

The contribution of rural youth to climate issues in agriculture and their engagement in climate policy

Mélanie Dibon, MSc

Student No: 20233070

The thesis is submitted to NUI Galway in part fulfilment of the requirements for the degree of Masters in Climate Change, Agriculture and Food Security, which is a taught postgraduate program within the School of Natural Sciences.

NUI Galway Research & Minor Thesis Supervisors:

Prof. Charles Spillane, Dr. Peter McKeown, Dr. Una Murray

CCAFS Cali Research & Minor Thesis Supervisor:

Jean-François Le Coq

27th August 2021

DECLARATION

I declare that this thesis is all my own work [except where specified otherwise] and that I have not obtained a degree in this University, or elsewhere, on the basis of this work.

Date: 27th August 2021

Signed: Mélanie DIBON

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Target Journal: Sustainability
Mélanie Dibon ¹ , Peter C. McKeown ¹ , Una Murray ¹ , Charles Spillane ¹ and Jean-François Le Coq ²
Keywords : Youth, Farmers, Agriculture, Climate Change, Policies, Rural, Development, Sustainability
¹ MScCCAFS Program, Plant & AgriBiosciences Research Centre (PABC), Rvan Institute.

National University of Ireland Galway, University Road, Galway H91 REW4, Ireland

²CIAT

ABSTRACT

While multiple actions have been implemented for several years in order to respond to the climate crisis, one critical group of next-generation actors has not been taken into account enough to date: rural youth. Demographically, young people are critical for the future of all societies, especially in many developing countries where youth bulges can represent a demographic dividend or deficit. Yet, the problems facing tomorrow's generation of citizens are still not sufficiently taken into account in climate and agricultural policies where long-term commitments are difficult to achieve. A number of programmes and tools already put in place by governments and various organisations clearly show the importance of the representation and contribution of rural youth in climate change policy processes. However, to realise the maximum benefits of youth engagement in climate policy it is necessary to build on the factors that facilitate this, while working to reduce those that limit it. This analysis underlines the importance of supporting rural youth in their empowerment and offering them the space to contribute to climate issues in agriculture and facilitate their greater integration into climate strategy and policy.

INTRODUCTION

From a village wiped off the map in Canada, to rising sea levels in many countries, to more frequent and intense droughts, climate change is having dramatic effects around the world. The most affected populations are principally the most vulnerable people in developing countries. Even more so, it is the rural populations, whose livelihoods depend directly on the land and nature, who are facing the most difficulties. Frequently, the victims of these major climatic events have a minor role in their origin, that is, in greenhouse gas emissions, a situation referred to as geographical climate injustice. In the same way, today's young people face a double challenge: they are the living generation most affected by climate change, and thus victims of generational climate injustice, while they possess very little political capital to bring about the changes needed to mitigate and adapt to it (Yona, 2020).

The issue of youth is on the agenda of political agendas in many countries of the South. Indeed, today, young people represent a significant part of the population, but they are severely affected by high unemployment and underemployment rates. While the youth population is growing, their employment and entrepreneurial opportunities frequently remain limited, poorly paid and of low quality. This is particularly true in developing countries for young people living in rural areas with low economic development (FAO; CTA; FIDA, 2014). In the context of food security, rural youth are also the future. Despite this, few young people around the world are able to envisage their future in the agricultural sector or in rural areas. Many of the policies implemented for youth opportunities are aimed at urban youth. However, rural youth, and even more so, young farmers, also face the same challenges, exacerbated by many other issues that challenge their livelihoods and futures (Amichi, Kadiri, Bouarfa, & Kuper, 2015). These rural youths are then forced to migrate to cities, or even regions and countries, where they feel the job market would be more favourable.

But who are the young people who are facing the consequences of climate change in their daily lives? The definition of youth varies depending on the source: according to the FAO and the UN, it is people aged 15 to 24 years (FAO, 2021). According to other sources, it can extend to 30 years (Peou, 2019), 35 years (Metelerkamp, Drime, & Biggs, 2019), and even 40 years (Kan, et al., 2019). For still others, youth is seen as a social construction. Indeed, it has been argued that "being 'young' is not a matter of age in the biological and statistical sense, but of a socially and culturally constructed relational position in relation to other generations, and in relation to access to attributes and resources that confer social competence and 'speaking' power" (AFD, 2015). UNESCO describe Youth as "a period of transition from the dependence of childhood to adulthood's independence and awareness of our interdependence as members of a community. Youth is a more fluid category than a fixed age- group. However... 'youth' is often indicated as a person between the age where he/she may leave compulsory education, and the age at which he/she finds his/her first employment. This latter age limit has been increasing, as higher levels of unemployment and the cost of setting up an independent household puts many young people into a prolonged period of dependency" (DESA, 2020). The definition used in this review paper will be that of the FAO: 15-24 years.

The inextricable link between youth and climate change is therefore undeniable, and is further strengthened by the involvement of youth in long-term climate change policies that will impact on the youth, their future children and their grandchildren. Indeed, although young people contribute to climate issues, it is important to take them into account in transformation strategies and policies to address adverse climate change impacts on agriculture and in rural development. The hypothesis is that the contribution of rural youth to climate issues depends on the policies implemented in the different countries and regions. The lack of engagement of rural youth in climate change policy (especially in agriculture domain) is also negatively impacted by the lack of attractiveness of the agricultural sector for decent livelihoods for young people. This review therefore aims to take stock of the contribution of young people to climate issues in agriculture and their integration into climate strategy and policy in developing countries, following the approach of a structured review.

METHODOLOGY

The research method applied in this article is a systematic literature review. Keywords and search strings queries were first searched on Scopus and Web of Science. "Youth", "Climate Change", "Policy", "Agriculture", "Rural", "Development" and "Strategy" were applied as keywords, with AND between each keyword. These keywords were thus either in the title of the article or in its abstract.

In the first search, in May 2021, 327 articles were found (176 on Scopus and 151 on Web of Science). Duplicates were then removed. A reading of the abstracts of the remaining articles was then carried out to retain only those most relevant to the research topic. This brought the number of articles to 45, of which 32 were on Scopus and 13 on Web of Science. The majority of the excluded articles were excluded because they did not consider youth, climate change or policy in their analyses. The next step was the reading of these articles before a final selection. Some of these articles were also discarded, because they were not available online, or because their subject matter was not entirely relevant to this study. This brought the final number of articles selected to 20. Table 1 below explains the structured review process.

Table 1: Evolution of the number of articles during the research process.

	Scopus	Web of	Total
		Science	Total
Initial research	176	151	327
After the first screening	32	13	45
Final count	14	6	20

The selected articles were then organised by year and by geographical area. This organisation by year and geographical area can be seen (Figures 1A and 1B). The majority of the articles on rural youth and climate change have been published since 2017, particularly in 2020, with more than 25% of the articles published in that year. As shown in Figure 1A, it can be clearly seen that this theme is emerging in the

research and is taking root in recent years. None of the selected articles are older than nine years, the earliest published being in 2013. Regarding the geographical areas, three articles are on a global scale, one is focused on the least developed countries, the others are on a regional and/or national scale. The most represented geographical region studied is Africa, with 50% of the articles. In contrast, no article focussed on Oceania.

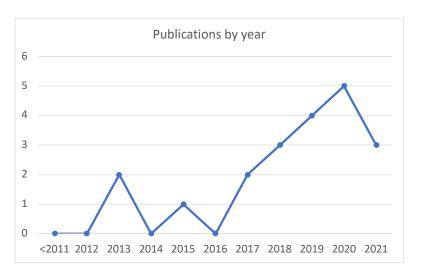


Figure 1A: Number of publications by year of the final papers selected for this structured review: an increasing number in the last four years.

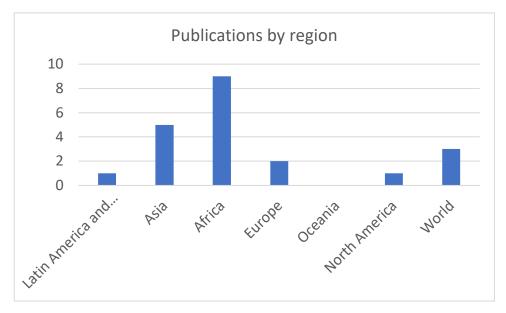


Figure 1B: Number of publications by region of the final papers selected for this review: an unequal distribution.

RESULTS

The analysis of the research questions of the 20 selected papers revealed 4 main themes, which will be developed in this section. In the countries of the Global South, the demographic importance of rural youth is particularly high. It is important to take rural youth into account and involve them in the dynamics and problems of climate change, particularly in relation to agriculture and climate policies. They have a decisive role in the emergence of new rural organisations.

Youth contribution to climate issues in agriculture: from awareness raising to innovative action

Several studies underline the important demographic and socio-economic weight of rural youth (Amichi, Kadiri, Bouarfa, & Kuper, 2015). Thus, their contributions to climate issues in agriculture represent a very important potential. Young people are an important source of knowledge and skills. They are mostly very aware of climate change and environmental changes and their consequences (MacDonald, Harper, Willox, Edge, & Government, 2012) (Ndungu, 2017). In fact, their level of education, generally higher than their parents', also allows them to leave more room for innovation, to allow themselves to think with a new approach, especially with the climate issues (MacDonald, Harper, Willox, Edge, & Government, 2012) (Ndungu, 2017). They are positioning themselves, taking initiatives and bringing about technical and institutional innovations - across a number of areas, including agriculture and climate change (Amichi, Kadiri, Bouarfa, & Kuper, 2015).

Because of their age and the realities they have to quickly face, young people have a lot of energy and motivation to make transformational changes. They are also often forced to develop creativity and innovation in their professional agricultural practices. They are therefore able to provide unique perspectives and inventive solutions to climate change (Dickson-Hoyle, 2018). These skills are seen as an adaptation asset to make agriculture and rural livelihoods resilient to shocks, including climate change

(Zulu, Djenontin, & Grabowski, 2021). Figure 2 explains this transition from an initial statement to the concrete responses of young farmers to climate issues.

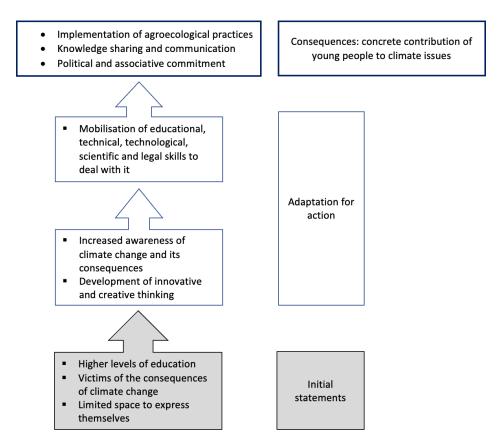


Figure 2: Youth contribution to climate issues in agriculture: from initial statements to concrete actions

The involvement of young people in farms and rural areas give them greater visibility with public policies and enable them to co-construct the agricultural and rural future (Amichi, Kadiri, Bouarfa, & Kuper, 2015). This makes it easier to take youth issues into account in climate policies.

Youth issues in transformation strategies and policies to face climate issue in agricultural and rural development

Although in many countries in the South the issue of youth is on the political agenda, the numbers of policy-engaged youth remains very small and is commonly biased towards children of the elites. Indeed, in many countries there is no space for young people to participate in climate policy debates and decision-making because legitimacy

is given to older and more experienced people (Treviño, Villalobos, Béjares, & Naranjo, 2018). Also, the policies in place are mainly oriented towards the problems of urban youth, who are affected by high rates of unemployment and underemployment, while rural youth are also largely affected by these issues (Amichi, Kadiri, Bouarfa, & Kuper, 2015). The young people most represented in political bodies are, however, urban youth (Amichi, Kadiri, Bouarfa, & Kuper, 2015). They are more aware of climate issues and their consequences in their daily lives, at school or in the extracurricular environments they attend. Rural youth, often the most marginalised, therefore have fewer opportunities to become involved in climate policies.

In the policies that are developed, most policy interventions claim to seek to address common barriers for youth, including access to land, capital and other productive resources, weak markets, lack of entrepreneurial knowledge and skills, lack of interest in agriculture due to limited returns, migration, poor infrastructure and social services in rural areas (Zulu, Djenontin, & Grabowski, 2021). One of the main issues addressed by policies aimed at young people is the problem of their socio-professional integration (Amichi, Kadiri, Bouarfa, & Kuper, 2015). Policy solutions for youth are often paternalistic and utilitarian, seeking to chart policy routes that lead to integration of youth into formal employment rather than engaging youth in policy-processes as co-creators of transformative policies necessary for their futures in a climate change challenged world.

Clearly, the implementation of a policy framework that enables the creation of employment opportunities in the agricultural sector for young people is important. Firstly, to reduce poverty and unemployment, but also to invest young people in the implementation of sustainable agricultural practices (Duyen, Sander, Wassmann, Tien, & Ngoc, 2021). Among other things, modern agriculture, using new technologies, or orientation towards youth organisations for efficient knowledge and skill sharing about sustainable practices and/or climate change. Thus, the problems faced by young people can be taken into account in policies and different strategies (Table 2). However, more studies should be carried out to obtain data on the reality faced by young rural people.

Table 2: Rural youth issues and policy options for their consideration

YOUTH ISSUES	HOW TO ADDRESS ISSUE?
UNEMPLOYMENT	- Implementation of policies promising sustainable
	job creation (e.g. green jobs)
	- Adaptation of agricultural and rural policies to
	facilitate the sustainability of family farming and
	young farms
	- Develop multi-activity on farms
LAND ACCESS	- Creation of cooperatives and/or working groups
CAPITAL ACCESS	- Establish a framework for financial services at
	attractive rates (e.g. insurance, mutual, savings)
LACK OF	- Increasing the educational attainment of young
KNOWLEDGE	people
	- Create a policy framework to encourage the
	teaching of climate change knowledge in schools
	- Establishment of a formal, coordinated and
	effective transfer strategy
NEGATIVE AND	- Establishment of a policy framework including
PESSIMISTIC	welfare and health support for farmers
RELATIONSHIP WITH	- Tapping into the active potential
CLIMATE CHANGE	- Developing communication strategies
AND AGRICULTURE	

Main measures, mechanisms and policy instruments that promote Youth integration/inclusion

To date, several policies, programmes and mechanisms that promote youth integration/inclusion as a response to climate issue in agricultural / rural sector are in place, at different levels (national, international, sub-national). Some of these are more focused on generational outcomes, while others are more oriented towards sustainability.

Within the first category are UN policy instruments. These include the Sustainable Development Goals (SDGs), which include specific targets relating to youth employment, education and capacity building (e.g., SDG 4, SDG 8.6), and emphasise the importance of participatory and inclusive decision-making and societal development at all levels (e.g., SDG 16.7) (Dickson-Hoyle, 2018). Many youth-oriented programmes can also be found in the UN System, such as FAO's Junior Farmer Field and Life Schools, which are a methodology to teach vulnerable children and youth about agriculture, entrepreneurial skills and how to care for themselves. The aim is to empower vulnerable children to have a better future and improve their livelihoods and long-term food security (FAO; CTA; FIDA, 2014). Similarly, UNICEF has established UPSHIFT, which is a social innovation and social entrepreneurship programme for young people, designed to enhance the skills and opportunities of young people who are disadvantaged, due to poverty, gender, disability or ethnicity. UPSHIFT also has focus on specific issues (e.g., climate change adaptation) (UNICEF, 2021).

To generate outcomes and expand rural youth employment, most countries have also established national policies. Among these, Malawi has a Youth Enterprise Development Fund, characterised as "a key development programme for youth in Malawi, as far as the current government policy portfolio is concerned". The YEDF is a nationwide loan programme, introduced in 2010 for 18-30 year olds and later extended to 35 year olds (Chinsinga & Chasukwa, 2018). Similarly, South Africa has introduced The South African National Development Plan, which highlights the opportunity to create an additional one million jobs in the agricultural sector and the National Youth Policy. It calls for a targeted approach to address the current youth skills crises through legislative frameworks around youth (Metelerkamp, Drime, & Biggs, 2019). The Gambia has a chapter in its National Development Plan 2018 -2021, for jobs, skills and finance for youth and women in The Gambia, with a particular focus on addressing climate change (DESA, 2020). Turkey has developed a policy instrument, the Youth Farmer Projects Support, added to the National Agricultural Project in 2016. It aims to support sustainable agriculture, support youth farmer entrepreneurship, increase income levels, create alternative sources of income and support agricultural production projects in the rural area. This will contribute to the employment of the youth population in rural areas (Kan, et al., 2019). The latter is also highly focused on sustainability.

The IITA Youth Agripreneur initiative (2012) run by the International Institute of Tropical Agriculture (IITA), is a promotion and development programme in Africa that engages youth in agribusiness through a capacity development model. The approach works through a structured process of: youth selection and mobilisation; mindset reorientation; training in technical, entrepreneurial and soft skills; experiential learning; mentoring and coaching; enterprise development; and post-training support (CGIAR, 2021).

While these policies, programmes and tools are more oriented towards generation of employment outcomes, others are focused on sustainability. Among them, the 3rd pillar of the UN Decade of Family Farming (2019-2028) which is to "support young people and ensure the generational sustainability of family farming" or the World Programme of Action for Youth in 1995, which has identified the "full and effective participation of young people in society and in decision-making" as one of the ten priority areas for action (Dickson-Hoyle, 2018). The UNDP Youth programme for Sustainable Development & Peace - 2016-2020 and the Lisboa+21 Declaration on Youth Policies and Programmes 2019 are also relevant examples.

IFAD has also developed the IFAD Action Plan - Rural Youth 2019 - 2021, which sets out the framework and guides youth-sensitive agriculture and rural development investments and engages young rural women and men in green growth and boosting their resilience to climate change (IFAD, 2018).

Other examples and instances of youth representation include: the first Youth Climate Summit on 21/09/2019, launched by the UN in response to the school climate strike, with 500 young people, from over 140 countries (Han & Ahn, 2020), as well as a key component of the Global Landscapes Forum - since 2013 - which is a Youth program: Youth in Landscapes Initiatives programme, representing over 18,000 students and

young professionals in agriculture, forestry and agroecology (Dickson-Hoyle, 2018). (Table 3). See Table 3=.

Table 3: Main measures and policy instruments that promote Youth integration/inclusion

	UN tools	National policies	Organisations
			programs
Outcomes	The UN SDGs	The Youth Farmer	The IITA Youth
generation	(2015) with the	Projects Support in	Agripreneur initiative
	specific targets	Turkey, added to the	(2012) from CGIAR
	SDG4, SDG 8.6 and	National Agricultural	researchers at the IITA
	SDG 16.7	Project in 2016	
	FAO's Junior Farmer	The South African	
	Field and Life	National	
	Schools	Development plan	
	UPSHIFT from	The Youth Enterprise	
	UNICEF	Development Fund in	
		Malawi	
		The National	
		Development Plan	
		2018 –2021 of	
		Gambia	
Representative	The Youth Climate		The Youth program:
body	Summit on		Youth in Landscapes
	21/09/2019		Initiatives in the Global
			Landscapes Forum -
			since 2013
Sustainability-	The 3rd pilard of the	The Youth Farmer	The IFAD Action Plan -
oriented	UN Decade of	Projects Support in	Rural Youth 2019 –
	Family Farming	Turkey, added to the	2021
	(2019 – 2028)	National Agricultural	
		Project in 2016	

The World Program	Chapter 25 of Agenda
of Action for Youth	21: "Children and Youth
(UN 1995)	in Sustainable
	Development"
Lisboa+21	
Declaration on	
Youth Policies and	
Programmes 2019	
UNDP Youth	
programme for	
Sustainable	
Development &	
Peace 2016 – 2020	

Youth mainstreaming for Climate change related policies for agricultural sector: limiting and facilitating factors

The consideration of youth and youth issues in climate change policies in the agricultural sector is impacted by several factors.

Young people face a double challenge to engaging in climate change policies in the agricultural sector: being the living generation to be most affecting by climate change, while possessing little political capital. As much a hindrance as a motivation, this challenge may motivate some young people to invest heavily in bringing about change in agricultural policies (Yona, 2020).

Investing in the empowerment of young farmers is a factor facilitating the integration of youth issue in climate change related policies for agricultural sector. By developing efforts to optimise agribusiness and appreciating the role of young people in agricultural development and the place they have in climate issues, it is easier to give them space to act and communicate on the problems they face (Widiyanti, Setyowati, & Ardianto, 2018). A high level of education makes it easier for young people to express themselves on the issues they face, but also to assert their rights. It also

enhances their knowledge and skills, and their awareness of the use of sustainable agricultural practices and their commitment to the climate (FAO; CTA; FIDA, 2014).

To this end, the political framework of democracy is a factor that greatly facilitates the implementation of these measures. They are thus particularly favourable factors for the inclusion of young people in climate issues (Treviño, Villalobos, Béjares, & Naranjo, 2018). On the other hand, other factors limit the integration and inclusion of young people in climate change policies for the agricultural sector.

Many young people have a negative image of the agricultural sector and work there only by circumstance, not by choice. As a result, their willingness to fully engage in related areas, such as climate change, may be limited (Chinsinga & Chasukwa, 2018). Similarly, rural youth are among the most vulnerable to inequality. Extreme poverty leaves no room for young people to engage with climate issues: how can you think long-term when you don't know what tomorrow will bring if you have enough to live on? (Chacaltana, Dema, & Ruiz, 2018).

Various factors also hinder this consideration. Adults have a rather negative overall perception of youth, which rubs off on young people themselves. It seems difficult to believe in oneself and to have a positive image when society already does not. In fact, young people are excluded from the majority of political decisions taken in the agricultural context, and they have very limited access to land and other productive resources. They thus face strong institutional barriers (including poor markets, capital, labour) to engagement in the agricultural sector activities, planning and policies (Zulu, Djenontin, & Grabowski, 2021).

At a different level, within the various bodies representing young people, and particularly in the UNFCC climate negotiations, not all countries have the same means of representation. This creates inequalities because the realities of each country are very different and cannot be articulated, as well as the issues that this creates (Yona, 2020) (Table 4).

Table 4: Factors limiting and facilitating the integration of youth issues for climate change related policies for agricultural sector

integration of youth issues youth i	issues
	1004100
Individual The double challenge facing The ne	gative image of the
young people agricult	tural sector by the young
people	
External The democracy and the political Rural y	outh are among the most
framework vulnera	able to inequalities
The empowerment of the young Negative	ve perception of youth by both
generation of farmers adults a	and youth
Exclusi	ion of the youth from most
agricult	ture-related decision making
Limited	d access to land & other
produc	tive resources for independent
youth	
Instituti	ional barriers (poor markets,
capital,	, labor)
A high level of education Inequal	lities in the youth
represe	entation bodies in the UN
Climate	e negotiations

DISCUSSION

The findings of this structured review allow us to discuss three aspects of the contribution of youth in climate issue in agriculture and their integration in climate strategy and policy: (1) the high potential and interesting competences of youth in sustainable agriculture and climate policies, (2) the lack of attractiveness of the agricultural world for young people and (3) the lack of consideration of young people in the implementation of climate and agricultural policies, at all levels.

The literature confirms that the agricultural sector is not very attractive to young people (Chinsinga & Chasukwa, 2018). This lack of attractiveness is congruent with the increase in the level of education of the new generations (MacDonald, Harper, Willox, Edge, & Government, 2012) (Ndungu, 2017) and with the lack of means put in place to facilitate and/or supervise their installation as agricultural entrepreneurs (Zulu, Djenontin, & Grabowski, 2021). Our analysis confirms limited independent access to land & other productive resources for independent youth, as well as institutional barriers (poor markets, capital, labour...). This leads to the fact that many young people have a negative image of the agricultural sector and only work in it by circumstance, not by choice.

Yet young people are recognised as agents of change and possess many skills (MacDonald, Harper, Willox, Edge, & Government, 2012) (Ndungu, 2017). The literature confirms that rural youth are real sources of knowledge and have a high capacity to adapt. This is also due to their unique perspective as victims of climate change, but also as agents of change (Dickson-Hoyle, 2018). Educated young people are particularly sensitive to climate change and sustainable agricultural practices and are more confident to dare to make change (Bisht, 2021). Their energy, willingness and commitment are important assets in climate change adaptation and mitigation (Zulu, Djenontin, & Grabowski, 2021). However, although many of them express a desire to get involved (Bisht, 2021), our study confirms that there is a lack of policy space for rural youth (Treviño, Villalobos, Béjares, & Naranjo, 2018).

Indeed, our review shows that too few climate and agricultural policies include a component specifically addressed to rural youth (FAO, 2021). Without a space to express themselves, they cannot share their ideas, communicate about their reality or develop through the tools available to them. Culturally and economically, young people are not seen as having the potential to contribute to society, as priority is given to those considered wiser and more responsible: older people (Treviño, Villalobos, Béjares, & Naranjo, 2018). However, this study does show that some programmes and policies are in place, mainly at the level of the United Nations, but also by some governments and organisations. These are still mainly oriented towards employment, with too little focus on the attractiveness of agriculture, and even less on the involvement of rural youth in climate policies and strategies.

Beyond climate policies creating space for youth engagement, this review joins Duyen (2021) and S. Dickson-Hoyle (2018), in identifying options to promote greater youth engagement in agriculture and climate change policies by:

- Providing more on-farm training opportunities for young people in primary and secondary schools.
- Developing and expanding business production models for rural youth.
- Improving the skills and knowledge of local agents to build farmers' confidence in their abilities.
- Designing agricultural development policies to encourage young students to become involved in agricultural development programmes after graduation.
- Building knowledge and practical skills of youth about climate change
- Encouraging collaborative and intergenerational learning, building youth connection
- Empowering youth to have a greater voice

In concrete terms, it is therefore up to governments, but also to non-governmental organisations, such as the FAO, to create the potential for the integration of rural youth in climate thinking and policies. Indeed, by injecting funding into research, education, training and support for young farmers, they will be better prepared to face the consequences of climate change, but also to implement sustainable agricultural

practices. Thus, if they are less vulnerable, they will be better able to contribute to the development of climate strategies at different levels. Work on several axes therefore seems essential. By integrating migration due to lack of opportunities in rural areas and by addressing the root causes of these exoduses, concrete solutions can be proposed that fully respond to the needs and realities faced by rural youth. Also, the gender issue remains at the heart of the concerns, as women, although working on the farms, are less recognised, the tasks they carry out on the farm, in addition to the education of the children and the maintenance of the house, leave them even less room for outside involvement. Their opportunities are further reduced when they leave school early and when they have no means of communication or finances of their own. Various articles cited in this work attest to the importance of the use of new technologies for rural youth and young farmers: from modernising their way of working and communicating, to creating jobs or receiving information (on weather events for example), financial management... The new technologies, if well distributed and if the beneficiaries are well trained, make it possible to reach a large audience, representing the voice of the most marginalised and creating a place for them in the exchanges. To do this, financial investment is necessary. Indeed, by investing in the generations of tomorrow, they are the ones who will enable us to face current and future issues. Governments and private and public finance need to be made aware of the importance of rural youth in addressing global issues such as food security and climate change.

Finally, the contribution of young people to climate issues in agriculture and their integration in climate strategy and policy is thus of great importance in the face of the global challenges of food security and climate change. By accompanying them and giving them the space to voice their opinions that they will be able to fully express their potential and act to improve the responses to climate issues in agriculture.

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BIBLIOGRAPHY

- FAO. (2021). Rural Youth Action Plan (RYAP). Rome: FAO.
- Peou, Y. (2019). Cambodia: Political Strife and Problematic Land Tenure. In R. G. Thompson, *Asian Smallholderrs in Comparative Perspective* (pp. 40-55). Amsterdam: Amsterdam University Press.
- AFD. (2015, July-December). African rural youth: contours, aspirations and prospects. *Grain de Sel*.
- DESA. (2020). Exploring Youth Entrepreneurship. UN-DESA.
- Ndungu. (2017). A Kenyan Youth Perspective on Climate Change. *Society for International Development*, 266-269.
- Dickson-Hoyle. (2018). Towards meaningful youth participation in science-policy processes: a case study of the Youth in Landscapes Initiative. *Elem. Sci. Anth.*
- UNICEF. (2021). *UPSHIFT Facilitation Guides*. Retrieved from UNICEF: https://www.unicef.org/innovation/UPSHIFTcurriculum
- CGIAR. (2021). *INNOVATION: Youth Agripreneurs*. Retrieved from CGIAR: https://www.cgiar.org/innovations/youth-agripreneurs/
- IFAD. (2018). IFAD Rural Youth Action Plan 2019-2021. Rome: IFAD.
- Bisht. (2021). Agri-food system dynamics of small-holder hill farming communities of Uttarakhand in north-western India: socio-economic and policy considerations for sustainable development. *Agroecology and Sustainable Food Systems*, 417-449.
- Amichi, Kadiri, Bouarfa, & Kuper. (2015). A generation looking for opportunities and recognition- young rural people and their pathways into irrigated agriculture in North Africa. *Cah Agric*, 323-329.
- Chacaltana, Dema, & Ruiz. (2018). The future of the work we want The voice of young people and different views from Latin America and the Caribbean. *Perfiles Educativos*, 194-210.
- Chinsinga, & Chasukwa. (2018). Agricultural Policy, Employment Opportunities and Social Mobility in Rural Malawi. *Agrarian South: Journal of Political Economy*, 28-50.

- Duyen, Sander, Wassmann, Tien, D., & Ngoc, K. (2021). A comparative analysis of gender and youth issues in rice production in North, Central, and South Vietnam. *Climate and Development*, 115-127.
- FAO; CTA; FIDA. (2014). Young people and agriculture: key issues and concrete solutions. FAO.
- Han, & Ahn, W. (2020). Youth Mobilization to Stop Global Climate Change: Narratives and Impact. *Sustainability*.
- Kan, Tosun, Kan, Dogan, G., Ucum, & Solmaz. (2019). Young farmers in agriculture sector of Turkey: Young Farmers Support Program. *J. Agr. Sci. Tech.*, 15-26.
- Losego, & Arvanitis. (2008). Science in non-hegemonic countries. *Revue d'anthropologie des connaissances*, 334-342.
- Metelerkamp, Drime, & Biggs. (2019). We're ready, the system's not youth perspectives on agricultural careers in South Africa. *Agrekon*, 154-179.
- MacDonald, P., Harper, Willox, C., Edge, & Government, R. I. (2012). A necessary voice: Climate change and lived experiences of youth in Rigolet. *Global Environmental Change*, 360-371.
- Treviño, Villalobos, Béjares, & Naranjo. (2018). Forms of Youth Political Participation and Educational System: The Role of the School for 8th Grade Students in Chile. *Young*.
- Vose, & Cervellini. (1983). Problems of scientific research in developing countries. *IAEA Bulletin*, 37-40.
- Widiyanti, Setyowati, & Ardianto. (2018). Young generation's perception on the agricultural sector. IOP Conference Series: Earth and Environmental Science. IOP Publishing.
- Yona. (2020). Applying a leverage points framework to the United Nations climate negotiations: The (dis)empowerment of youth participants. *Elem Sci Anth*, 8-36.
- Zulu, Djenontin, & Grabowski. (2021). From diagnosis to action: Understanding youth strengths and hurdles and using decision-making tools to foster youth-inclusive sustainable agriculture intensification. *Journal of Rural Studies*, 196-209.