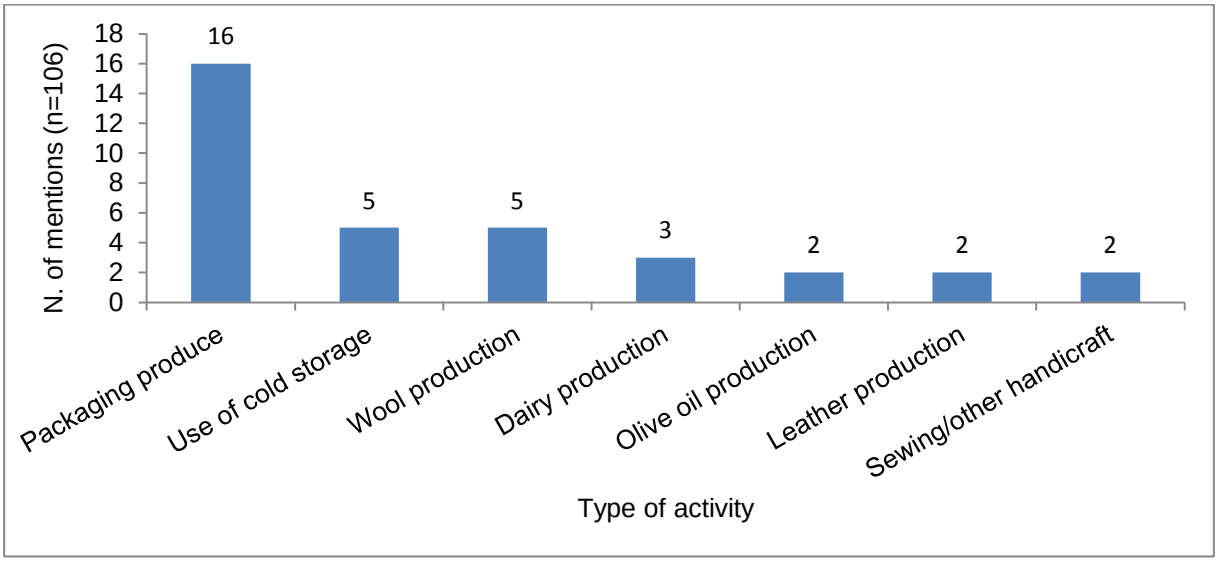


Figure 17: Value added activities

As shown in Figure 17, 16 youths mentioned sorting and packaging their produce themselves instead of selling it in the field (e.g. selling apples on the tree turned out is a very widespread practice), five reported to bring their produce, in this case apples, to a cold storage outside of the village to keep it fresh and sell it at a later point should market prices decline around the time of harvest. 14 young men and women mentioned the processing or transformation of the goods they produce to add value. However, this approach was in the majority of all cases limited to subsistence production and comprised techniques such as the production of wool, leather and milk derivatives; no post production could be found for the most dominant crop – apples. Only two interviewed young men – from a village with a favorable mild micro climate that allows growing olive trees – mentioned selling olive oil from their own production.

5.7 **Youth's perception of agriculture**

To obtain a better understanding of how youth perceive their life in agriculture, the survey asked respondents to indicate what they like about farming, in particular which positive and negative points they see. Figure 18 shows that across all three analyzed ALS's, among both male and female youth, most responses were balanced, i.e. not providing very negative nor very positive views, but considering both the advantages and disadvantages of farming. Also, youth frequently mentioned that agriculture provides their only source of income (30% of all youth); this may relate to a 'neutral' perspective. However, what sticks out is that particularly among young women involved in the pastoral and irrigated systems and both genders of youth involved in rainfed farming there was a stronger tendency to have a negative perspective towards agriculture. Youth depending on rainfed farming as their most important type of activity complained more frequently than other youth about the insufficiency or fluctuations of their income (54% as compared to 44% in irrigated farming and only 21% for pastoral), often linking this to the strong dependency of their agriculture on rainfall. The harsh work and natural conditions in their lives and farming activities were mentioned as another strong negative argument across all three ALS's (39% of all youth for pastoral, 49% for irrigated and 46% for rainfed). Another negative argument which predominated among rainfed farming youth was the absence of progress and the perceived outdatedness of their activities. The most popular positive argument was across all three ALS's the perception of agriculture as being the only profession in which youth see themselves as well experienced and knowledgeable (mentioned by 36% of pastoral youth, 31% irrigated and 36% rainfed). Less frequently mentioned arguments for a generally positive perception of agriculture were the independence of farming and being one's own boss, the perception of rural life in agriculture as being peaceful and calm compared to more urban regions, as well as speaking about the pride and heritage of agriculture.

Photo 3: Young woman collecting water for the household and animals (Photo: A Giuliani)

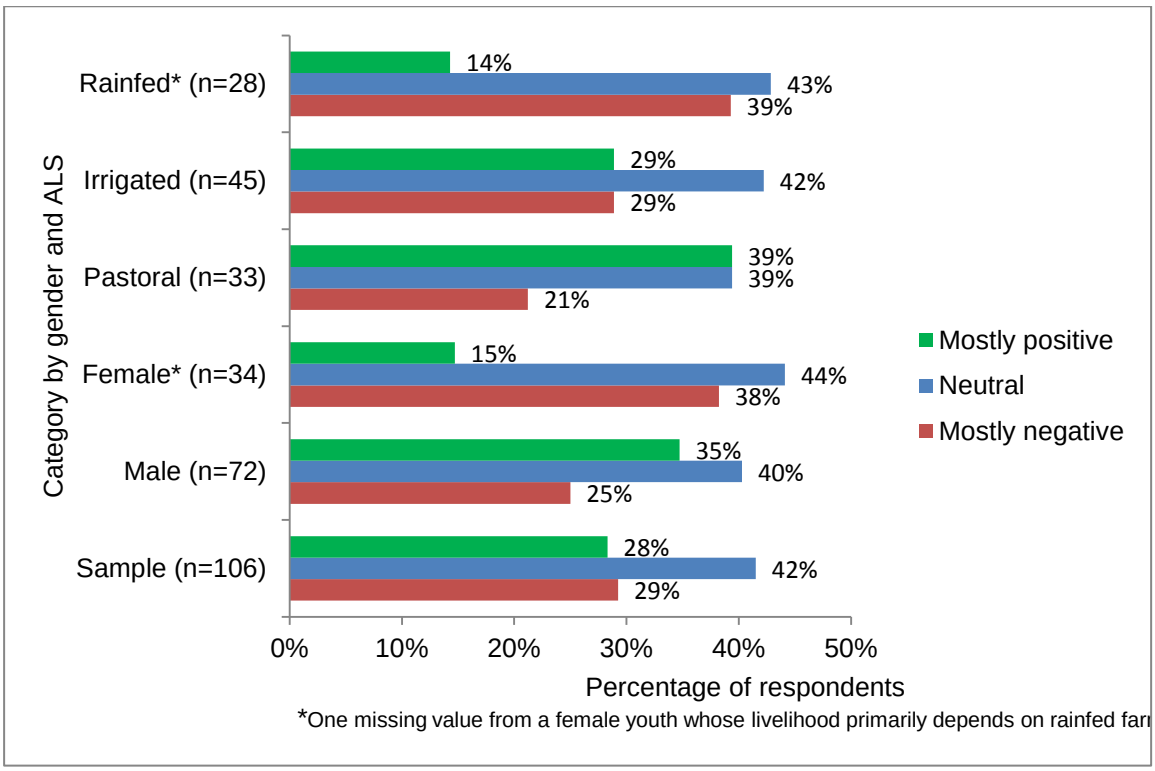


Figure 18: Youth's perception of agriculture

Looking at the aspect of gender, even though male and female youth spoke about the negative sides of farming alike (most importantly the harsh work and natural conditions as well as the insufficiency or fluctuations of income), fewer female youth mentioned positive arguments in favor of agriculture as compared to their male peers. Most notably, only 21% of young women linked their positive attitudes towards agriculture to the fact that it is the only profession in which they see themselves as well experienced, while some 40% for young men said so – this comparison may serve to underline that among the surveyed youth, agriculture is regarded as a male domain to a large extent. Also, it was less of a positive argument for female youth to speak about the independence of farming and being their own boss – possibly because of the fact that they may not be as independent as their male counterparts. However, one positive argument particularly mentioned by female youth was the perception of rural life as being peaceful and calm compared to life in more urban regions.

A cross table analysis of youth's educational level in relation to their perception of agriculture was conducted to understand if a link may apply. The results however showed a balance across all educational levels and do not indicate any obvious evidence suggesting that education level influences youth's perception of agriculture.

Table 11: Comparison of youth's educational level and their perception of agriculture, total number of youth and the percentage of the respective category (in parenthesis)

		Perception of agriculture				Total
		Mostly negative	Balanced	Mostly positive	Missing value	
Level of education	No school	8 (38%)	6 (29%)	7 (33%)	0	21
	Primary education	13 (28%)	20 (43%)	12 (26%)	1	46
	Secondary education	8 (30%)	12 (44%)	7 (26%)	0	27
	High school	2 (33%)	3 (50%)	1 (17%)	0	6
	Higher education	0	3 (60%)	2 (40%)	0	5
	Missing value	0	0	1	0	1
Total		31	44	30	1	106

5.8 The financial viability of agriculture

Further to their perception of agriculture, the survey intended to investigate how youth see the financial viability of their farming activities. The graph in Figure 19 shows that youth seem to have contradictory views when it comes to their perception of the financial return in agriculture. Whilst roughly half of the youth sees their activities as financially viable (45%), the other 55% do not. The most frequently mentioned arguments why agriculture is not financially viable were the need to work elsewhere to afford their expenses in life (mentioned by 30% of all youth) – either helping out with farming and other work activities at places nearby, or the seasonal migration – and the high vulnerability of farming practices to varying natural conditions (mentioned by 14% of all youth).

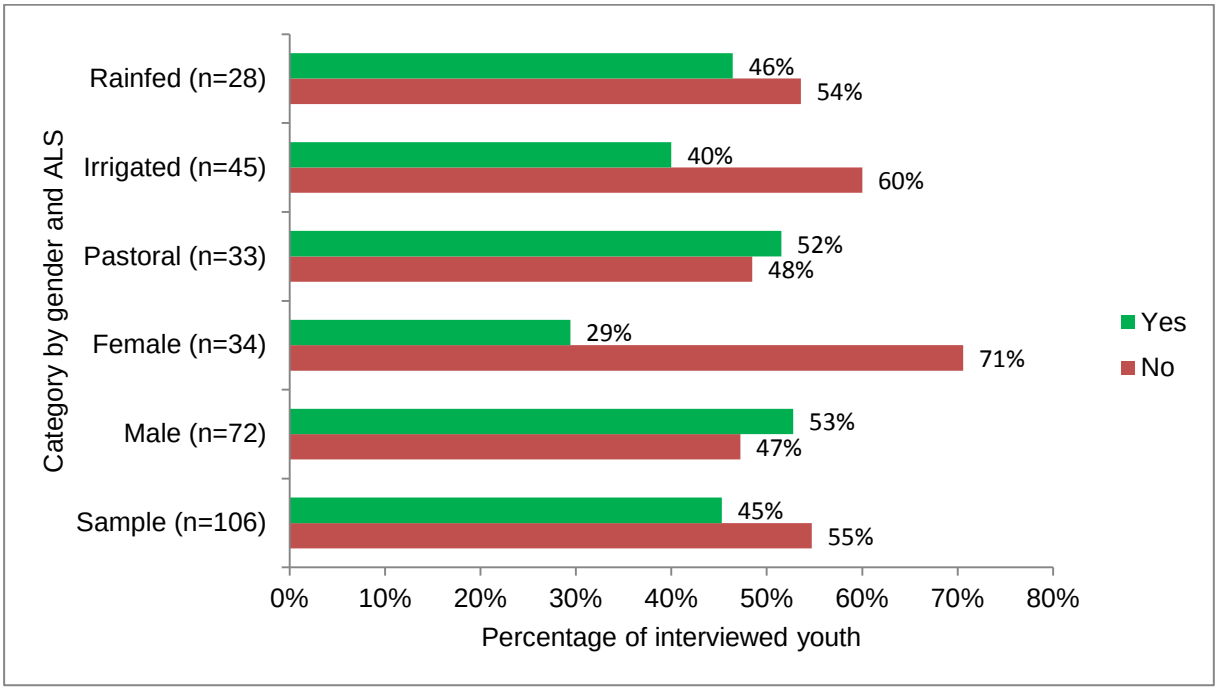


Figure 19: Youth's perception of the financial viability of agriculture

Again, as demonstrated by the gender differentiated yes/no responses in Figure 19, young women have a much stronger opinion that agriculture is not financially viable (71% of the interviewed female youth). Next to the strong arguments previously mentioned, women expressed more frequently that farming only serves to cover their very basic needs for survival (15% of interviewed female youth as compared to only 6% of male youth). The prevailing perception among female youth of farming as financially non-viable may stem from the fact that they regard their needs as largely unfulfilled – what these needs are will be examined more closely when looking at the challenges and suggested solutions of youth in section 5.3. Furthermore, female youth often saw their insufficient financial return linked to the difficulty of land access and possessing insufficient agricultural land (mentioned by 21% of all young women).

Looking at the reasons behind the percentages of Figure 19 disaggregated by ALS, it shows that youth whose livelihood primarily depends on pastoralism more frequently stated that their income only serves to cover their very basic needs for survival (18%). On the other hand, however, pastoralists less often reported the need to work elsewhere for survival (only 15%) – possibly stemming from the perception of having fewer opportunities and often being excluded from society as was reported during several individual in-depth interviews particularly with youth from nomadic pastoralism. The need to work elsewhere for affording life expenses was therefore more frequently mentioned by youth from irrigated (33%) and rainfed (43%) farming systems. Also, among rainfed youth it was relatively often stated that the high vulnerability of farming practices to varying natural conditions strongly impacts agriculture's financial viability (25%) – more frequently than by youth from pastoral and irrigated livelihood systems.

5.9 **Development of youth well-being**

Looking at the percentages of Figure 20, in the sample as a whole and across all three ALS's roughly two third of the respondents indicated a positive change in their well-being over the past ten years. What is further apparent is the fact that only half of the interviewed young women perceived considerable progress in their well-being and even 32% found themselves worse-off nowadays compared to ten years ago.

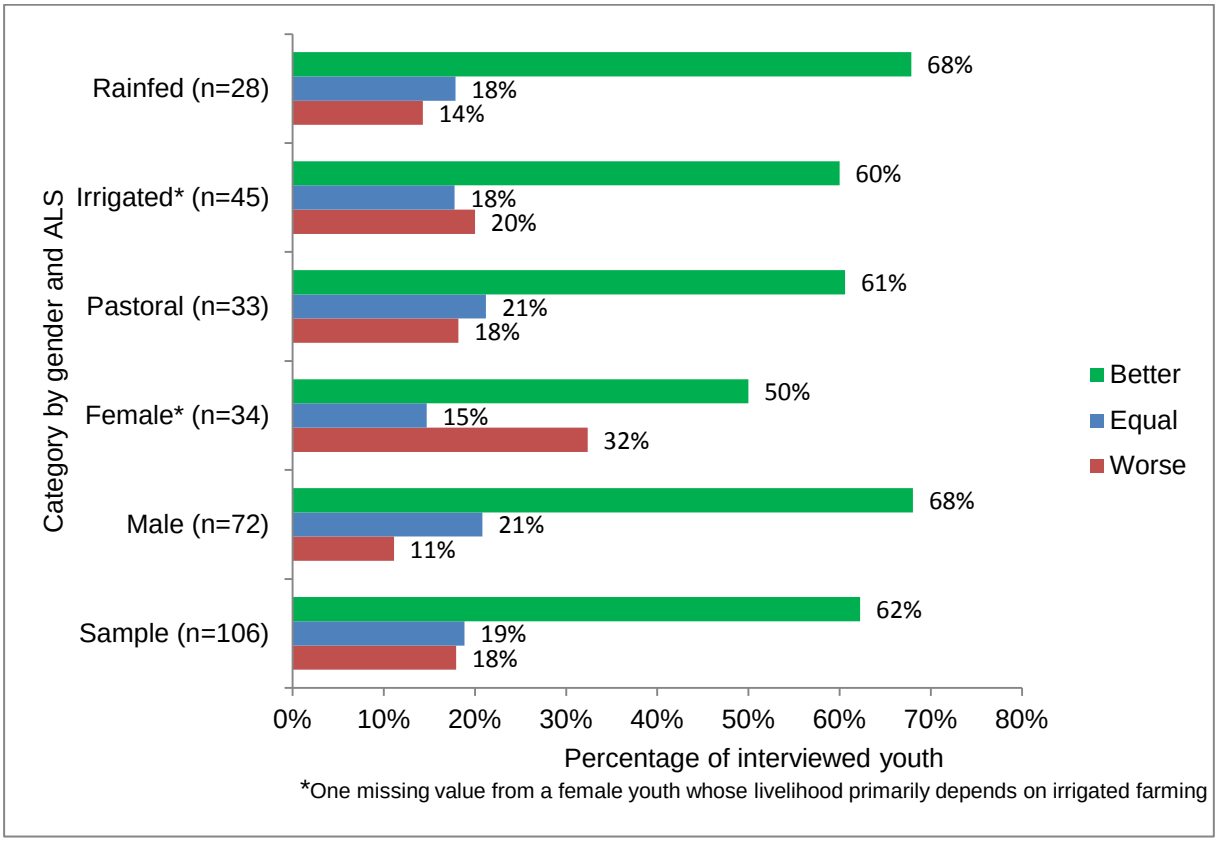


Figure 20: Youth's perceived change in well-being over the past ten years

Among the female youth that reported a negative development in their well-being, the most important reason was found to be a negative change in their very personal life – either the divorce from their husbands or the death of their husbands or another close family member; these reasons were not mentioned by male youth at all. Women in this situation complained about a lack of support and the feeling of being left alone with their problems – an observation that support the conclusion that better support programs are needed for women who get into serious difficulties. The second most important reason for a negative change in young women's lives was stated to be the degradation of their agricultural land, resulting in a negative impact on their economic situation. Among the women who saw a positive development in their lives, the change from nomadic to sedentary farming or living in their own houses (number one), starting or expanding the cultivation of apple trees (number two) and a better water and electricity supply (number three) were the most important reasons that accounted for an improved well-being as compared to the past.

As depicted in Figure 20, the interviewed young men generally had a more positive perception of the progress of their well-being over time, even though some 21% complained about the absence of development and saw only a standstill over the past years. The most important reasons that accounted for a positive change in life were technical progress in agriculture (number one), starting or expanding the cultivation of apple trees (number two) along with access to more land (number three), ranked fourth were the change from nomadic to sedentary farming or living in their own houses, a better water and electricity supply as well as the increase of their livestock herds. Young men who perceived a negative change in their well-being saw the most important cause for this as the degradation of their agricultural land; other reasons were not reported from more than one male youth.

5.10 Youth's involvement in decision making

Being asked who has the lead in decision making at household level, the vast majority of the interviewees (73 out of 106; three missing values) responded that their fathers were the main decision makers when it comes to agriculture and daily concerns, also influencing personal matters of youth. Another 13 respondents stated making their own decisions – twelve of whom were men; only one young woman stated making her own independent decisions. The remainder of the sample reported that their husbands (six), mothers (four), older brothers (four) or another person (three) are leading the decision making process. Further to this, youth were questioned if they could take part in decision making, responding in the three different categories (Figure 21).

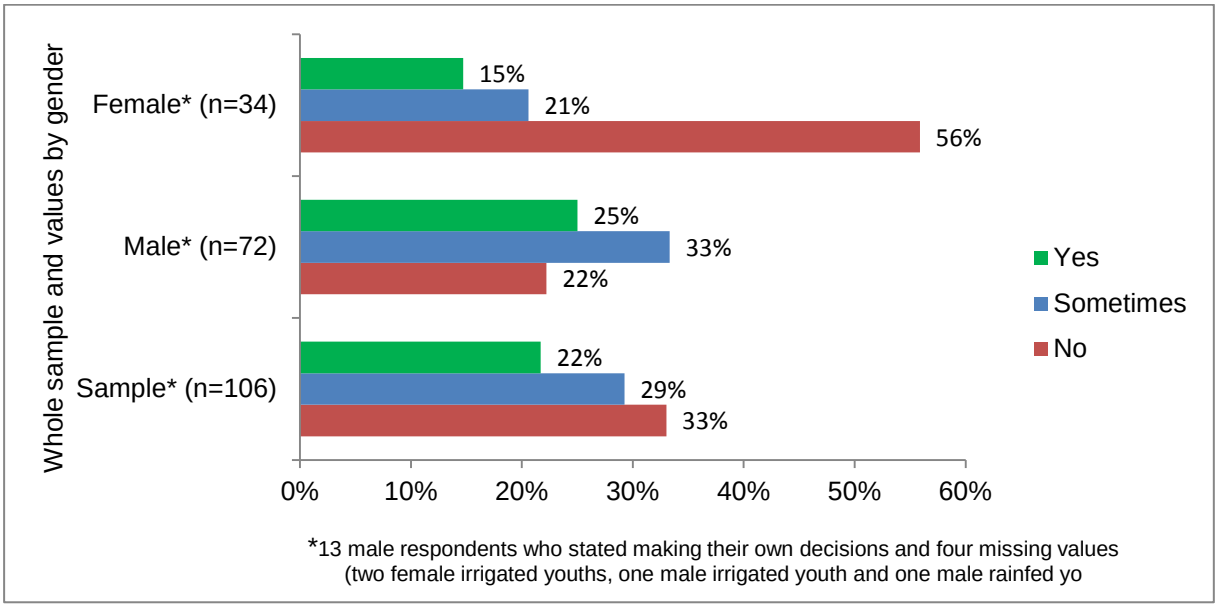


Figure 21: Percentage of youth not involved, sometimes involved and generally involved in decision making

Two findings stand out from this investigation. Firstly, looking at the whole sample, the majority of youth reported that they could either not partake in decision making (33%) or had only limited capacity to influence decisions (29%) – together accounting for 62% of the responses. Only 22% of all interviewed youth expressed that they are regularly involved in decisions. Secondly, gender-disaggregated data shows the young women in particular stated having no say in decision making, which seemingly confirms that women are often patronized by men, as indicated previously in this report. Only 15% of all interviewed female youth said that they are regularly part of the decision making process; 21% said that they may sometimes be involved. Of the interviewed young men who were not making their own decisions, almost equal shares responded in the three different categories, whereby most young men stated being sometimes involved in decisions (33%).

From a comparative analysis (Figure 22), the level of education does not look decisive for the level of involvement in decision-making.

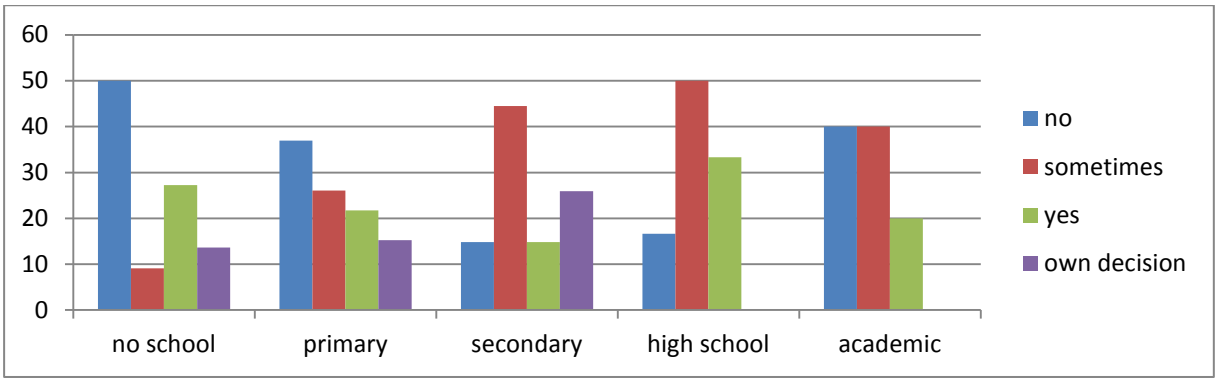


Figure 22: Cross-tabulation of literacy rate and level of involvement in decision-making at household level

5.11 **Associations and cooperatives**

Among the 106 surveyed young men and women, only six stated that they were members of any associations or cooperatives. The vast majority were not, for several reasons. Most frequently, at 32%, the respondents noted that there was no association or cooperative that they could become a member of. It remained unclear whether, in the respective villages, there was a de facto absence of associations and/or cooperatives, or if existing ones were simply not accessible to youth. A further 17% of the respondents did argue that the existing ones were not accessible for them for different reasons such as corruption or discrimination. 31% were not able to provide any reason why they are not a member of an association or cooperative, and 18% mentioned a lack of time, interest or a critical view (including the perception of associations and cooperatives as being useless) as their main reason.

"I am not a member of an association or cooperative but I wish to join if only I could find an association or a cooperative that accepts the request of a nomad…" Pers. Comm. with a young pastoral male from the village of Assaka

5.12 **The use of information and communication technology (ICT)**

ICT can make large contributions to agricultural progress in developing countries with positive effects on youth. It has been found that ICT can generally help youth to facilitate the marketing of their own or their family's agricultural produce, increase the yield of farming activities, improve young people's positions as they affirm their ability to make their own decisions towards their parents and other influencers, and foster organizational development (IICD 2013).

During the survey it was found that not all youth were able to identify a difference between the private and professional use of ICT, while only a limited number of respondents was able to do so. Resulting from this, the important question turned out to be which ICTs youth already use – and which ones they are missing from their point of view.

Radio and TV

Since most of the villages were connected to a wider electricity network, as mentioned in section 3, it is no surprise that the majority of respondents regularly use radio and TV. Out of the 106 interviewed young men and women, however 18 stated they did not use radio and TV. Twelve of these relied on pastoralism as their main source of income. Many of the interviewed pastoralists follow a nomadic lifestyle, and the missing access to electricity (and heating) in the winter months was voiced as a highly critical issue for them, preventing them from regularly using basic forms of ICT. Radio and TV were, in most cases, reported to be privately used. Some youth, however, highlighted the importance of the two media for weather forecasts, helping them to plan their agricultural activities.

Mobile phones

The use of mobile communication within the sample is as widely spread as the use of radio and TV, with 91 out of 106 respondents declaring that they own a mobile phone. Still, 15 youth said they do not own their own mobile phones, although some have occasional access within their household. 14 of the 15 non-users were women; only one non-user was a young man of 15 years of age.

I use my mobile phone to inform my parents when I am far away with my sheep and due to bad weather I cannot go back to the tent in the evening" Pers. Comm. with young male nomad herder

Smartphones and computers

Things look very different with the use of smartphones and computers (internet capable devices). Only 22 youths within the sample responded to owning either a smartphone or a computer with which they can access the internet. Despite 60 of the 84 non-users stated the wish to own an internet-capable device, 24 expressed no desire to do so. In these cases youth often stated that they are not capable of reading and writing as they left the educational system illiterate (or did not even enter school at all), and consequently they would not be able to use these tools.

5.13 The issue of rural-urban migration

Outmigration from rural homes to urban areas was a controversial issue among the youth that were interviewed. Youth's views on rural-urban migration fell into three different categories: 50 out of 106 said that they were not thinking of leaving their village, 18 were undecided, and 38 expressed the explicit wish to migrate to another place, preferably to an urban area.

Youth for which migration is not an option

The most striking reason among the youth who said they were not thinking of migrating could be identified as the personal environment in which they live and the responsibilities which they have or perceive to have towards their relatives. 34% mentioned their families, friends and responsibilities as the reason why they would not think about leaving their villages. Another 26% expressed their preference for agriculture and rural life as the reason why migration is not an option for them. A further 22% said the reason why they would exclude migration from their set of options was the self-perception of being too unskilled for a life in town since urban areas, in their understanding, are for people with a higher education. 18% of the youth who expressed no interest in leaving their homes did not share an explicit reason for their preference.

Youth remaining undecided about migration

The young men and women who did not clearly say whether they would want to migrate most frequently mentioned the absence of opportunities in their rural homes as a key challenge they face: 39% of the undecided youth stated that this would be a key driver should they decide to leave. 22% of the undecided said that they actually prefer agriculture and rural life, though the conditions they live in are difficult and may force them to think about alternatives in their lives. Another 17% of the undecided youth stated their concerns that they may be too uneducated for a skills-demanding urban life. Conflicts within the family or personal environment were mentioned by 11% as potential reasons for migration, and a further 11% stated their concerns of feeling responsible for their families as the reason for not thinking about migration in a more pronounced way.

Youth wishing to leave their rural homes

Of the 38 youth who expressed the wish to leave their homes and live in a more urban area, 61% referred to no or very limited opportunities in the rural area they come from. Despite their explicit wish to migrate, some 24% mentioned their families and responsibilities in the village as reasons which were holding them back from leaving; this may serve to demonstrate how strongly some of the youth seem to be rooted in their rural environment, to their families and the responsibilities expected of them. Controversially, a further 13% of all respondents expressed the desire to migrate even though at the same time they felt, in their view, that urban working life requires people with very specific skills, which they do not believe themselves to have. Those 13% can presumably be described as frustrated in their perceived lack of competencies to obtain urban-based opportunities. Only one of the 38 youths of this group, a young woman from a pastoral background, expressed the desire to

migrate as a result of conflicts in her personal environment that she is currently confronted with.

5.14 **Know-how, skills and training needed in rural life**

For a better understanding of the needs of youth, the research aimed to investigate where young men and women perceive their skill and knowledge gaps and what type of education and training they wish for in order to move further in their lives. Using an open-ended approach to learn from youth's views, during the interviews it was experienced that the young men and women often found it difficult to come up with concrete ideas in terms of know-how and skills needed for improvement, and it was notable that youth's responses often tended towards expressing what type of support they wish for or expect instead of explicitly speaking about desired training programs to improve their know-how and skills. Youth's responses were nevertheless grouped in meaningful categories to understand what their perceived priorities are.

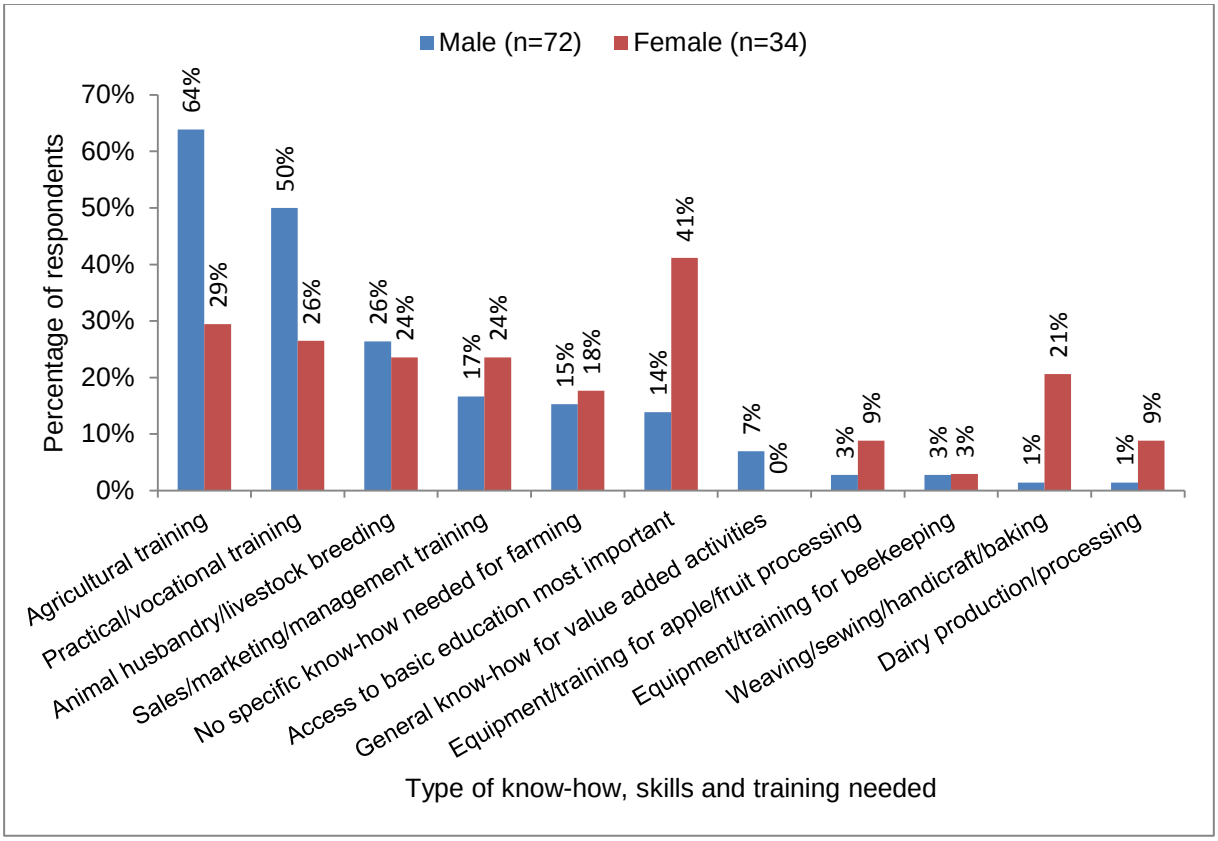


Figure 23: Youth's perception of know-how, skills and training needed in rural life

As shown in Figure 23, the interviewed young men and women had different perceptions of what type of training or support they require. It clearly shows that young women put more emphasis on the need for accessing or completing their basic education (mentioned by 41% of female respondents), while young men most often expressed the need for on-the-field training in agriculture (61%) or better opportunities for any type of practical or vocational training (50%), also including other professions than agriculture only. Also, in comparison to their male peers it appears that a considerable number of young women mentioned weaving, sewing, baking and all sorts of handicraft as a potential field where they wish for training and support. The only striking difference between the three investigated ALS's was that 73% of the youth from a pastoral background mentioned animal husbandry and livestock breeding as a field they need training and support in, clearly making it their top most priority. Conversely, only 30% of the pastoral youth mentioned the need for better agricultural training in general (compared to 62% for irrigated and 64% for rainfed), and 27% of the pastoral youth expressed the need for any practical or vocational training (compared to 47% for irrigated and 54% for rainfed).

5.14.1 **Adopted practices and ideas for improvement and innovation**

Few respondents stated they had adopted any innovative (to them) practices (29%). The most widespread newly adopted practice among the farming youth was found to be drip irrigation, though only stated by a relatively low number of interviewed respondents (Figure 24). Fewer youth regarded the diversification of their production, the access to machines for mechanized land cultivation and the use of agricultural inputs as new means for an improvement of their agriculture. Additionally, several young men and women mentioned livestock-related issues such as better feed, access to livestock services, artificial insemination for improved breeding or new types or breeds of livestock as improvements in their farming activities. The results also show that the interviewed youth had a strong tendency to think about innovation and new practices in the dimension of a technical product or service.

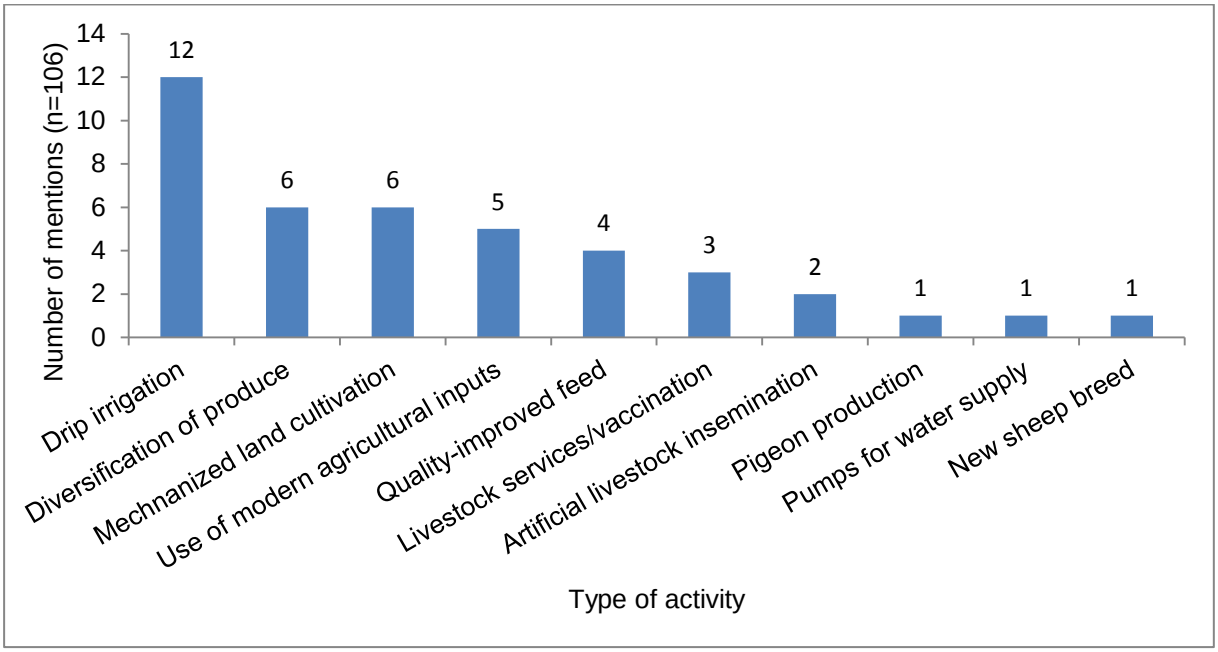


Figure 24: Adopted practices in agriculture

Interestingly though, when asked for their idea of improving or innovating their agricultural production, a large number of youth came up with the idea of integrating downstream value chain stages into their activities: more than half of the youth from all three surveyed ALS's (52% for pastoral, 62% for irrigated, and 54% for rainfed farming) argued that value adding activities may help them to improve their situation – though the interviewed young men and women found it difficult to respond in concrete ideas of what exactly these activities could be. Seven youths spoke about processing apples (vinegar, juice, jam or other derivatives), some further six youths mentioned dairy production as a potential field for value added. Another consideration of youth was the diversification of their agricultural production to new crops such as strawberries or watermelon, stated by eight respondents. Further ideas for improvement and innovation with few or single mentions only included the post-harvest processing of aromatic plants from wild collection, the introduction of higher milk yielding cattle breeds (mentioned as 'Dutch' breeds) or new sheep and goat breeds, mechanizing land cultivation, the use of ICT, the increase of beekeeping and honey production, leather tanning and generally the manufacturing of handicrafts.

5.15 **Challenges and aspirations of youth**

Further to the previous sections, the following part investigates what challenges youth face in their rural areas, which potential solutions they see to overcome these, and which aspirations and dreams they have for their future life.

5.15.1 **Reported challenges and proposed solutions**

Despite that the interviewed young men and women agree to a certain extent on what their biggest challenges are, different priorities are apparent among the two genders. Even though the vast majority of the reported challenges and proposed solutions may not be youth-specific, they nevertheless underline how youth are impacted by the problems of their rural homes. Challenges and solutions were interlinked where possible, and clustered to the different categories 'infrastructure and services', 'agriculture', 'environmental problems and solutions', 'economic constraints and solutions', 'social problems and solutions', as well as 'cross-cutting themes and other' which includes issues that broadly affect people in their lives in more than one specific area (e.g. the regular flooding due to missing protective measures affects farming, damages roads and other infrastructure, and is also a hindering factor for economic activities). The percentages in parentheses indicate how frequently the youth of the respective gender have mentioned a specific challenges or solution.

Male youth: challenges in agriculture and daily life encountered by young men

Most importantly among young men was the absence of adequate transport infrastructure in their rural areas (shown in Table 12) – i.e. missing paved roads, the insufficiency of water availability affecting their agriculture and life in general (46%), as well as the lack of efficient irrigation systems (44%), often referring to the need for drip irrigation systems which remain unaffordable for them in most cases. At the same time, male youth also mentioned the poor access to education as a key constraint in their lives (38%), either as a result of missing schools, teachers which do not show up regularly, or far distances to schools beyond a certain level of education. It is remarkable how strongly the interviewed young men believe that it is the state's responsibility to solve their problems: 40% of all interviewed male youth have mentioned the state as a key driver for progress in their rural areas. This finding suggests that there is a dichotomy of distrust and dependency, i.e. youth feel that it is the state's responsibility and despite the mistrust are disempowered to take initiative to improve their situation. The perception seems to be widespread that, theoretically, the state would be able to intervene in rural areas which have not yet profited from larger structural programs; however people tend to think of their areas as being marginalized compared to others (as it was explicitly mentioned in single interviews) and they seem to believe that most importantly the political will for solving the existing problems is missing.

Table 12: Male youth's five most frequently mentioned challenges and suggested solutions

Five most frequently mentioned challenges	**Five most frequently suggested solutions**
1. No/bad roads/transport (47%)	1. Road construction/transport provision (40%)
2. Drought/lack of water (46%)	2. State/government responsibility/solutions (40%)
3. No drip/efficient irrigation (44%)	3. Support for/provision of agricultural inputs (39%)
4. Access to education (38%)	4. Drip/efficient irrigation systems and canals (32%)
5. Flooding/erosion/missing dams (35%)	5. Construction of dams (31%)

Among the challenges and solutions clustered to 'infrastructure and services' (Table **13**), it also figures prominently that no or insufficient training opportunities, difficult access to health care, and bad or no sanitary systems in the villages are very specific problems which impact the living conditions. Male youth largely see the solutions to their problems through considerable state investments in paved roads, schools, health care centers, sanitation, etc. – financial investments, which are difficult to realise through micro-financing plans but instead require rather large-scale investment programs.

Table 13: Challenges and suggested solutions mentioned by male youth in the cluster of 'infrastructure and services'

Reported challenges	Suggested solutions
No/bad roads/transport (47%)	Road construction/transport provision (40%)
Access to education (38%)	Improving schools/access to education (26%)
No practical/vocational training (25%)	Practical/vocational training/extension services (19%)
No/insufficient access to health care (21%)	Health care center/better access to health care (19%)
Lack of finance/support inaccessible (21%)	Investment in agriculture/infrastructure in general (15%)
No/bad sanitary system/potable water (19%)	Investment in sanitary/potable water system (17%)
Limited electricity (8%)	Solar panels (4%)
	Improved electricity supply (3%)
No/bad access to ICT (4%)	Better access to ICT (8%)

Note: Percentages indicating the frequency of mentions among all interviewed male youth

Challenges and proposed solutions clustered to 'agriculture' (Table 14) quite strongly focus on the low productivity of the currently present farming systems: The very limited water availability leads to a need of efficient irrigation systems such as drip irrigation, small plots of agricultural land require considerable expansion possibilities, and due to the high costs of agricultural inputs such as seeds, fertilizers, plant protection products (PPP) and animal feed the interviewed male youth perceive a need for financial subsidies or support to afford these products.

Table 14: Challenges and suggested solutions mentioned by male youth in the cluster of 'agriculture'

Reported challenges	Suggested solutions
No drip/efficient irrigation (44%)	Drip/efficient irrigation systems and canals (32%)
No/insufficient land (33%)	Provision of land (14%)
Cost of agricultural inputs (32%)	Support for/provision of agricultural inputs (39%)
Hail damage of crops (26%)	Hail nets (22%)
Insufficient pastures/feed (17%)	Provision of land (14%), support for/provision of agricultural inputs (39%)
No technological development in agriculture (15%)	Technologies/machines (14%)
Access to veterinary services (11%)	Access to veterinary services (14%)
Wild animals damaging crops/killing livestock (11%)	Wild animal protection (10%)
Livestock/crop diseases (10%)	Access to veterinary services (14%)
Frost damage of crops (8%)	Frost protection (1%)
No stables for livestock (4%)	Stables for livestock (11%)
Low yields/unfertile soils (1%)	-
Crop damage from pastoralists (1%)	Control against pastoralists (1%)
Livestock breeding (1%)	New livestock breeds/support for breeding (3%), livestock training (1%)
-	Greenhouses (4%)
-	Access to public forests (3%)
-	Honey extraction equipment (1%)

Note: Percentages indicating the frequency of mentions among all interviewed male youth

Despite a considerable number of interviewed male youth mentioning for example their difficult situation in terms of market access and the unbalanced supply and demand distribution of their agricultural produce throughout the year, concrete solution seems to be difficult to conceive. This emphasizes that there is a need of better connecting remote rural villages, and not only the youth living there, to economic value chains. Likewise for the environmental dimension, the interviewed male youth do perceive for example difficult or changing climatic conditions as well as the harsh working conditions in agriculture as considerable challenges, however obvious solutions do not exist. Even though illiteracy is a widespread problem, also among the interviewed young men, they do not seem to be so focused on a catch-up training

for themselves but instead seem to think much more about solving other problems first. However, the absence of youth-accessible associations and cooperatives was identified as another important issue in the field of social challenges, and the respondents do partly see the need to form better, more inclusive associations and cooperatives which also allow them to jointly establish value added activities in their villages.

Table 15: Challenges and suggested solutions mentioned by male youth in the clusters of 'economic constraints and solutions', 'environmental problems and solutions' and 'social problems and solutions'

Reported economic constraints	**Suggested solutions economic constraints**
No/bad market access (17%)	Improved market access (8%)
Seasonal oversupply/low market prices (17%)	Marketing/sales training (1%)
No cold storage for produce (8%)	Cold storages for produce (13%)
Insufficient income/poverty (6%)	-
No work opportunities (4%)	More/better job opportunities (6%)
Theft of livestock (1%)	-
Reported environmental challenges	**Suggested solutions environmental challenges**
Climate conditions/change (22%)	Adaptation to climate change (3%)
Harsh natural/agricultural conditions (18%)	-
Deforestation (3%)	Reforestation/restoration of pastures/land (7%), forest control/management (6%)
Reported social challenges	**Suggested solutions social challenges**
Illiteracy/missing basic education (14%)	-
No associations/cooperatives (13%)	Inclusive associations/cooperatives/value addition (15%)
No recreational possibilities (3%)	Recreational centers (1%)
Discrimination/marginalization in daily life (1%)	-

Note: Percentages indicating the frequency of mentions among all interviewed male youth

Some identified issues were difficult to allocate to one of the previously described clusters of challenges and potential solutions as they have such a broad impact on different areas of rural life. These were grouped to a cluster named 'cross-sectional themes and other' (Table 16). Despite being environmental by definition, the ones most frequently mentioned in this sense are insufficient water resources – with strong limitations for the supply of potable water, sanitary purposes, irrigation of crops, supply of livestock – and the regular flooding of land due to degraded natural vegetation and the absence of dams, as was described previously. Many of the interviewed male youth saw the need for the construction of dams and reforestation as well as the need to drill for wells for a better water supply. Other statements of male youth allocated to the cluster 'cross-sectional themes and other' include the perception of not possessing the capacity to innovate, the mistrust in or perceived corruption of institutions, or the hopelessness in rural life and the perception of migration as the only solution in life.

Table 16: Challenges and suggested solutions mentioned by male youth in the cluster of 'cross-sectional themes and other'

Reported challenges	**Suggested solutions**
Drought/lack of water (46%)	Drilling of wells (19%)
Flooding/erosion/missing dams (35%)	Construction of dams (31%)
No capacity for innovation (8%)	Small-scale support/inclusive interventions (19%), change of mindset/restrictive traditions (3%)
Mistrust in/corruption of institutions (6%)	State/government responsibility/solutions (40%)
-	Migration as only option/no solutions for agriculture (8%)

Note: Percentages indicating the frequency of mentions among all interviewed male youth

Female youth: challenges in agriculture and daily life encountered by young women

As indicated in Table 17, female youth spoke more frequently (74%) than their male peers about the absence of adequate transport infrastructure, i.e. missing paved roads, in their rural areas. Furthermore, the frequency of reposes suggests that female youth perceive the access to basic needs such as education, health care and sanitation as a greater challenge than the problems faced in agriculture. This may stem from the fact that young women see their needs as even less fulfilled than young men, e.g. it was found that on average the interviewed female youth generally had a lower level of education than the male respondents. However, looking at young women's suggested solutions, it shows that there is also a strong tendency towards expressing the need for support and progress in agriculture – which is de facto the only source of income in the surveyed rural villages.

Table 17: Female youth's five most frequently mentioned challenges and suggested solutions

Five most frequently mentioned challenges	Five most frequently suggested solutions
1. No/bad roads/transport (74%)	1. Improving schools/access to education (41%)
2. Access to education (62%)	2. Health care center/better access to health care (26%)
3. No/insufficient access to health care (47%)	3. Support for/provision of agricultural inputs (26%)
4. Drought/lack of water (41%)	4. Road construction/transport provision (26%)
5. Illiteracy/missing basic education (38%)	5. Investment in agriculture/infrastructure in general (24%)

As written before and shown in Table 18, female youth very frequently mentioned issues that were clustered to 'infrastructure and services'. Further to described unfulfilled basic needs, a number of interviewed young women raised the issues of missing training opportunities, the lack of financial support as well as a lack of child care in their villages.

Table 18: Challenges and suggested solutions mentioned by female youth in the cluster of 'infrastructure and services'

Reported challenges	Suggested solutions
No/bad roads/transport (74%)	Road construction/transport provision (26%)
Access to education (62%)	Improving schools/access to education (41%)
No/insufficient access to health care (47%)	Health care center/better access to health care (26%)
No/bad sanitary system/potable water (35%)	Investment in sanitary/potable water system (18%)
No practical/vocational training (18%)	Practical/vocational training/extension services (21%)
Lack of finance/support inaccessible (12%)	Investment in agriculture/infrastructure in general (24%)
Limited electricity (6%)	-
No child care (6%)	Child care (12%)

Note: Percentages indicating the frequency of mentions among all interviewed female youth

Overal, the interviewed young women mentioned similar challenges in the field of 'agriculture' (Table 19). However, female youth gave fewer different responses and at a lower frequency than the surveyed young men (compare Table 14). This may serve to underline what was previously mentioned in section 5.7 and 5.10: Farming seems to be regarded as a male domain to a large extent, and at the same time the interviewed female youth had a relatively low decision-making capacity. Consequently, female youth may not feel empowered to share their thoughts on issues related to agriculture.

Table 19: Challenges and suggested solutions mentioned by female youth in the cluster of 'agriculture'

Reported challenges	Suggested solutions
Hail damage of crops (26%)	Hail nets (12%)
Cost of agricultural inputs (24%)	Support for/provision of agricultural inputs (26%)
No/insufficient land (21%)	Provision of land (6%)
No drip/efficient irrigation (18%)	Drip/efficient irrigation and canals (12%)
Frost damage of crops (12%)	-
Insufficient pastures/feed (9%)	Support for/provision of agricultural inputs (26%), provision of land (6%)
Low yields/unfertile soils (9%)	-
No technological development in agriculture (6%)	Technologies/machines (18%)
No stables for livestock (3%)	-
-	Access to veterinary services (3%)
-	Greenhouses (3%)

Note: Percentages indicating the frequency of mentions among all interviewed female youth

As can be seen in Table 20, the surveyed young women spoke even less frequently about the economic constraints in their rural lives: Only 12% expressed that that the bad access to markets is a hindering factor for their progress and well-being. Further issues such as the unfavorable distribution of supply and demand of agricultural produce, lack of storage or the absence of work opportunities were only mentioned by single respondents. However, what is apparent is that the list of expressed social problems is longer compared to the one of the interviewed male youth. Young women in the surveyed villages frequently mentioned that the lack of literacy skills is one of the main challenges in their lives – this again feeds back to female youth's lower educational level in the surveyed villages. Despite being less frequently mentioned, other important social problems were found to be a perceived discrimination or marginalization of young women, the absence of accessible associations and cooperatives, a lack of support for widowed and divorced women and at single mentions inner-family conflicts as well as the feeling of being solely responsible for daily occupations.

Table 20: Challenges and suggested solutions mentioned by female youth in the clusters of 'economic constraints and solutions', 'environmental problems and solutions' and 'social problems and solutions'

Reported economic constraints	Suggested solutions economic constraints
No/bad market access (12%)	-
Seasonal oversupply/low market prices (3%)	Marketing/sales training (3%)
No cold storage for produce (3%)	Cold storage for produce (9%)
Insufficient income/poverty (3%)	-
No work opportunities (3%)	-
Reported environmental challenges	**Suggested solutions environmental challenges**
Harsh natural/agricultural conditions (26%)	-
Climate conditions/change (3%)	-
Reported social challenges	**Suggested solutions social challenges**
Illiteracy/missing basic education (38%)	-
Discrimination/marginalization in daily life (15%)	-
No associations/cooperatives (6%)	Inclusive associations/cooperatives/value added (3%)
Divorced/widowed (6%)	-
Conflicts in family/household (3%)	-
Lack of support in daily life (3%)	-

Note: Percentages indicating the frequency of mentions among all interviewed female youth

Likewise for the interviewed young men, some identified issues were difficult to allocate to one of the previously described clusters of challenges and solutions and were therefore grouped to 'cross-sectional themes and other' (Table 21). There is little difference between

female and male youth in this regard: the biggest challenges were found to be the insufficiency of water resources and the regular flooding of land due to degraded natural vegetation and the absence of dams, as has previously been described. Similar to their male peers, female youth expressed the need for the construction of dams and the drilling of wells as the solutions to these problems.

Table 21: Challenges and suggested solutions mentioned by male youth in the cluster of 'cross-sectional themes and other'

Reported challenges	Suggested solutions
Drought/lack of water (41%)	Drilling of wells (21%)
Flooding/erosion/missing dams (18%)	Construction of dams (24%)
No capacity for innovation (9%)	Small-scale support/inclusive interventions (6%), change of mindset/restrictive traditions (3%)
-	State/government responsibility/solutions (18%)
-	Migration as only option/no solutions for agriculture (12%)
-	Marriage as only solution (9%)

Note: Percentages indicating the frequency of mentions among all interviewed male youth

5.16 Youth's dreams and aspirations

What male youth wish for their future life

The 'dream cloud' (Figure 25) very prominently shows what the interviewed male youth most frequently responded when being asked what their dream for their future life was: More than half of all interviewed young men (54%) stated that their wish for their future life is to successfully expand and manage their own farms (however without specifying further). Some other interviewed male youth expressed their wish to increase apple farming and sales (7%) or livestock production (8%). As a whole, this sums up to over two thirds of male youth who expressed their desire to stay engaged in agriculture, provided the conditions are good.

Figure 25: Dreams and aspirations of interviewed male youth

Some 19% of all interviewed young men expressed their wish to live in or close to an urban area – places which are perceived to offer all sorts of different opportunities and services, despite often recognizing that urban life is more expensive and may require specific skills. 15% of the male youth even stated their explicit wish to quit agriculture in search of better opportunities; these young men apparently form a group which would not even want to stay

engaged in farming if the conditions were better but whose first priority it would be to follow any other opportunity. Realistically, the share of youth who would consider alternatives to agriculture under non-ideal conditions may be higher. The interviewed male youth further expressed the dreams and aspirations they have for their future life as their wish to marry and start their own family (13%), to work as a driver (11%), to change from nomadic pastoralism to sedentary farming and live in their own house (10%), or to have any job with a stable income (8%).

What female youth wish for their future life

Further scrutiny of the subject of young women's dreams and aspirations (as depicted in Figure 26) shows that, in total opposition to male youth, agriculture does not seem to play a very important role in the desired future life they wish for.

Figure 26: Dreams and aspirations of interviewed female youth

First and foremost, though only at a frequency of 24%, female youth expressed their wish to have their children's and their own basic needs fulfilled, largely with the focus on being decently educated. Young women also expressed the wish for their future life to either become sedentary if they have been following a nomadic lifestyle so far, or to live in their own houses one day without all the members of their extended household (21%). The further most frequently expressed dreams and aspirations include, among others, the wish to do handicraft work such as dressmaking or sewing (18%), to live in or near an urban area offering different opportunities and services from their point of views (12%), or to get married and start their own family (12%). A considerable number of female youth (five, equal to 15%) surprisingly stated having no dreams or aspirations for their future life; either as a result of being without any hope for changes or stemming from the self-perception of not being allowed to envision a dream life or occupation for themselves. This finding again highlights that marginalization of (young) women is a considerable problem in the surveyed villages, which may need to be carefully addressed through strong advocacy given the traditional role of the patriarch.

'In this village, in our situation, we are not allowed to dream' Pers. Comm. with a young woman from a pastoral system in the village of Assaka

5.17 The role of agriculture in a good future life

In addition to the question of their dreams and aspirations for their own lives, youth were asked to think about and express their wish for the life of their own children. It was however

interesting to see that among the interviewed young women there was already a considerable tendency to include their children's well-being when being asked for their own dreams and aspirations.

What the interviewed youth wish for their own children

Youth perceived a good education as the top most important priority for the well-being of their own children (Table 22). Further 35% of the male youth and 26% of the interviewed young women wish for their children to have a safe and stable occupation as a civil servant for a government body. 24% of male youth stated they would want their children to quit agriculture in search of any better opportunities (not limited to working for the state), while more than (53%) half of all interviewed young women said so. Some 32% male youth thought of agriculture as a reasonable occupation provided the conditions are good (compared to only 9% young women). This may reflect young men's own positive attitude and desire towards farming to a certain extent, despite being less pronounced than for their own lives. Still, the share of youth who want their children to quit agriculture, either to work anything else or for the state, is high.

Table 22: Interviewed young people's wishes for their children in percentage

Male youth	**Female youth**
1. Good education (83%)	1. Good education (71%)
2. Quit agriculture to work for government (35%)	2. Quit agriculture for any better job (53%)
3. Live in good conditions, also including agriculture if viable (32%)	3. Quit agriculture to work for government (26%)
4. Quit agriculture for any better job (24%)	4. Live in good conditions, also including agriculture if viable (9%)
5. Stay in agriculture (10%)	5. Live in the city (3%)
6. Live in the city (8%)	
7. Not working for government	

It is interesting to see the comparison between youth's dreams and aspirations for their own life and the life of their children as it allows reflecting on the long-term future. Particularly two findings have to be carefully taken into consideration when planning for future interventions for development: Firstly, the youth want their children to achieve what they had only limited access to – a good education. And secondly, the wish of youth for their children to quit agriculture and get another more financially attractive occupation is much more pronounced than for their own lives. If youth want their children to leave farming for better alternatives, new ways of making agriculture in rural life more attractive have to be thought of, as otherwise the sense of long-term, large investments in rural areas might be very questionable.

6 Findings: Results from the focus group discussions (FGDs)

A number of FGDs were carried out with groups of young men and groups of young women in some surveyed villages about their aspirations and the 'villages of their dreams'. Hereafter, the results of two FGDs are reported.

6.1.1 Focus group discussion with rural girls from the commune Aït Izdeg, Tissuite village

A first FGD was conducted in the commune Aït Izdeg, village of Tissuite, with ten young women (Table 23). To start the FGD, some initiating questions were asked to the group.

Table 23: Participants' profile of focus group discussion (FGD) 1

FGD participants: 10	Highest level of education completed	Age	Marital status	Number of children	Main occupation
ALS: Irrigated	Primary	15-18	All single	-	Weeding and collecting fodder and grass in the apple trees for feeding cows, sheep and goats. Taking care of the house, cooking for the family.

Initiating FGD questions: 'What do you want to do in the future? How should your village look like for you to stay? How is the village of your dreams?'

To answer the questions, the young participants discussed their ideas among themselves, drew together a plan to respond to the above question, and then they presented. The results of the 'participatory drawing' exercise are reported hereafter.

Box 1: Results of the 'participatory drawing' of focus group discussion 1

"We want to remain in our village; we want to see more development, especially in agriculture as the income we get is not enough. Now we spend our day weeding, and then we cook for the family. Here it is just difficult to continue education for us, young women, because our families say that primary education is enough for a young woman. It is difficult to convince out parents to send us to school as they are afraid about us travelling to the schools in town. We want to find a job here, not in the city, but many improvements should occur. Some of us don't want to stay, they prefer to go leave and marry an urban dweller, as life in a city is easier. But migrating only works if there is a husband to marry and we can find a husband only if we get educated!"

"We need a pre-school system, so the children will be ready to go to school when they will turn 6. We need a new primary school building and more committed teachers. We also want to have a college here in the village. We need a proper water supply in the village and in the houses; the water here is of bad quality. We want a system to avoid the harvest damage by the wild boars and other wild animals. We need an institute to get training in sewing clothes".

'Our' business idea:

- We want to create a cooperative
- We need milking machines, and a vehicle.
- We want to elect one girl as president
- We want to produce cheese, honey and tailoring products.
- Paved roads will provide access to market
- We want to create partnerships with sellers in town.

Photo 4: Rural girls drawing the village of their dreams during the focus group discussion (Photo: A Giuliani)

6.1.2 Focus group discussion with rural young men from the commune Tounfite, Aït Lahri village

A second FGD was conducted in the commune Tounfite, village of Aït Lahri with a group of young men from combined systems, rainfed/pastoral (Table 24). Again, to start the discussion, a few initiating questions were asked to the group.

Table 24: Participants' profile of focus group discussion (FGD) 2

FGD participants: 10	Highest level of education completed	Age	Marital status	Number of children	Main occupation
ALS: Combined systems, pastoral (sedentary), rainfed	Primary or none	17-30	All single	-	During two months cultivation of rainfed crops (wheat, barley, etc.), sedentary livestock keepers (sheep, chicken, cows), very limited off-farm activities in the nearby towns

Initiating FGD question: 'What do you want to do in the future? How should your village look like for you to stay? How is the village of your dreams?'

To answer the questions, the young men discussed their ideas first, then they drew together a plan to answer the above questions, and finally they presented. The FGD and the participatory drawing took place under a tree at the entrance of their village, surrounded by curious children just coming out of school. The results of the 'participatory drawing' exercise are presented in hereafter:

Box 2: Results of the 'participatory drawing' of focus group discussion (FGD) 2

"We want to remain in the village and will be happy to live here, because we will have job opportunities, and the living conditions will be good. We will continue working in agriculture and we will be busy with agricultural activities year-round, so we will not get into drugs."

"The village of our dreams will have:

- *A hospital*. The empty hospital building in the village will be equipped with all a hospital needs: doctors, beds, medicine and an ambulance to bring women when they give birth. Pregnant women will not have to rely anymore on private transport through mules and reach far away hospitals, risking death for themselves and their babies, but they will be taken care at the hospital in the village. There will be doctors and nurses living in the village and working in the local hospital. Medicine should be available.
- *Sport fields*. A football field will be built and a football team will be formed and this would bring an exciting sport activity for us, the young men in the village. It will be a way to push us away from drug addiction and other bad habits. Football will no longer be something to watch on TV, but to practice!
- *Schools*. All children will have a school near their house, also reachable during winter months, even with the snow. Enough teachers will be available, and all the teachers will come to the village every day and will never miss a class. They will come and live in our villages. The teachers will not tell us that we do not deserve to be educated only because we are illiterate. There will be an organized transport to bring the children to the junior high school (*collège*), or one will even be built near the village. The teachers in the Tounfite *collège* will not tell us that we are not worth being in school and that we need to go back to primary school, because our primary school will provide good education, so all the students will proceed with schooling in a committed and enthusiastic way.
- *Vocational training*. There will be a training center for mechanics, welders, and carpenters, to have access to seasonal jobs in town, earn money for the family, and get back to the agricultural fields in the village.
- *Access to water*. There will be access to water at home, so our mothers and sisters will not obliged to walk so far away to collect water and transport it home. We will have showers in our village, or even at home, for our personal hygiene.
- *Road*. During winter it will be possible to access the village because we will be able to build roads. We will have vehicles to move and transport our goods.
- *Street lights*. There will be lights on the streets in the village. We will be able to go outside of our houses even in the dark hours.
- *Water in agriculture*. The dam will be completed, and there will be a wells close by (constructed though the stony soils with a jackhammer), and water will be pumped from the dam to the village. There will be reservoir to collect rainwater and use for agriculture.
- *Improved natural resources management*. About 400 ha of land in the village have been degraded by flooding and desertification. Once, we will have access to water, the rainfed degraded land will be irrigated and become fertile land to cultivate and generate income. The protests we made in other villages against the bad natural resources management will be heard.
- *Common lands* will be shared among families in the villages, and thanks to access to water, the landless will also be able to get a good income from agriculture.
- *Phytosanitary products and protection nets* for the apple trees against the hail will be available also to those farmers who cannot afford them.
- *Protection from wild animals*. Forest guards will put in place a system to stop wild boars from ruining the rainfed harvest and the apple trees.
- *Grazing*. Forest officers will be planting trees and plants on the grazing lands and mountains, so that there will be enough to feed our animals."

Photo 5: Participatory drawing of the village of dreams by a group of young men during the focus group discussion in the Aït Lahri village (Photo: A Giuliani)

7 Findings: Results from the key informant interviews/ influencers

A stakeholder analysis was done to identify relevant parties that directly or indirectly influence youth in their thinking and acting. The following groups were identified to have an influence on rural youth (Figure 27), and their views and opinions about the realities of rural youth in the surveyed area investigated.

- Parents. Even though the age of a young man or woman might play a role if a household is shared (not in every case however) by more than one or even two generations, parents as well as parents-in-law tend to have strong influence on the perceptions and decision-making of their children or children-in-law. This is particularly true in a society in which strict hierarchies are prevalent.
- Teachers. Their influence depends largely on the years of students' schooling plus the physical presence of a student during his or her education. Thus, access to education and early drop-outs can make a huge difference on how strongly youth are or were influenced by a teacher.
- Actual or possible employers, such as agribusiness (including big farmers, producers, processors). They can influence the employed youth, but also others as role model for those ones wishing to create their own farm and agribusiness.
- Representatives of associations can play a fundamental role showing how an association can work to get access to current opportunities such as funds, trainings, etc.
- Urban youth, migrants. Young people who migrated from a rural to an urban area might serve as role models too depending on whether their migration is regarded a successful one. This can strongly influence the desired life trajectory of rural youth.
- Key informants: representatives of national agencies as well as external development partners active in the field of agricultural development and agricultural research in the

Midelt Province are in the position to influence the choices of the rural youth, creating opportunities with specific interventions addressed to the villages and/or to the youth living in the area.

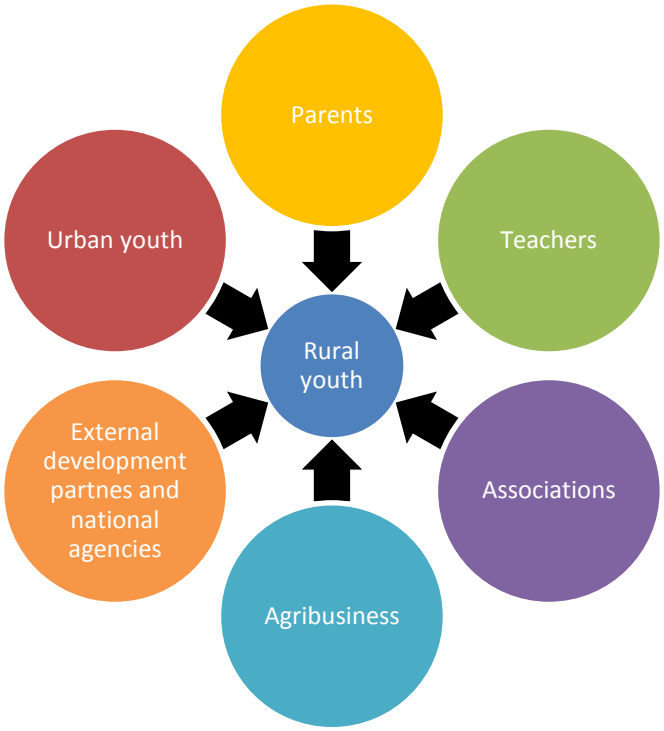


Figure 27: Identified influencers of rural youth

A number of interviews were carried out with the identified stakeholder groups of influencers. The analysis is reported in three groups:

- Views of direct influencers as the parents, teachers, representatives of associations and big producers/processors (agribusiness);
- Views of the urban youth (peers from the same villages who migrated to urban areas at different stages of their life);
- Representatives of national agencies and external development partners.

7.1 Views of the direct influencers

The direct influencers shared very similar views of the problems that the youth depicted in their interviews.

Through interviews, views of the direct influencers were gathered on the realities, aspirations, challenges and potential opportunities of youth in rural areas in the surveyed sites. Different views than those described by the youth are reported hereafter.

7.1.1 Realities of and challenges faced by rural youth from the point of view of the influencers

- Rural youth have no education
- Agriculture is amongst the least profitable activities with very low wages or income
- The transport constraints like no paved roads and lack of transport means hampering access to working opportunities in the surrounding rural and urban areas. Work places are far away and difficult to reach.
- Rural youth can manage farming and livestock only with the limited knowledge transferred from their parents, meaning they are not able to opt for a different crop, or agricultural activity other than the one they are dealing with.

- There are no income opportunities directly for women (like places for sewing, weaving, knitting). Regulations are restricted to the collection of medicinal and aromatic plants (like rosemary) from the wild.
- Apple production suffers from low prices. There is a lack of cold storage to keep the produce until there is increased market demand. There are virtually no apple processing opportunities. Apple exports are not currently an option due to the required certification (which even big apple producers in the area have difficulty in attaining).
- Land degradation, soil erosion, lack of access to water in agriculture hamper main agricultural activities
- The unsolved problem of the fair distribution of and access to collective lands

'Agriculture is something which has a great value for me and for the youth in our village too. Unfortunately, the miserable situation (no support from the government, degrading environmental conditions) pushes many young people to migrate to urban areas to work in non-agricultural jobs'. Pers. Comm. with a large producer and processor from Tissuite village, Aït Izdeg

7.1.2 Opportunities

To face oversupply of apple production, some influencers (big agribusiness owners and representatives of agricultural associations) recommended looking at other more profitable sectors according to their views, such as:

- The apple processing industry (vinegar, cider, juices, jams), still very under-developed, but with high potential demand by consumers from big cities.
- Production of olive trees, nuts, apricots (but difficulties are the large time lag between planting and first yields), as well as potato, onion, carrots, peas (for irrigated lands). An increasing number of women are employed in this sector, and there is not a substantial gender pay gap.
- Other potential profitable crops like strawberries, rarely cultivated in the region (only by an association)
- Certification: Planning for food standard certifications, (some associations are developing plans to comply to certain standards, but they are still at an early stage)

Skills gaps

Interviewed big producers state that the skills needed by youth who want to be employed by or to run their own agribusiness are the ability to use agricultural and processing machines, and crop treatment techniques for better yield.

Both theoretical and practical training delivered by competent experts on how to develop their agriculture with the specification of their own area (climate, soil) is needed. In addition, materials (products, machines, etc.) to practice what they learn from this training would be needed.

7.1.3 Recommendations to improve rural youth livelihoods from the perspective of influencers

- Basic education needs to be provided/improved.
- Training in agriculture should be provided by the DPA extension service (i.e. on vaccination and help livestock giving birth, pruning, use of inputs).
- Representatives of the DPA should visit the villages and raise awareness about the trainings offered
- Selection to attend trainings should be done in an inclusive way. As for the moment, the selection is done through associations' membership and all the young people not belonging to an association are therefore excluded.

- Associations and cooperatives need to be strengthened, better tailored to support to youth. Alternative systems/tools rather than associations should be created to provide space for young people not being part of associations and cooperatives.
- Government should also invest in agricultural infrastructure, such as construction of dams, drill wells, upgrading irrigation canals, irrigations techniques, input provisions.
- Government should ensure improved forest management and a reorganization of the regulations on collection of wild and medicinal plants
- Though most of the time, associations are powerless to change the land distribution system due to corruption and favoritism among the local authorities responsible for the distribution of collective lands, existing associations should make their best to address the problem of the fair distribution of collective lands, putting the youth as priority beneficiaries.

'In our village, farmers cannot profit from collective lands because of internal conflicts among the associations who should inform and raise awareness about the opportunity to obtain land. Even though there are more than 5 associations, the villages' people are not aware of the possibility to get some land, nor the way to access it'. Pers. Comm. with elder farmer from Imtchimn village

7.1.4 **Youth aspirations according to the influencers**

According to influencer interviews, youth aspire to:

- Be educated;
- Improve their standard of living;
- Get married and have a family;
- Transform their traditional agricultural livelihoods systems into modem systems.

7.1.5 **Reflections on the existing programs helping the youth cited by the influencers**

- 'INDH helps youth to rent and farm lands (apple cultivation). There used to be a program 'jeunes promoteurs' to help youth people in developing agricultural plans.'
- 'Regional program (Meknès) to help young people pass the national exam to become teachers. Program was somehow useful to pass this exam, but the problem is then the lack of coaching to find a job'.
- 'The support from PMV to start an agricultural business can work only if youth are first provided with material support and special training from experts in agriculture, including the skills on how to succeed in their own business. Otherwise the PMV can really support only big and experienced farmers, not the youth. Ministry of Agriculture should take action.'
- 'FAO has recently provided support by distributing goats and apple trees. The intervention could support some youth, however, it was not clear among the youth who was eligible to benefit from the help. Some of the tree varieties were also not adapted to the local soil and environment, not yielding crop'.

"My son tried to benefit from PMV, he applied a couple of times, but the reasons why he did not get support for young people remain unclear. There seems to be some kind of favoritism, political issues, and corruption. All farmers generally qualify, but you need starting capital, this is why many young farmers cannot benefit. The minimum you need is 12,000 MAD/ha to apply for PMV support, e.g. to invest in drip irrigation, hail nets, etc. Otherwise you do not need to think about applying for PMV support. Plus, there seems to be unknown reasons why support is refused. Small structure and small scale farming seems to be a problem for accessing PMV support, while in other regions like Agadir, where big farming is dominant, it is easy to get access. Maximum support in Midelt region you can get from INDH is 10,000 EUR, whilst in Agadir it is 400,000 EUR." Pers. Comm. with one influencer (father) from a field work village

7.2 Views of the urban youth

The interviewed urban youth, in the age range of 20 to 32, all have a link to agriculture, such as the family origin, or a family farm. Their cited reasons to migrate were to access a higher education, get a better job, or get married (female respondent).

This stakeholder group indicated both the challenges in rural villages (agriculture) as well the challenges in the urban area (as migrants) (Table 25).

Table 25: Challenges and opportunities from the realities in rural and urban areas according to urban youth (migrants)

Challenges in rural areas	Opportunities in rural areas
• No access to school (lack of teachers) • Lack of infrastructures (roads, schools, hospitals) • Environmental degradation (erosion), drought, bad water management • Difficult access to land • Hard work (physical and little mental) • No leisure opportunities (no Internet) • No innovation, only traditional ways of doing agriculture • No support from the government (PMV) to smallholder farmers	• Natural resources, exploitation of mining • Good quality agricultural lands • Water availability (though not exploited) • Quiet life, close to nature • Friendly environment • Exploitation of wild medicinal and aromatic plants
Challenges in urban areas	**Opportunities in urban areas**
• Difficult to find a job • Difficult to enter into educational programs • Difficult to integrate (different languages, customs) • Rural people are not welcome • Being far from the families in the villages	• Education • Learning languages (Arab and French), • Ability to save money • Sport and cultural activities • Meeting and exchange with different people

"There is an increasing number of youth migrating to town, mainly to study or to get married. As it is not easy to find a stable job, rural young people rather migrate temporary to town to accumulate some savings and get back to the farm, where the rest of the family waits." Pers. Comm. with a young male migrant from a village to the town of Midelt

Skill gaps

The interviewed group indicated the following skill gaps among rural youth:

- Soft: marketing, financial, civil rights (their own rights with respect to the laws, etc.)
- Technical: livestock (fodder, breeding, animals stable temperature, vaccinations), use of inputs (seeds, fertilizers, PPP)

7.2.1 Recommendations for improving rural villages

Among other recommendations, urban youth made suggestions that were not mentioned by the rural youth, such as:

- Sanitation networks equipped using solar energy
- Extension service to smallholder farmers in poor villages (on livestock, use of pesticides and other inputs) by sending technical staff (for example veterinarians) to train the youth at the village.
- Facilitation of the micro-credit system by the government for young people coming from outside the villages, but bringing revenue to the villages.
- Eco-tourism/agri-tourism (facilitated by the government, private sector, international developers).
- Juridical intervention to manage the collective lands by the state
- Using ICT to spread important marketing information to the youth in the villages and even on-line training opportunities

- Build a junior high or high school. Provide financial assistance to purchase books. Have more teachers to lower student-teacher ratio. Ensure school transport or city boarding for middle school or high school students who study in Midelt. Re-evaluate teacher qualifications.

I would like to see financial assistance to purchase books, both in the rural villages and in town. Pers. Comm. with a young person from Midelt town

7.2.2 **Own Aspirations**

Urban youth (migrant) aspirations are to obtain university degrees, own their own company, have a big farm, and see progress for the region and for the rural villages. They also wish to live with their own family in town. To achieve these plans they are continuing education, saving funds and looking for investors to provide financial support, as well as promoting their future business to different associations. Regarding the aspirations for their children, they are divided between:

- Being linked to agriculture: getting an education as the most important success factor to obtaining the job of their choice (also in agriculture if this will open opportunities, but with more advanced methods, using modern technology)
- Not being linked to agriculture: Living and studying in town, far from agriculture, and earning a comfortable salary. Not having many children and being able to educate them.

7.3 **Views of the national agencies and the external development partners active in agriculture and rural development**

7.3.1 **Organizations**

The key informants interviewed for this stakeholder group included representatives from the research center for a Moroccan agricultural bank, the Study and Research Centre of the Credit Agricole Group (CERCAM) (*Centre d'études et de recherche du Groupe Crédit Agricole du Maroc*); the ICARDA, the FAO representation in Morocco; the GIZ office based in Midelt; and the DPA for the Midelt province.

7.3.2 **Support programs**

In general, there is a critical lack of support for rural youth involved in agriculture. The main institutions involved in related efforts are INDH, the FAO, the DPA and GIZ within the Midelt province.

***Plan Maroc Vert* (PMV, Green Morocco Plan)**

This stakeholder group was asked how the PMV helps to promote the involvement of youth in agriculture (i.e. create youth employment opportunities) in the region. The PMV has a pillar to support inclusive projects that can help to fight poverty and support youth.

If young people want to start a project and the proposal is accepted by the DPA, they can go to a bank and get a 50% loan at a bank. The criteria to apply for a project are to be able to guarantee a link to the land and to be able to manage accounting. Cooperatives or individuals need no starting or co-financing capital. Every project needs approval on each level of the Ministry of Agriculture, from the provincial to the national level.

In theory, it is not a prerequisite for a farmer to be literate as they can approach the DPA with their idea, and DPA can then help to organize cooperatives or associations, and can provide training. However, in practice, many individuals are reticent to becoming a member of a cooperative and the reality of creating and managing an economic interest group often surpasses the skills of many rural youth in agriculture.

The PMV, which FAO provides financial support for, has another pillar aiming to convert 550,000 ha of land to drip irrigation. This conversion to drip irrigation under the PMV has

created work opportunities for youth. However, the opportunities created have been for the lower node of the value chain, where poor working conditions prevail, including sexual harassment, and gender wage gaps.

INDH

The INDH, within the national authority of the Ministry of Interior, to date has been the main actor in supporting rural populations. However, they have limited resources and they are more easily accessible by a population category that has a higher level of education. In addition, with the national regionalization plan that transfers power from the central to local government, which began implementation on January 1, 2016, INDH's future role is expected to diminish in favor of local efforts managed by the region and province.

FAO

FAO actively supports agriculture in arid areas in the Midelt Province, by supporting the PMV, and the integrated watershed project conducted with the High Commission for Water, Forests and Combatting Desertification (HCEFLD), the Swiss Development Cooperation (SDC), and Bern University of Applied Sciences - School of Agricultural, Forest and Food Sciences (HAFL). The watershed project is now in its second phase (2015-2017). The objective of the second phase is to develop a co-management plan for the watersheds using results from the first phase at another basin in the Midelt area. Within the framework of this watershed project, 200 beehives and beekeeping equipment have recently been delivered to youth at the end of 2015 via two different associations in the province. Goats are also being distributed within the framework of this watershed management project.

The FAO also supports the National office for electricity and potable water (*Office National de l'Electricité et de l'Eau Potable*, ONEE) in the program to bring potable water, household sanitation and treatment to non-serviced areas in order to increase the access rate. In addition, the FAO supports a TeleFood project to create revenue-generating activities for women and youth groups (goats, rabbits, beekeeping) at a rate of four to five projects per year.

GIZ

A new GIZ program entitled 'Morocco: promoting regional economic growth' ('*Maroc: Promotion de la croissance économique régionale'*, PEDEL) will be conducted over a three-year period until December 2017. The PEDEL project focuses on urban economic development, and thus does not focus specifically on rural youth. However, youth will certainly be an integrated component. The main project areas include support for value chain development and in particular for apples and aromatic and medicinal plants (in cooperation with development and institutional partners active in these areas), as well as entrepreneurial development.

7.3.3 Agricultural education and training

Based on the research findings from this study, a variety of agricultural training opportunities do exist throughout the Kingdom of Morocco, however, limited agricultural education and training is targeted towards or accessible to rural youth. The training is primarily offered by the state, as formal agricultural education and training, or offered by the civil society sector, through cooperatives and associations. No formal agricultural training centers exist in the Midelt province, not only for youth but also for the entire population. On the whole, up-to-date information on agricultural training opportunities available to youth is difficult to access, even for the internet-able population. A table summarizing the formal opportunities offered by the state is presented below (Table 26).

Table 26: Formal agricultural education and training in Morocco

Higher agricultural education	- Institut Agronomique et Vétérinaire Hassan II (IAV) in Rabat - IAV Horticultural Complex in Agadir - Ecole Nationale de l'Agriculture de Meknès (ENA) - Ecole Nationale Forestière d'Ingénieurs de Salé (ENFI Salé)
Vocational training	- National network of 8 Institutes Agricultural Technical Specialist in Agriculture (ITSA) - 11 Institutes of Agricultural Technology (ITA) - 26 Centers for Agricultural Qualification (CIC) that provide training diplomas for "specialized technician," "technician" and "qualified worker." Nearly 2,600 students graduate annually.
Technical training	National network of 45 institutions spread across all regions of the country - Aims to help students acquire the technical knowledge to continue agronomic higher education - Provided by 9 high schools preparing the Bachelor of Agricultural Sciences and 30 rural schools under the Department of Education
Apprenticeship training	- Provided by all institutions of the vocational training system - Covers 28 areas of expertise - Nearly 10,000 daughters and sons of farmers are certified annually

Source: Adapted from Kingdom of Morocco, Ministry of Agriculture (2014)

Personal communications conducted for this study research revealed that cooperatives, associations, and federations also offer periodic agricultural training ("informal" to their members on various themes such as sustainable harvesting and value added techniques for aromatic and medicinal plants, beekeeping (apiculture) techniques, sheep rearing, and even project management (how to develop a project, accounting, etc.). Given that most of the youth interviewed were not members of any civil society organization, these types of trainings remain inaccessible to the surveyed population.

Geographically, the nearest offering is the technical high school, Lycée Technique d'Errachidia, and the Agricultural technical institute (Institut Techniques Agricoles - ITA). ITA-Errachidia offers courses in fruit tree farming, crop-livestock farming, and horticulture. Both schools are located in Errachidia, which is 138 km away from the city of Midelt.

7.3.4 **Market profile**

Due to the local climate, apple trees have until now been the only trees that grow well, In the Midelt province, 50% of the gross local revenue is from the apple business, which provides mainly seasonal work. More women are employed in this sector than men, and there is reportedly not a substantial gender pay gap. Approximately, 6,000 ha of apple orchards and 200,000 MT of apples are produced annually. Some businesses are starting to export to European countries (France, Spain) and African countries. Export potential has been hindered by the use of pesticides, which do not consistently meet EU regulations. The amount of apple trees being cultivated has doubled in the past decade, leading to an oversupply situation.

Under the PMV, plans are in place to increase value added opportunities, and thus the number of apple processors in order to mitigate the apple surplus that drives down the market price for apples. Yet, value added projects are not currently in place.

7.3.5 **Challenges in agriculture**

According to national agencies and the external development partners active in agriculture and rural development that were interviewed for this study, the primary challenges in agriculture are as follows:

- The major problem is that agriculture does not provide enough income. Agriculture is not financially viable for most smallholder farmers. They need starting capital and land, which is not available to everyone. Much smallholder agriculture is produced at a loss. Farmers need help to develop other economic opportunities.
- Overuse of chemical inputs (DPA, ONCA and the Association des Producteurs des Pommes are working to share best practices for use of inputs).
- Difficult market access, in particular due to the lack of roads that connect villages to the rural road infrastructure.

- There are very little value added activities in the region
- The visible effects of climate change and environmental degradation cited are erosion, stripped mountains, higher temperatures (previously the region received six months of snow and six months of sun annually, and this winter season there were only several days of snow), and disappearing species.
- Access to agricultural insurance, although some insurance plans are reportedly not very serious.
- Many underprivileged farmers are not members of Economic Interest Group (EIGs), associations or cooperatives. Therefore, those who most need the help are unable to access the available assistance. The smallholder farmers are reticent to enter into small producer groups, associations and cooperatives. It is important to understand the reasons why these populations don't organize into associations.
- Socially constructed social norms and society perceptions (i.e. tasks only for women, only for men, only for youth, only for mature adults).
- Mobility issues, young women not allowed to work outside of their villages, thereby limiting their income potential.
- Water quality and quantity issues. For agricultural water management there needs to be a collective management system for each village but this is difficult to do. The right to water and the sharing of water is managed traditionally, for example one hour per person. However, now with micro-irrigation, a time allocation is an approach that no longer works since with a drip system a little bit of water is used over a longer period of time. The state has reportedly made much effort to improve the approach, yet the beneficiary has the right to refuse. As part of the Millennium Challenge activities, the state has also tried to improve the sealing and waterproofing of concrete canals and to modernize the water infrastructure including reducing the canal width, but villagers are afraid that this will affect the volume available.
- Frost and hail are limiting factors. There is a state subsidy for hail protection nets at up to 30% of the total cost, which is about 150,000-180,000 MAD/hectare (USD 15,000 – 18,000/ha). However, the overall net cost is still cost prohibitive for this type of investment by the vast majority of farmers.
- Approximately 95% of rural Midelt has access to electricity via the grid. Plans are also in place to equip the remaining 5% with solar electrification to bypass the difficult grid access.

7.3.6 Reality of rural youth from the point of view of the representatives of the agencies

In addition to the challenges in agriculture cited above, most young smallholder farmers and agricultural laborers do not have any training, skills, and sometimes no primary school education. Their opportunities are further hampered by their physical isolation and lack of access to health, education/training, and economic opportunities. Fortunately, these obstacles are the primary focus of the Provincial Strategy, managed by the C*onseil Provençial.*

It is difficult to encourage young people to stay in agriculture, as it is most often not financially viable. There is considerable collective land around the region although it is not accessible by youth.

7.3.7 Opportunities in agriculture/employment

1. Developing production of organic agriculture is an avenue to be explored, although little support or interest was detected for it among those interviewed. A large producer and highly technologically-oriented apple farmer located near Boumia reportedly plans to switch to organic. Producers like this one can become actors to inspire a new approach to farming, and perhaps help support the fledgling organic value chain in the region.
2. Support for organizational governance and value added infrastructure can help to develop the aromatic and medicinal plant sector (distillation of rosemary for example). Saffron trials were conducted in the province, but this crop is not productive at 2-3 kg/h.

3. With global warming, there is an increased potential to cultivate olive, apricot, pear and almond trees since there is less freezing. Potato is the other main alternative crop.
4. Help youth organize themselves into cooperatives, associations and small producer groups. Under the PMV, smallholder producer groups are to be encouraged in order to share resources and material. EIGs or professional associations enable leveraged negotiation with the state, as well as purchasing power for inputs, shared equipment (cold storage, processing material) and consolidated sales channels. It is important to understand the reasons why rural youth don't organize into associations. Successful examples need to be shown to them in order to raise awareness and encourage this approach. Youth need support and mentorship to create and manage these structures in order to take advantage of training, financing, networking and other opportunities available only to groups and not to individual farmers.
5. Groupe Crédit Agricole, among other development entities, has funds but lack youth who have financeable projects that are ready to be implemented. Youth need capacity building assistance that includes agricultural techniques and project management techniques.
6. Much smallholder agriculture is produced at a loss. Farmers need help to develop other economic opportunities.
7. Identify and develop alternatives for subsistence agriculture living using the participative approach with a reputable local association who can assist.
8. Develop the apple value chain, and create agricultural services and business services in Midelt (the GIZ PEDEL project includes this activity).
9. Train women and youth for pruning, grafting to increase their revenue potential for higher paid tasks for work outside of the family farm
10. Avoid corruption by working with local leaders who are known to be honest
11. Regulate the informal wage sector to ensure basic working conditions and worker rights (including protection from harassment by superiors and sexual harassment).

7.3.8 **Who should support rural youth in agriculture?**

The majority of stakeholders from the national agencies and the external development partners active in agriculture and rural development noted that that support to rural youth involved in agriculture must be provided first by helping these rural youth organize themselves into cooperatives or associations and then to mentor them. The suggestions for mentoring were primarily via serious and dynamic associations, as well as agricultural extension services managed by the DPA, HCEFLCD, or the Moroccan Association to Support and Promote Small Businesses (AMAPPE, *Association Marocaine d'Appui à la Promotion de la Petite Entreprise*).

7.3.9 **Innovative youth**

When asked if this stakeholder category knows any young entrepreneurs that have succeeded in agriculture, the only ones that could be identified are those supported by INDH. The frequently cited INDH supported project in the Midelt province is a youth cooperative in Imchimin that established an apple-processing unit to produce vinegar from non-sellable apples.

7.3.10 **Skill gaps in agriculture: Types of training to offer**

- Devise mentoring services for those who have had little education and skill sets to provide training in agricultural techniques and project management, access to credit, and entrepreneurial support (to obtain a credit, create and manage a micro-enterprise, develop a business plan, structural project planning, budgeting, keeping accounting, developing a sales strategy, developing an entrepreneurial spirit).
- Craft support services to assist youth in creating and managing economic interest groups (cooperatives, associations, smallholder producer groups, etc.).
- Several key informants interviewed under national, bilateral and multilateral development stakeholder category suggest that the types of training to offer should also include income

generating activities that are viable alternatives to agriculture, in view of the expected impacts of climate change on subsistence agriculture.

- Increased training on the efficient use of chemical inputs (DPA provides training in this area but they have limited financial and human resources).

8 Findings: Results of the Multi-stakeholder workshop

A workshop was held in Midelt, Morocco on May 26, 2016 to share the results of the study and hear the feedback from rural youth, influencers and local actors and discuss the way ahead. The meeting was one day and included 50 people, from different stakeholder groups, including rural youth from the villages surveyed, older villagers ('influencers'), urban youth (migrants), government representatives (e.g. Ministry of Education, Ministry of Agriculture Direction of Provincial Agriculture extension services, High Commissary of Water, Forests and Fight Against Desertification, local authorities), development partners (FAO, GIZ, SDC) private sector/financial institution (Credit Agricole), civil society and study team members (Annex 3).

Results were presented and key points were discussed. Rural youth and influencers as well as some urban youth were given the floor to discuss their challenges and aspirations. The most commonly mentioned themes were the need for better roads, education and skills training. The workshop participants then identified key topics for further discussion. Five groups were created for each topic and discussed among the participants of different stakeholder groups, the key points highlighted and identification of who should take these actions forward.


Photos 6 and 7: Testimonials and group discussions at the multi-stakeholder workshop (Photos: A Giuliani)

1. Follow up research needed: which kind of further research is needed?

- Qualitative analysis of ALS's; scenario development; impact studies; analysis of demand and supply services and social action research; one on the formation of youth associations and their related functions and the other on youth engagement in civil society.

2. Access to existing opportunities: How can we make existing opportunities more accessible and relevant to young people?

- Gap between offer and demand for services, youth do not know what is offered; parents, TV and radio and extension agents are sources of information.

3. Access to basic education (primary/ secondary - formal and non-formal) for improving literacy in the villages:

- Mobilise associations to raise awareness of importance of school attendance and literacy; improve infrastructure and transport services; assess teaching quality and curricula; extend age for non-formal education programs from 16 to 20; include professional training in non-formal education; increase budget for these programs.

4. Agriculture vocational training to employment: how can we better link these trainings with income generating activities in agriculture?

- Integrate agricultural topics in curricula; spread information on agricultural professional training opportunities through info board in villages, TV and radio; long-term favourable credit for those trained in agriculture.

5. The management and governance of the associations: How can associations be improved to make them more useful and attractive to rural youth?

- Capacity development of associations in financial management, marketing, and conflict management; inform and raise awareness on requirements of cooperation creation for youth.

9 Discussion and Conclusion

In areas where food security is assured, but poverty is widespread, before expressing their aspirations in their rural life and career, interviewed youth in the province of Midelt raised first the issue of lacking primary needs which are not yet fulfilled, i.e. access to education, access to potable water, lack of roads and infrastructure and health care. Though more than 95% of children in Morocco have access to primary school education (Abinader 2015), having access is not equal to achieving a level of basic education. This is due to early school leavers, lack of teachers, the need to support a family instead of attending school; the absence of school attendance control, and a lack of a promoting or sanctioning system. Poverty among the interviewed rural youth is based on possessing no or very little land, few livestock, not having access to wage labour opportunities because of limited or no education and because of limited economic development of the area, lack of roads and infrastructure. The categories of respondents whose conditions are even more difficult are the young nomad herders, due to the harsh conditions in which they live, and young women who face more challenges, across all agricultural livelihood systems.

The degradation of natural resources, due to deforestation, soil erosion, which are all exacerbated by climate change, and bad water management adversely affects livelihoods significantly for all generations in all three systems (irrigated, rainfed and pastoral). The environmental challenges are not youth specific, but they were reported by about one third of interviewed youths.

The research has unearthed some interesting points that were unexpected and require further analysis. Migration from rural areas was a controversial issue: about one third clearly wished to migrate to an urban area, while 17% were undecided. Therefore, the desire for the majority of the youth interviewed (about half of the total) to stay within their villages - if the conditions were better - challenges the prevailing narrative whereby it is assumed that youth are eager to migrate from rural areas as agriculture is not appealing (Kritzinger 2002; ; Anyidoho et al. 2012; Tadele, Ayalew Gella 2012). Some respondents felt they could not leave their parents and family, which was particularly true for young women. First and foremost, young women aspired to be educated, have better access to health care and other services, and have their own family. Young men wished to improve their agricultural activities through owning land and a farm, having access to trainings (though many surveyed youth did not know what skills and competences would be needed), and establishing a more market-oriented production, accompanied by proper infrastructure. However, further analysis is required to better understand the factors behind their desires and choices.

The image of agriculture among the interviewed youth and across the three ALS's seems to be neutral (not as negative as in many previous studies). The major reason cited for a positive perception is that agriculture is the only source of income (30% of all youth) and for young men the only profession in which they see themselves well experienced. Another positive argument, particularly mentioned by female youth, was the peacefulness and calm of rural life. Applying a similar approach as in Anyidoho et al. (2012), by looking at structural factors behind perceptions (in this case, differences in young people's education, and agricultural livelihoods systems), the results do not indicate a particular relation between the perception of agriculture and level of education, nor in one of the investigated ALS in particular.

However, young people depending on rainfed farming are the most vocal about the insufficiency or fluctuations of their income due to scarce and unpredictable rainfall. In general, young women also perceive agriculture more negatively than young men. More than 70% of women (compared to the 47% of male peers) find agriculture financially non-viable. Another major reason for the negative perception of agriculture by young women is that the physical work required is hard and demeaning– confirming the results from previous research on rural youth in Morocco (IFAD 1997).

In term of aspirations, more than half of all young male respondents wished to successfully expand and manage their own farms for their future (however without specifying further plans on how to overcome the challenges to realise their dreams, in a similar manner as in the study in Tunisia from Collard et al. (2015). Overall, two thirds of male youth expressed the desire to stay engaged in agriculture, provided the agricultural conditions are good and life in the village improves as depicted in their village of their dreams (enhanced basic infrastructure and others issues like social life and sport). However, some other young men (approximately 20%) aspire to live in urban areas where they wish to find a job not related to agriculture. Among the young women the most frequently expressed wish was to get educated and educate their children. They also wish to have sewing and handicraft opportunities in the village of their dreams. A smaller percentage wish to get married and leave the villages, while some young women expressed no aspirations for their future life, either due to lack of hope for changes or to a self-perception of not being allowed to dream. Among the aspirations of both young men and women is the wish to form their own family and be independent from their family of origin.

Youth were not very often involved in decision-making in the households and on family farms, where decisions were mainly taken by the fathers. Young women in particular stated having no say in decision making. From a comparative analysis, the level of education did not look decisive in the level of involvement in decision-making. The fact of being financially dependent on their parents seemed to limit youth's decision making capacity.

The use of modern information and communication technology in the surveyed site is limited to mobile phones; internet use is not very widespread. Consequently, the potential benefits of these tools though often recognised by the youth (e.g. improved marketing of agricultural produce, organizational development, etc.) are yet to be fully exploited.

Value addition activities in agriculture were rarely mentioned by the interviewed youth, and about one third of the respondents did not fully understand the concept of value addition. This is most probably due to the lack of opportunities in this field. Similarly, few respondents stated they had adopted new of innovative practices (less than one third). The most widespread newly adopted practice among the farming youth was drip irrigation.

When tackling the issue of skills and competencies needed in agriculture, the results showed that young women's concern was first and foremost for accessing or completing their basic education. Young men instead frequently conveyed the need for practical training in agriculture and other types of vocational training.

It was important to include the views of the influencers in the study, i.e. parents, urban youth (migrants), teachers, agribusiness employers, as social influences on aspirations are more powerful in rural areas (Leavy and Smith 2010). The influencers' views did not substantially differ from those expressed by the youth and confirmed the lack of education and infrastructure, the low profitability of agricultural activities in this area, the need for specific training in livestock management and use of crop inputs, as well as a fair distribution of and access to collective lands for the youth and better access to existing opportunities.

Other key informants, such as representatives of national agencies and external development partners active in the field of agricultural development and agricultural research expressed their opinions on the needs of training and competencies of the youth in this rural area, and the available opportunities. The study further revealed that there is little agricultural education and technical or vocational training in the Midelt province. Additionally, up-to-date information on agricultural training opportunities available to youth is difficult to access, for

both young people from the villages, as well as people with internet access. A variety of development entities operating in the area have programmes and funds but lack youth groups with financeable and viable projects that are ready to be implemented. Youth need capacity building assistance that includes agricultural techniques and best practices as well as project development and management techniques.

This study's results support Ghanem's (2015) statement of the need to include agriculture and rural development into inclusive growth policies for Morocco. Besides, the results underline the need of supporting small family farmers through the development of collective actions (not only associations) to represent the voice of (poor) small-scale farmers so that they are heard by the government. In theory, funds exist and support programmes and trainings are available to assist youth in Moroccan dryland agriculture. However, in practice the youth are unable to tap into these opportunities because they are not organized into associations or economic interest groups. Indeed, the assistance from governmental, non-governmental and international organizations is provided only to members of associations or cooperatives, while at the same time there is a lack of awareness, limited access and mistrust by youth towards these institutions. The vast majority of the youth surveyed were not involved in any association or cooperative (only 5% of the respondents mention they are members of an association) and there was visible reticence in joining or creating one of these types of organizations. Without these structures, youth are less aware of opportunities, and cannot benefit from them. So, while farmer organizations and associations play an important role in general and in particular for youth, they also present many problems. The existing resources (as well as information) are channeled only to members and non-members miss out. This study confirms what is stated by Bouzidi et al. (2015) on the very difficult access by rural youth to governmental support. Youth can get organized, but that requires investing in education and capacity building by the state and other actors.

The data collected in this study is an important first step in understanding, addressing and working with youth for better rural futures. Youth-targeted social action research and interventions are critical for the creation of participatory and inclusive systems. Youth research is needed for sustainable dryland systems, which allow youth to build decent and sustainable livelihoods in rural areas based on agriculture.

9.1 **Gaps**

Several gaps have been identified for additional research and possible interventions.

There are programmatic gaps as well as research gaps highlighted. Existing gaps range from infrastructure to education, and knowledge, which can only moderately be addressed through existing programmes and must be addressed through policy reform and government interventions.

There is an absence of agricultural education schools, technical and vocational training. The quality of the schooling in the surveyed villages is poor, which reduces the transfer of essential 'soft skills' to youth (communication, leadership, networking). There are furthermore no apprenticeship trainings in place in the Midelt province.

There is an absence of effective mechanisms for reaching youth in rural areas with relevant information. Additionally there are gaps from youth on how to access existing opportunities.

There is a need for strong and effective associations or other forms of collective actions so that mechanisms exist by which youth can have legally registered representation.

There are some additional research gaps, which have been identified through this research. Firstly, replication of the methodology of the study is required for a better understanding on youth aspirations in agriculture. Additional studies would enable a comparative analysis to be done across different areas and contexts to see if any similar trends could be unearthed.

Further analysis into additional mechanisms, beyond associations and cooperatives that could be used to target rural youths is required. In addition, research on how to improve existing or overhaul existing systems would also be useful. Further recommendations for social

action research are provided in the recommendations section, which are also the results of the workshop.

9.2 **Recommendations**

The low education rates and lack of basic services in the study area mean that there are several urgent needs and thus, any interventions in the area should tackle different issues simultaneously. These include access to basic services, means or systems to access resources; capacity development needs as well the continuum of coaching, training or mentoring of youth until the successful start of a job or a business.

The study team recommends that future research, of the CRPs, as well as other research and development programmes, consider the heterogeneity and different contexts of youth in target areas when developing youth focused interventions. This may include gender, education, social constraints, economic status, drivers, aspirations and other relevant factors. While youth employment and inclusion in value chains are topics of critical importance, they cannot be dealt with in isolation. These efforts must fit within a broader youth focused strategy, which should also include stronger female and male youth leaders to become agents of change in rural communities. This, in turn, must work within rural development strategies where positive youth engagement in agriculture further relies on improved and relevant agricultural education, improvements in rural infrastructure and stronger youth contributions to the shaping of policies and programs that impact their future. Finally, the concept of youth itself must be problematized: men and women, rich and poor young farmers have different opportunities and face a very different set of constraints. It is important that the CRPs and others understand this diversity and how it plays out in different contexts.

Specific recommendations derived from the diverse stakeholders attending the workshop include (also see Annex 3):

1. Follow up research

- Qualitative analysis of agricultural livelihood systems, simulation and scenario development of possible feedback loops triggered by interventions for youth in agriculture;
- Impact studies (qualitative and quantitative, such as randomised control trials);
- Market studies (supply and demand for agricultural goods) and associated support needs (education, training, credit);
- Social action research for example supporting the youth to create an association, while researching what makes youth associations successful and what hampers them;
- Investigate the social and psychological reasons why rural youth are not engaged in politics and civil society and at the same time raise awareness among the youth on how to be more engaged in politics and in social life.

2. Access to existing opportunities

- Enhance the means to communicate information which reach the youth population in rural villages, such as word of mouth (parents) radio and TV and extension agents (suggested actors include DPA/FAO);
- Increase the number of extension agents to effectively work with youth involved in agriculture and support them in their various needs. (Ministry of Agriculture/DPA started in 2010 in Midelt, and is a relatively new entity)
- Create and provide mentorship support for a flexible organisation (e.g., NGOs and other intermediaries) of young people who come from the villages, can communicate with and are respected by the rural youth (respected in their origin villages) and can play a role of mentors to the youth.

3. Access to basic education (primary/ secondary - formal and non-formal) for improving literacy in the villages:

- Mobilize the associations to raise awareness about the importance of school attendance and literacy;

- Improve and expand school premises and improvement of transport service to schools;
- Strengthen / improve the education system and curricula through monitoring of students' performance and drop-outs;
- Assess teaching quality and curricula;
- Introduce extra-curricular activities, such as sports, arts, school gardening, environmental activities, etc.;
- Increase the age limit within non-formal education programmes from 8-16 to 8-20, and include professional training in non-formal education;
- Increase the budget to meet increasing needs (as suggested above).

4. Agriculture vocational training to employment:

- Integrate agricultural topics in the primary/secondary school curricula[13];
- Spread the information through the information board in the villages, and through TV and radio about the opportunity to participate in agricultural professional training at the villages (i.e. a 1-week training about beekeeping, tree cultivation, vegetable, livestock sheep and chicken offered yearly);
- Develop a favourable credit system with long-term credit for the youth who get training in agriculture.

5. The management and governance of the associations:

- Enhance the capacities of the association related to financial management, marketing, conflict management thought training;
- Inform and raise awareness about current standards on rules related to the creation of associations and cooperatives (rights and duties of associations'' members and about how to establish, manage and develop an association/cooperative.

The recommendations under point 2 on the *Mentoring model* came out clearly as a recommendation for applied social action research. Supporting individuals (ideally youth) respected in the villages to be intermediaries between the public authorities and the rural youth and help with capacity building including: build trade relationships; help youth to install, manage and maintain technology /equipment; raise awareness of why and how to set up and manage an association; empower people by asking things of them, involving them, and to make them responsible for creating opportunities.

While more research is needed, at the same time, action is also needed as an increasing number of young people are entering the labour force every year. The results show that none of the young respondents run their own farms, but there is a clear aspiration to work on their own farm among half of them. Youth must be enabled to run own farms and to reach this point, the research team suggests that action research is carried out and that activities addressing the gaps and opportunities outlined in the research begins, at the same time of continually learning and shaping the programs through the undertaking of additional research.

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[13] *The representative from the Ministry of Education who attended the multi-stakeholder workshop said that they have just started to do this this year*

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Annex 1: Research Questions

RQ 1: What are the youth realities of agricultural livelihoods in dryland systems in the study area?

a. Perception of reality (do youth consider themselves successful and the reasons behind, how did youth get into agriculture)
b. Present options for ALS
c. Financial viability of agriculture as a profession (survey and statistics, secondary data) and perception of the financial reality by youth
d. Impressions of rural life (are changes observed, past, present, future, ICT implication)
e. Interest in agriculture
f. Level of involvement in agriculture (labor, decision making, etc.) and not (leisure time, non-agricultural occupations, vacation, interests such as music, etc.)
g. Access to resources (land, livestock, financial, knowledge, education, networks such as youth groups and other, survey and secondary data)
h. Capacity to innovate (questions on indicators such access to networks, see above)
i. Reason for migration and non-migration (rural youth, ex-rural youth)
j. Skill gaps (what technical/soft skills are missing to be successful in agriculture)
k. Skills required (of youth) by famers and other employers (to be asked both to youth and employers)
l. Effectiveness of youth programs and initiatives that are in place (key informant interviews and secondary data)
m. Impact of past and current AR4D interventions from youth perspectives
n. Drivers of rural youth in drylands

RQ 2: What are the livelihood aspirations of rural youth in agricultural dryland systems in the study area? Do the aspirations they have correspond to the perceived and existing options in their respective ALS?

a. Future perspectives (rural youth)
b. Vision of improved livelihoods (how, what it looks like)
c. Possible selves (in up to five years, and in a long run) – current vs. desired life trajectories
d. Gap between options and aspirations
e. Required changes from a rural youth perspective
f. Required AR4D interventions from a rural youth perspective

RQ 3: What are the challenges and opportunities encountered by rural youth in agricultural dryland systems in the study area according to their perceptions and to those of other stake-holders?

a. Enabling factors for a rural livelihood – implications to entry points for research
   - Value added in agriculture
   - Impact evaluation of interventions regarding youth in agriculture
b. Limiting factors (to be distinguished in internal and external factors)

RQ 4: What are the implications of rural youth aspirations, challenges and opportunities for agricultural research interventions (agricultural research for development) in the study area?

a. Added value, entry points for future research to address the main issues of gaps between aspirations and options for rural youth in their respective ALS
b. Relation between aspirations/options and impact of previous interventions regarding youth in agriculture

Annex 2: Guideline for in-depth interviews with rural youth

Interview guideline for in-depth interviews with rural youth in agriculture

Interview details: Interviewer/enumerator: Respondent/interviewee: Phone number: Date: Duration:	**Most important agricultural livelihood system (ALS):** ☐ Pastoral ☐ Rainfed ☐ Irrigated

Demographic data

Age:
Gender:
Ethnic group:
Marital status:
Number of children (if any):
Number of persons in household:
Head of household:
Commune:
Village/douar:

Highest level of education completed:

☐ None (0)

☐ Primary (1)

☐ Secondary (2)

☐ High school (3)

☐ Academic/university level (4)

Please indicate answers by choosing from the below given choices. Where asked for a number (e.g. in ha), please answer by giving the exact figure. Open and semi-open questions are to be specified (written answers). Instructions (written in italics and bold) are not to be read loudly.

Realities and perceptions of youth

Reality

1. How do you earn your living? ***You can tick more than one box, but you need to rank them (e.g. 1 is most important), specifications need to be written in bold***

☐ Farm household/family farm

☐ Pastoralist (sedentary)

☐ Pastoralist (nomadic)

☐ Collecting plants from the wild (medicinal and aromatic plants, mushrooms, berries)

☐ Employed at someone's farm

☐ Agricultural business household (own or family?) – which type (processing, inputs shop)?

☐ Employed at someone's agricultural business – which type (processing, inputs shop)?

□ Other (specify)

2. Do you or your family own the agricultural land you have access to?

a. Land

Yes ***(specify type of land according to ALS)***: How much land do you or your family own (in ha)? □ Unable to quantify Quality of land: □ Very poor □ Poor □ Average □ Good □ Very good	No: Why did you get into agriculture? Which are the barriers to get access to land? □ Inheritance □ No access to collective land □ No access to finances for purchasing land □ Other ***(specify)***:

b. How do you have access to water?

3. Which percentage of the goods you produce is for sale and which percentage is for subsistence?

For the market (%):	Subsistence (%):

4. What are the main agricultural goods, both crops/livestock you and your family produce on this land? ***Please also include plants which you collect***

For the market:	Subsistence:

5. How many animals do you own?

Cows:	Sheep:	Goats:	Donkeys/mule:	Poultry:	Other (which?):

6. Do you process or add value to your agricultural goods produced? How? ***Postharvest, e.g. sorting, packaging, labeling, marketing, processing, and drying***

Perception of reality

7. Is working in agriculture or related activities something that you would describe as an interesting profession?

Why? Which advantages?	Why not? Which disadvantages?

8. Is your activity in agriculture financially viable?

Yes, why?	No, why?

Impressions of rural life (past, present, future)

9. Compared to 5-10 years ago, how do you consider your and your family's well-being?
This question addresses both the financial and the social/status dimension of prosperity

☐ Better	☐ Equal	☐ Worse

a. Why and in which sense?

10. What information and communication technology (ICT) (mobile phones, computers, etc.) do you/would you like to use?

In your personal life:	In your agricultural work:
Do you use?	Do you use?
Would you like to use?	Would you like to use?

11. How can value added activities in agriculture improve your community's/region's situation? ***If the term 'value added' is not clear, please provide some examples, e.g. cheese production/dairy processing, olive oil production, drying fruit, etc.***

Involvement of youth in agricultural activities

12. Who is making decisions in respect to agricultural or related activities in your household?

13. How are you involved in those decisions?

14. How much time do you spend with agricultural and other activities (hours per week)?

Agricultural work:	Non-agricultural work:	Leisure:	Training:
Type of activities?	Which type?	Which activities?	Which type?
Hours total (per week)?	Hours total (per week)?	Hours total (per week)?	Hours total (per week)?

Access to finance and social life

15. Do you have access to financial support (parents, relatives, banks, state, and other loan givers)? Which ones?

16. Are you able to put some of your money into savings? How? ***E.g. putting it into a bank account, investing it, etc.***

17. In the recent past, have there been any agricultural/natural resource management projects or youth-targeted policies ***(e.g. training opportunities, micro credits, support for entrepreneurial activities, changing to organic, use of improved varieties or breeds, irrigation techniques, etc.)*** in the community/region?

Past interventions:	Were you part of the intervention? □ Yes, why? □ No, why?	Impact on your livelihood ***(e.g. increased number of livestock, higher yields, less pesticide use, better access to veterinarian services, etc.)***:

18. Are you member of any youth groups/associations/cooperatives or networks (e.g. young farmers associations) in your community/region? Why, why not, which ones? Which role do you have as a member?

Rural-urban migration

19. Did you ever think about moving to another place? Why? Where?

20. How do you think is rural life different from living in a city?

21. Do you know youth (men or women) who returned from living in urban areas back to the community/region? Do the opportunities they get change? How?

Skill gaps/skills required

22. Which know-how do you need to be successful in agriculture (both hard/technical and soft skills)? ***E.g. information about the use of fertilizer, pesticides, etc. for hard skills, creativity to improve the marketing of your products through cooling capacities or contacts***

23. Which programs provide you with this knowledge in your area ***(e.g. schools, further training, etc.)***? Do you have access to this? Why, or why not?

24. What should be offered? Which activities and interventions of governmental/non-governmental institutions would be needed to support rural youth (in agriculture)?

Innovation

25. Have you tried new practices in your agricultural activities ***(e.g. changing to organic, use of improved varieties or breeds, irrigation techniques, adaption to climate change, etc.)***?

Which?	Why?	Impact?

26. What do you do if you have a surplus of production? How do you plan for the following year ***(e.g. diversification, e.g. producing less of one crop and more of another)***?

27. What do you do if you cannot sell your produce?

Aspirations of youth

28. Where would you like to see yourself in 10 years' time? What is your dream?

What is your dream job?	Have you made a plan for this to happen?	Why or why not?

29. Where do you see yourself (personal and professional life) in 10 years' time realistically?

30. How do you imagine a good life for you and your children? Is agriculture part of it?

31. Who is playing an important role in your life and for the decisions you make? ***If it is the father, ask who else beside the father***

Challenges and opportunities encountered by youth

Challenges	Solution/needs
32. What are the main challenges in your agricultural activities?	**33.** What would be required to overcome these challenges? ***Link and itemize to answers given in previous question, e.g. hail nets against hail, cold storage for better marketing if prices are low, etc.***

34. Are there young men/women in the community/region who successfully started their own business? If yes, what and how do they do?

Annex 3: Multi-stakeholder Workshop Proceedings

See the attached PDF document

Annex 4: Case Study Zagora

Authors: Pascale Wälti and Sara Dettwiler (HAFL)

A pilot study was conducted in the Feija valley, in the region of Zagora, within the frame of a Bachelor thesis. The objective of this study was to identify factors that make rural employment attractive for youth in this area. To this end, 32 persons were interviewed, among them 26 young people. 10 interviewees were from urban area, while 17 were farmers and 7 pastoralists.

The climate of the Zagora Province is hot and arid. The local economy is based on irrigated "oasis" agriculture. The crop production is dominated by palm trees, with substrata of fruit, vegetable, cereals, alfalfa and henna. Date production is the major cash crop. This intensive agriculture is associated with extensive livestock production on large rangeland (Barrow and Hichman, 2000).

The Feija valley started to be colonized by agriculture some decades ago, along with the possibility for each inhabitant to become owner of a 10 ha plots. However, the agricultural production boomed during the last 15 years with the introduction of the watermelon production by some private farmers. For example, from 2012 to 2013, the area of watermelon cultivation doubled (Karmaoui, 2014). Because watermelon cultivation appeared to be very profitable in the Zagora conditions, it was very rapidly adopted by farmers, including young ones. This has made farming very attractive for youth in the region of Zagora. Interestingly, the watermelon production developed in an unstructured way, without active support from the State services, except the possibility to obtain subsidized drip irrigation systems.

Access to formal credit was rated as very difficult by the interviewed young people. On the other side, remittances seem to have played an important role in the settlement of former nomads and establishment of new farms. Migration rate in search of jobs is high and more than half of the families of the region depend on remittances (Rössler et al, 2010). However, as soon as the economic situation of the newly established farms allow it, migrant come back to the Feija valley and work on the family farms or establish daughter farms.

Because the watermelon production is quite profitable, the interviewed youth consider farming more attractive than either living and working in urban area or living as a nomad. They appreciate the fact that they can be self-employed. Youth also value living in rural area and the rewarding aspect of producing food for other people. Living in town is viewed as less attractive because of the high work load and low salaries that can be expected without proper education. However, the proximity of social services (school and health services) and availability of electricity are seen as advantages of the urban life. Especially young women seem to be more attracted by urban life, because they assume that their workload would be lighter than in rural area.

Young nomads do not consider their way of life attractive because of the harsh living conditions, the high workload and the low income.

In conclusion, this pilot study suggests that living and working in rural dry area may be attractive for young people if the access to production resources (such as land and irrigation systems) is facilitated (e.g. by subvention), if they can be self-employed, and if they can cultivate a productive cash crop.

However, the environmental sustainability of this situation may be questioned, as other studies have shown that the uncontrolled digging of boreholes and the booming of watermelon production in the Feija Valley is leading to a depletion/salinization of the ground water and challenges other well established "oasis" productions (Karmaoui et al, 2014, Karmaoui et al, 2015; Zainabi, 2001).

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