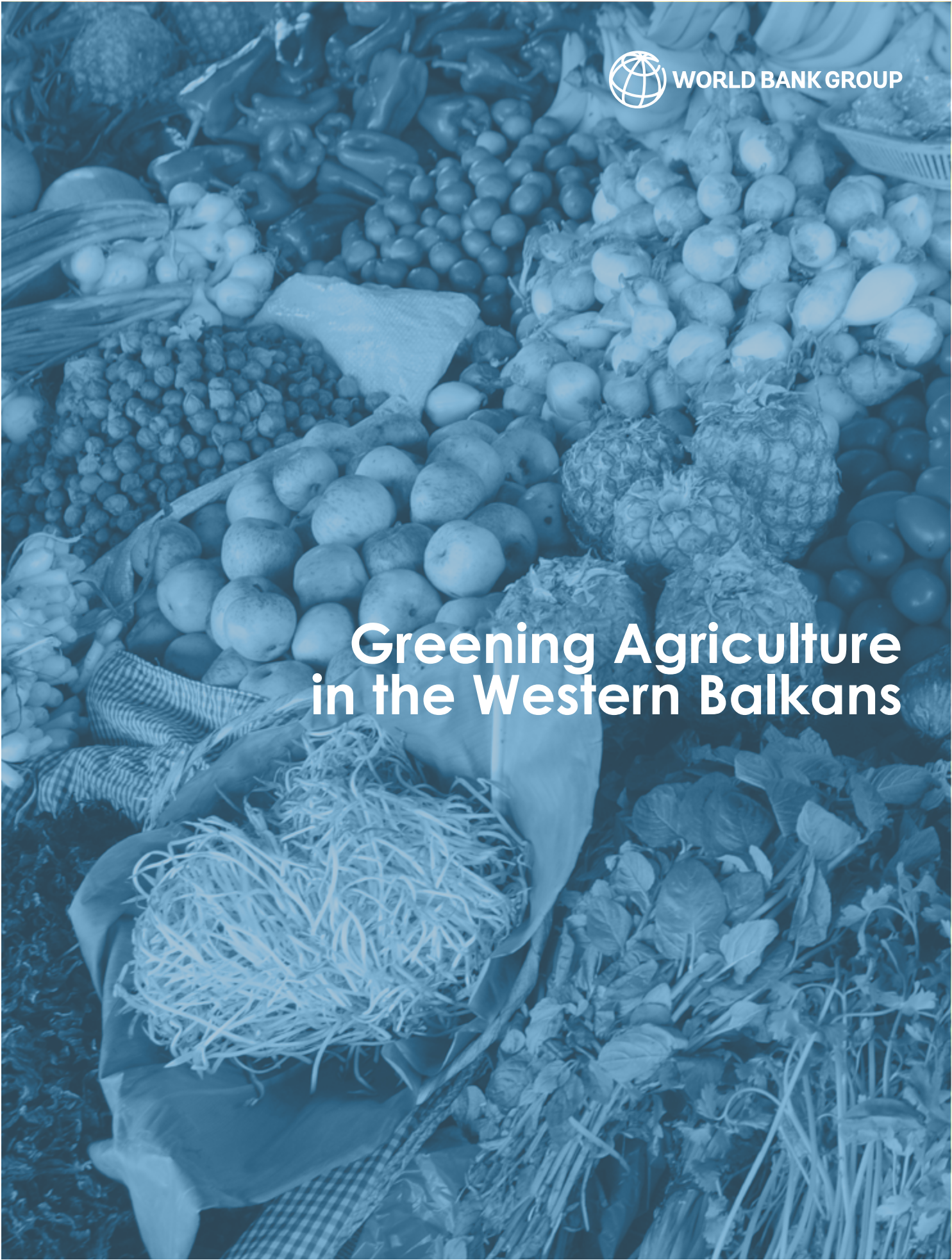




Greening Agriculture in the Western Balkans





Greening Agriculture in the Western Balkans

A Regional Report

Fang Zhang, Sergiy Zorya, and Goran Zivkov

Acknowledgements	vii
Abbreviations	viii
Executive Summary	1
Section I. Overview and context	17
1.1 Continued importance of the sector	17
1.2 Farm productivity and export competitiveness for the EU market remain low	18
1.3 Structural challenges, climate impacts, and slow greening threaten to derail further convergence with the EU	20
Section II. The State of Greening in the WB6 Agriculture	23
2.1 Low absolute GHG emissions but similar to EU in per capita emission	23
2.2 Reasons for relatively low absolute emissions	24
2.2.1 Use of chemicals	24
2.2.2 Low intensity of crop production	26
2.2.3 Low intensity of livestock	27
2.3 Fallow land in the WB6	28
2.4 Low adoption of CSA technologies by farmers	29
2.5 Low level of digitalization	30
2.6 Possibility of exporting organic products motivates subsidies for organic farming	30
Section III. Factors that delay the greening progress	32
3.1 Structural constraints	32
3.2 Policy and progress	33
3.3 Weakness of competent authorities	35
3.4 Agricultural budget spending patterns by country (funding for CSA and agri-environmental measures)	36
3.5 Growing but not growing funding on CSAs	38
Section IV. Global experiences, EU alignment and regional strategies	44
4.1 Lessons from the EU on greening agriculture	44
4.2 Lessons from other countries	45
4.2.1 Guiding principles of global lesson learnt	45
4.2.2 Key takeaways from global lesson learnt	46
4.3 International climate action framework, EU Alignment, and regional strategies	48
Section V. Policy, Institutional and Investment Recommendations	51
5.1 Overview of green agricultural strategies in WB6	51
5.2 Proposals for greening agriculture in WB6	54
R1. Improve the regulatory and institutional set-up	54
R2. Move from strategies to actions	58
R3. Repurpose the budgetary support to increase the climate resiliency of agriculture sector	59
R4. Focus on climate resiliency now and do it more innovatively	61
R5. Set up foundation for climate mitigation	62
R6. Step up efforts for sustainable development and livelihood diversification of rural areas	63
R7. Knowledge transfer & agricultural knowledge and innovation system (AKIS)	65

Figure ES.1	Share of CO ₂ equivalent emission by sector in 2020	2
Figure ES.2	Emission of CO ₂ equivalent per capita by sector in 2020	2
Figure ES.3	Public expenditures for agri-environmental measures in the WB6 region, 2012–2021	3
Figure 1.1	Structural transformation of the WB6 agriculture sector	17
Figure 1.2	Food Industry Employment	17
Figure 1.3	Agricultural exports from the WB6 to the EU	19
Figure 1.4	Changes in agricultural value added in the WB6	21
Figure 2.1	Share of CO ₂ equivalent emission by sector in 2020	23
Figure 2.2	Emission of CO ₂ equivalent per capita by sector in 2020	23
Figure 2.3	Source of GHG emissions from agriculture in 2020	23
Figure 2.4	Use of fertilizers and chemicals in the WB6 and the EU, 2018–2020	25
Figure 2.5	Import structure in kg per hectare of arable land	25
Figure 2.6	Average consumption of all type of fertilizers	26
Figure 2.7	Crop yields in the WB6 vis-à-vis the EU27 (avg. 2018–2020)	27
Figure 2.8	Livestock herd density in the WB6 and the EU, 2013–2020	27
Figure 2.9	Share of the livestock	28
Figure 2.10	Land by type in WB6 countries vs the EU	29
Figure 2.11	Fixed broadband subscriptions per 100 people in 2021	30
Figure 2.12	Budget support for organic production WB6 countries	30
Figure 3.1	Agricultural budget support in the WB6 and the EU27 in percent of GDP	36
Figure 3.2	Agricultural budgets in WB6 countries	37
Figure 3.3	Public expenditures for agri-environmental measures in the WB6 region, 2012–2021	38
Figure 3.4	IPARD III allocations by the eligible WB6 countries	38
Figure 3.5	IPARD III allocation by measures among the four WB6 countries eligible for IPARD III allocations	39
Figure 3.6	Functional composition of agricultural public expenditures in the WB6 and the EU	40
Figure 3.7	Percent of support from agri-environmental measures going to support organic production	41
Figure 3.8	Support to competitiveness improvement by type of investment	42
Figure 3.9	Investments in capital formation in agriculture in the WB6 and the EU	43
Figure 4.1	Guiding principles for the global lesson learnt	46
Figure 4.2	Planned distribution of direct payments and EU rural development funds 2023–2027	49
Figure 4.3	Share of the EU’s utilized agricultural area (UAA) under mandatory and additional actions related to climate and environment	49
Figure 5.1	Diversity of agri-ecology and greening opportunities in the WB6 countries	67

Table 2.1	Agricultural growth and GHG emissions in the WB6 and the EU, 2010–2020	24
Table 2.2	Agriculture GHG emissions per capita in the WB6 vs the EU27	24
Table 2.3	Support for Organic Production in WB6 countries	31
Table 3.1	Nitrate Directive status	34
Table 3.2	Overview of institutional capacity	35
Table 3.3	IPARD III eligible WB6 countries' menu of options to invest in M4: Agri-environment-climate and organic farming	40
Table 5.1	An overview of WB6 countries agricultural strategies	51
Table 5.2	Development status, priority, and complexity in regulatory and institutional setup among WB6	55
Table 5.3	Development status, priority, and complexity in actualizing relevant strategies among WB6	59
Table 5.4	Development status, priority, and complexity in repurposing budgetary support among WB6	60
Table 5.5	Development status, priority, and complexity in climate resilience support among WB6	62
Table 5.6	Development status, priority, and complexity in climate mitigation readiness among WB6	63
Table 5.7	Development status, priority, and complexity in rural livelihood diversification among WB6	64
Table 5.8	Development status, priority, and complexity in AKIS among WB6	65

Boxes

Box 4.1	Areas the EU has yet to mainstream and other countries have showed successful experience	46
Box 4.2	The New CAP	50

This document was prepared by the World Bank task team led by Sergiy Zorya, Lead Agriculture Economist, and Fang Zhang, Agriculture Economist, under the overall guidance of Xiaoqing Yu, Country Director for Western Balkans, and Frauke Jungbluth, Practice Manager, Agriculture and Food, Europe and Central Asia. Research inputs and EU lesson learns for the report were provided by Goran Zivkov, Senior Agricultural Policy Specialist.

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The findings, interpretations, and conclusions expressed in this document are entirely those of the authors and do not necessarily reflect the views of the World Bank, its Board of Executive Directors, or the governments they represent.

AECM	Agri-environment-climate measure
AEAS	Agricultural Extension and Advisory Services
AEM	Agri-environmental measure
AKIS	Agriculture Knowledge and Information System
ASA	Advisory Services and Analytics
CAP	Common Agricultural Policy
CCDR	Country Climate and Development Report
CIS	Commonwealth of Independent States
CSA	Climate smart agriculture
EAFRD	European Agricultural Fund for Rural Development
EGD	European Green Deal
ER	Emission Reduction
ESG	Environmental, Social, and Governance
EU	European Union
FADN	Farm Accountancy Data Network
FAO	Food and Agriculture Organization of the United Nations
FAS	Farm Advisory System
FSDN	Farm Sustainability Data Network
GHG	Greenhouse Gas
IACS	Integrated Administrative Control System
IPARD	Instrument for Pre-Accession Assistance for Rural Development
LPIS	Land Parcel Identification System
MICs	Middle-Income Countries
MS	Member States
NDCs	Nationally Determined Contributions
NDM	New Delivery Model
NPV	Net Present Values
PA	Paying Agency
PES	Payment for Ecosystem Services
WB	World Bank
WBG	World Bank Group
WB6	Western Balkans

The Western Balkans (WB6) agriculture sector has undergone a structural transformation, becoming smaller as a share of GDP and employment, but remaining important for the rural economy in terms of income, employment, and food security. The report discusses the current state and prospects of the agriculture sector in the WB6, highlighting the need and potential for greening the sector to enhance its productivity, competitiveness, and resilience to climate change. The current state of greening in the sector has low absolute GHG emissions, low use of chemicals and fertilizers, low intensity of crop and livestock production, low adoption of climate smart agriculture (CSA) technologies, and underinvestment in capital and innovation. This is largely a result of high rurality and low farming intensity rather than a result of strategic policy choices.

The report analyzes the reasons for the slow green transition and identifies the main challenges and opportunities for enhancing the climate resilience and sustainability of the sector and for further convergence with the European Union (EU)'s environmental and climate objectives. The report also discusses the implications of the European Green Deal, the new Common Agricultural Policy (CAP), the Instrument for Pre-Accession Assistance for Rural Development (IPARD) III program, the evolving nationally determined contributions (NDCs) commitments, and the WB6 Green Agenda for the WB6 countries' agricultural sector. It then reviews the global experiences and strategies for greening agriculture, drawing lessons from the EU and other countries that have implemented innovative policies, programs, and technologies to promote CSAs, and proposes recommendations.

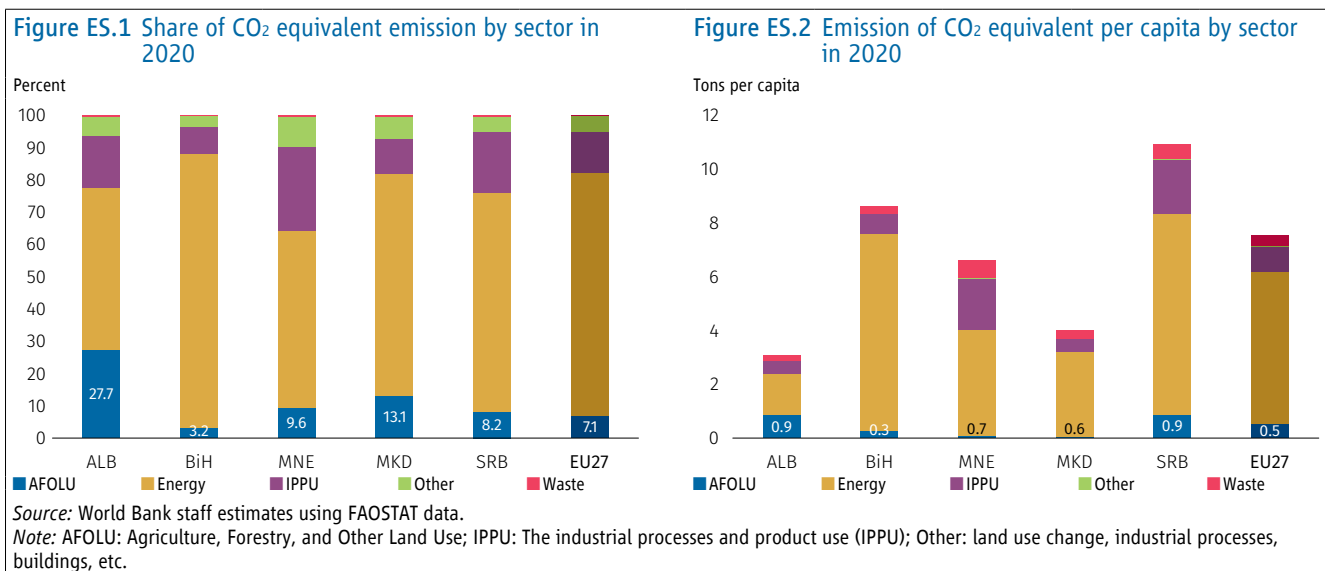
Focus of the report: this report focuses on the greening aspect of agriculture in the WB6 as a value addition to other published reports which focused a lot on the overall potential and competitive pathways of the sector. The Bank previously conducted two analyses—*Agriculture for Jobs and Growth in the Western Balkans (2017)* and *Exploring the Potential of Agriculture in the Western Balkans (2018)*—on the agriculture pathway in the WB6 whose findings remain relevant. Major relevant issues were succinctly referenced in Section II. Little was discussed is that to achieve a more value-added, trade and growth oriented, competitive sector, greening agriculture is the route that WB6 must take to deliver those results.

Audience: the report targets technical regional and internal audiences, including WBG staff, partners like the European Commission, and country audiences. It aims to generate knowledge, inform, and provide policy recommendations for greening agriculture across the WB6. The ASA aims to equip WBG teams with current, data-driven advice and innovative approaches for the design of future projects. Its findings will also underpin further client country engagements. Broad consultations have already been carried out to engage country stakeholders during the finalization of the report and their feedback is reflected in the recommendations.

Report highlights:

- › The WB6 agriculture sector is a vital source of income, employment, and food security for the region with GDP contribution varied from 18.4 percent in Albania to 5–8 percent in other WB6 countries and employment ranged from 34.6 percent in Albania to 2.2 percent in Kosovo while the EU27 GDP share of agriculture is at 1.6 percent, and employment share at 4.1 percent.
- › The WB6 agriculture sector is highly vulnerable to the impacts of climate change, which are expected to worsen in the coming decades, posing a threat to food security and economies. Per the WB6 Country Climate and Development Report (CCDR) (2024), the accelerated climate change is triggering more frequent and intense hazardous weather events, which endangers the sector's contribution to the broader economy.

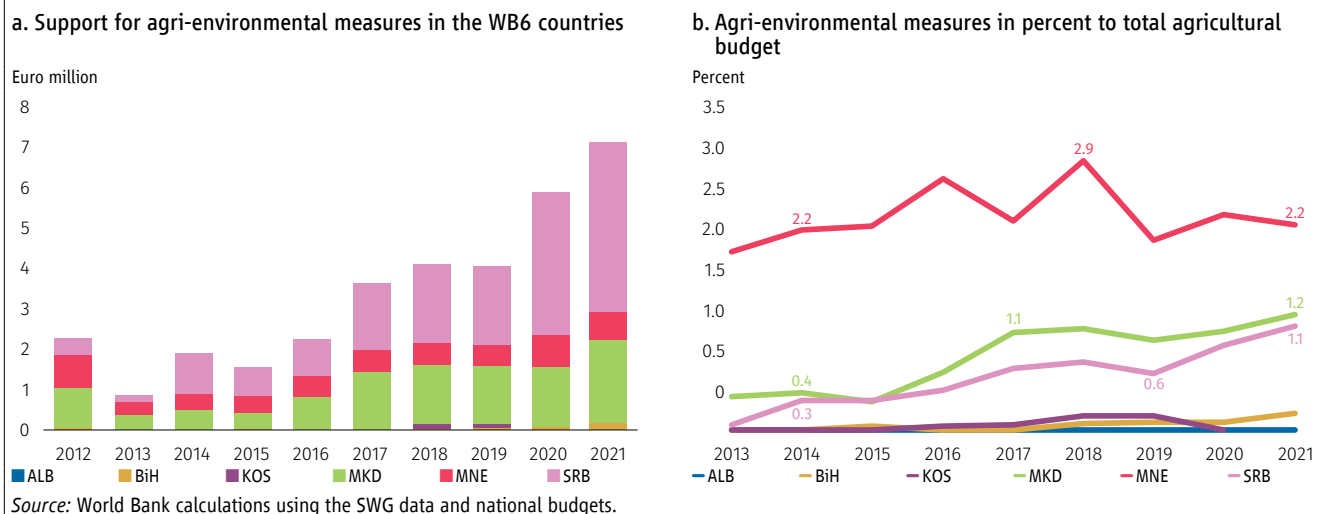
- ▶ The WB6 countries have made some progress in integrating climate change considerations into their agricultural policies and plans including in updated NDCs, but there is still a need for more coherent, coordinated, and effective actions at the national and regional levels.
- ▶ The WB6 agriculture sector has a relatively low carbon footprint, due to low intensity of crop and livestock production, low use of fertilizers and chemicals, and high share of pastures and organic farming. In 2020, agriculture in the WB6 made up a relatively 0.2 percent of the global agricultural methane and nitrous oxide production, and the total agricultural GHG production in the WB6 was 39 times smaller than the production in the EU.
- ▶ Nevertheless, the proportion of agriculture and the per capita rate in the country GHG production are similar to the EU, except for Albania which has a 27.7 percent share of CO₂ equivalent emission by agriculture (Figure ES.1 and Figure ES.2).



- ▶ Several factors hinder the adoption of CSAs/agri-environmental measures (AEMs) in the WB6 region, such as structural constraints, policy gaps, institutional weaknesses, budgetary misallocation, absence of extension and advisory services, and low awareness and incentives among farmers.
- ▶ Alignment and gaps of the WB6 agricultural policies and spending are identified with the EU's Common Agricultural Policy (CAP) and Green Deal (EGD). A huge gap exists with the EU in terms of support to CSAs/AEMs as percent of total agricultural support. Share of the public support to implement Measure 4 in overall IPARD measures vary from 1 percent in North Macedonia, 2 percent in ALB, 5 percent in Serbia, to 8 percent in Montenegro.
- ▶ Most agricultural public expenditures in the WB6 region are used for direct farm payments (Figure ES.3a), a large share of which is coupled to production of specific crop and livestock products. In countries such as Bosnia and Herzegovina, Kosovo, North Macedonia, and Serbia, the share of direct farm payments in total agricultural budgets reaches 70–80 percent (Figure ES.3b), most of which is coupled to livestock production or the use of fertilizers and chemicals.¹

1 EU. 2021. *Recent Agricultural Policy Developments in the Context of the EU Approximation Process in the Pre-Accession Countries*. Joint Research Center Technical Report.

Figure ES.3 Public expenditures for agri-environmental measures in the WB6 region, 2012–2021



- › The WB6 countries have access to various sources of financing and technical assistance for climate action in the agriculture sector, but they face several barriers in mobilizing these resources to address pressing needs in areas such as the Agricultural Knowledge and Innovation System (AKIS) which combines agricultural education, research, and farm advisory services.
- › The consistently low budget spent on the AKIS is another major unfavorable factor that constrains the sector from leveraging private finance. It is a missed opportunity to boost agricultural growth as innovation and digitalization play a crucial role in addressing environmental concerns and climate change in agriculture. World Bank estimates that closing the 25 percent gap for investments in research and development, as a part of AKIS, with the EU could increase agricultural productivity by 15 percent in Albania, 25 percent in BiH, 16 percent in North Macedonia, and 6 percent in Serbia.²
- › In the context of further EU convergence and rising climate concerns, accelerated greening of the WB6 agriculture is not only an opportunity but a route that WB6 must take to address sectoral challenges, ensure access to the EU market, and increase productivity, competitiveness, and resilience. These results can be delivered by making effective use of available funds, resources, innovation, and knowledge.

The report reviews and summarizes various approaches and practices that have been successful in promoting the greening of agriculture and the adoption of CSAs in other countries. The report uses three guiding principles to distill lessons from global and EU experiences and regional strategies: What practice would help the WB6 to better align to the EU requirements? What are the regulatory frameworks and governance mechanisms in greening agriculture needed? How to promote CSAs to small farmers and how to do it in more innovative and digital way? Drawing on these lessons, the report proposes seven recommendations that can effectively address challenges cross-cutting the six countries for the green transition of agriculture in Western Balkans:

- › **Improve the regulatory and institutional setup:** The report suggests that the WB6 countries should align their agricultural policies and plans with the EU's environmental and climate objectives and strengthen their capacity to monitor and enforce agri-environmental measures.

² World Bank. 2018. *Exploring the Potential of Agriculture in the Western Balkans*. Washington, DC.

- › **Move from strategies to actions:** The report urges the WB6 countries to implement their national and regional strategies for climate-smart agriculture, and to prioritize actions that can address the structural and climatic challenges facing the sector.
- › **Repurpose the budgetary support:** The report recommends that the WB6 countries should shift to decoupled support that rewards farmers for adopting climate-resilient and sustainable practices and increase the allocation of funds for CSAs, capital formation, and AKIS.
- › **Focus on climate resiliency and innovation:** The report highlights the need for the WB6 countries to invest in climate adaptation and mitigation technologies and practices, such as digital soil and water management, integrated pest management, ecosystem-based conservation agriculture.
- › **Set up foundations for climate mitigation:** The report advises the WB6 countries to set up institutional and regulatory foundations and measures to reduce GHG emissions from agriculture by promoting climate smart livestock production, organic farming, nutrient management, etc.
- › **Support rural development and livelihood diversification:** The report calls for the WB6 countries to enhance the livelihood diversification and income opportunities in rural areas, by facilitating private sector participation and supporting rural infrastructure, off-farm employment, value chain development, and entrepreneurship.
- › **Enhance knowledge transfer and innovation systems:** The report emphasizes the need to strengthen the institutional capacity for the AKIS and fostering collaboration between research institutions, agricultural organizations, the private sector, and policy makers. The AKIS would help bridge existing knowledge gaps and facilitate the dissemination of up-to-date information and innovative approaches. Additionally, equipping AKIS institutions with staffing, knowledge, and infrastructure to design and support the implementation of agri-environmental measures, while measuring and verifying environmental outcomes of the support, is crucial.

While each recommendation stands on its own, they are also interconnected. The recommendation on “move from strategies to action” is linked to the recommendations around repurposing budgetary support measures and climate resiliency and innovation. Without a different structure of budgetary support, it would be difficult for countries to truly move beyond strategies into concrete actions. WB6 can learn these approaches globally and implement locally to tailor per specific agri-ecological zones and natural landscapes to accelerate the greening of their agriculture sector. Applying strategic targeting by beneficiaries or geographies and conditionality/cross-compliance instrument in the subsidies is crucial, and set priorities in the short term, medium to long term interventions.

Lastly, given that many (35 to 40 percent) agricultural producers in the region being semi-subsistent, it is recommended to align the dual structure of WB6 farms with two complementary pathways towards small and large farms for scaling up farm-level good practices. The two complementary pathways catering to small-medium and large farms towards CSAs offer quick wins in scaling up farm-level good practices. Both scenarios require incentives and capacity building for not only farmers but also institutions.

- › At a smaller, more affordable, and incremental scale and through farmer-to-farmer replication, small to medium farms can adopt simple management systems such as planting cover crops, minimum/no tillage, crop rotation, managing water resources and soil health, or land use planning with information. It requires lower investment (e.g., one-time grant support) and less institutional support as well as simple farm services outreach for CSAs.
- › Through more complex structural practices and larger-scale efforts with government and private sector support, the uptake of good practices (such as innovative irrigation systems, importing supplemental feed, genetic improvements of dairy performance, payments for environmental services, insurance mechanisms) can be promoted among large farmers widely and swiftly.

Recommendations for Albania	Dev. Level	Priority Level	Complexity	Priority actions to be started now
R1. Improve the regulatory and institutional setup				<ol style="list-style-type: none"> Enhance managing authority's capacity and transparency (Paying Agency in implementing AEMs; and Food and Veterinary Agency in Phytosanitary/SPS). Develop a functional LPIS and IACS for a digitalized support system for subsidies monitoring & processing and policymaking. Increase awareness and promote CSA practices among farmers and stakeholders. Increase public funding for general support services and agricultural infrastructure essential for CSA. Condition public funding access on climate resiliency actions (irrigation, crop diversification, and livestock breeding, water/soil resource management). Foster the agricultural credit enabling market with a focus on green investments. Improve monitoring of soil health, nitrates, and greenhouse gases. Enhance access to the internet and digital services in rural areas. Expand and digitalize the Farm Advisory System (FAS), Agricultural Knowledge and Information Systems (AKIS), research, and extension services. Facilitate the development of private advisory services.
Strengthen paying agency to administer agri-env measures (AEMs)	Low	High	High	
Establish Land Parcel Identification Systems; Farm Registry; Integrated Administrative Control System	Very Low	Medium High	Very High	
Capacitate SPS and food safety agencies	Low	High	High	
Capacitate managing authority able to define proper agri-env measures	Medium High	Very Low	Very Low	
R2. Move from strategies to concrete policy actions				
Monitoring and reporting on strategies implementation	Low	Medium Low	Medium Low	
Strengthening the evidence on results achievement	Low	Low	Low	
Increasing awareness among farmers and other stakeholders about strategies and policies	Low	High	Very High	
R3. Repurpose agricultural public expenditures				
Increase financing of other general support services critical for CSA (AKIS, research, digitalization, etc.)	Low	Medium High	High	
Increase financing of agricultural infrastructure critical for CSA (irrigation, cold storage, etc.)	Medium High	Medium High	High	
Reduce and phase-out coupled direct farm payment	High	High	Very Low	
Make direct farm payments conditioned by cross-compliance	Medium Low	Medium High	High	
Increase financing of agro-env measures	Low	Medium Low	Low	
Support green capital investment in agriculture and food processing	Low	Medium High	High	
Improve access to commercial credit that finances CSA	Low	High	High	
R4. Focus on climate resiliency now				
Adopt technologies and practices to be transferred: irrigation and drainage, water infrastructure, crop or livestock CSAs and technology; crop and livestock breeding, management and operations, pest, disease management	Low	High	Medium High	
Ecosystem-based and nature-based approaches: water quality, soil health, diversification, biodiversity	Low	High	Medium High	
R5. Set up foundation for climate mitigation				
Strengthen the capacity of competent authorities to monitor agri-env measure results	Medium Low	Medium High	Low	
Establish the animal feeding guideline and regulatory framework	Medium High	Medium Low	Medium Low	
Establish the manure management regulatory framework and relevant guidelines	Medium Low	Medium High	High	
Strengthen animal identification, registration and movement control	Medium High	Medium Low	Medium High	
Gradually increase the number of agri-env measures beyond organic farming	Medium Low	Medium High	Medium High	
Strengthen the soil information system for soil health, nitrate directive and GHG monitoring	Low	High	Medium High	
R6. Step up efforts for sustainable development and livelihood diversification of rural areas				
Improve access to internet and digital in rural areas	Medium Low	High	Very High	
Create more opportunities for non-farm green activities for rural area	Medium High	Medium High	Medium High	
Support self-organization in the rural areas	Medium Low	Medium Low	Medium Low	
R7. Knowledge transfer & AKIS				
Build capacity of agricultural education, research and farm advisory services on greening	Low	Medium High	High	
Monitoring of designing and implementation of agri-env measures	Medium High	Medium High	Low	
Digital and inclusive provision of farm advisory service and extension	Medium Low	Medium High	Low	
Facilitation of private delivery of some farm advisory service to make it more accessible to small farms	Medium Low	High	Medium High	
Invest in data collection and monitoring of agri-env indicators, FADN/FSDN in the EU	Low	Medium Low	Low	

ALBANIA

- › Albania's agricultural sector is undergoing dynamic growth, with a focus on high-value products, investments, and increased exports. Small-scale farmers play a crucial role in this expansion, significantly contributing to the economy and rural livelihoods.
- › Albania's agricultural budget, though modest in size, reflects a strategic allocation of funds towards rural development and investment support, with a notable increase in direct support observed since 2020. Nonetheless, public expenditures allocated to support climate smart agriculture remains negligible and policy and institutional gaps hinder the full implementation of CSAs/Agri-environmental measures (AEMs). Support for organic farming remains the sole agri-environmental measure.
- › Persisting policy and institutional gaps and general underinvestment in AKIS and digital solutions present barriers to the implementation of comprehensive measures in meeting environmental and developmental objectives. Albania faces ongoing challenges in developing its agricultural advisory services (i.e., AKIS) and food safety institutions to align with domestic and EU standards. The private sector's involvement in agricultural advisory and food certification services is limited, indicating a need for a balanced approach to stimulate private sector engagement.
- › The agricultural credit market is lagging and characterized by fragmentation and a scarcity of resources, which hampers the capacity to enforce a wide range of agri-environmental directives effectively. To introduce cross-compliance and enhance agri-environmental support, there is an evident need for capacity building within environmental management and for fostering partnerships between financial institutions and the agricultural community.
- › Despite these challenges, Albania is making strides in building an infrastructure/enabling environment that supports agri-environmental compliance. Albania achieved some progress regarding (i) increased administrative capacity to prepare the IPARD III program; (ii) the adoption of the law on wine; and (iii) adopting an implementation plan for the setting up of the FADN/FSDN. The initiation of agri-environmental measures and systems like LPIS and IACS mark the early stages of a complex reform process.
- › Albania can strengthen its agriculture sector's defenses against climate change by developing water management infrastructure that supports vital irrigation and drainage systems, integrating these with existing solar energy initiatives; and furthering rural livelihood diversification effort. A system of "simplified" food safety is to rules was introduced as National Flexibility Measures that are customized for small scale producers and family businesses—as against the hygiene measures designed for larger mainstream agrifood companies. By this measure, the diversity of high-quality food products, cultural heritage and livelihoods can be preserved while food safety and hygiene standards can also be met among smallholders.

Recommendations for Serbia	Dev. Level	Priority Level	Complexity	Priority actions to be started now
R1. Improve the regulatory and institutional setup				<ol style="list-style-type: none"> Build institutional capacity of competent authority for effective implementation of IPARD and AEMs. Capacitate food safety agency and regulatory systems with a comprehensive strategy and action plan for EU alignment on food safety, veterinary and SPS Establish the LPIS, IACS and FADN/FSDN for a digitalized decision support system for funds processing, subsidies monitoring, and evidence-based policy making. Reduce and phase out coupled direct farm payments and link direct farm payments conditioned by selected cross-compliance measures. Increase financial and technical support for AEMs implementation and monitoring. Modernize information delivery system/an open data platform accessible to all agrifood producers for soil quality, agroclimatic and market information to enhance climate and market response at the farm and agribusiness levels. Improve the targeting of rural development policies to incentivize digitalization and agri-food participation Expand and digitalize the Farm Advisory System (FAS) /Agricultural Knowledge and Information Systems (AKIS) for research, promotion of CSAs and advisory extension services
Strengthen paying agency to administer agri-env measures (AEMs)	Medium High	High	High	
Establish Land Parcel Identification Systems; Farm Registry; Integrated Administrative Control System	Medium Low	Medium High	Very High	
Capacitate SPS and food safety agencies	Medium High	High	High	
Capacitate managing authority able to define proper agri-env measures	High	Very Low	Very Low	
R2. Move from strategies to concrete policy actions				
Monitoring and reporting on strategies implementation	Low	Medium Low	Medium Low	
Strengthening the evidence on results achievement	Low	Low	Low	
Increasing awareness among farmers and other stakeholders about strategies and policies	Low	High	Very High	
R3. Repurpose agricultural public expenditures				
Increase financing of other general support services critical for CSA (AKIS, research, digitalization, etc.)	Medium High	Medium High	High	
Increase financing of agricultural infrastructure critical for CSA (irrigation, cold storage, etc.)	Medium High	Medium High	High	
Reduce and phase-out coupled direct farm payment	Very Low	High	Very Low	
Make direct farm payments conditioned by cross-compliance	Very Low	Medium High	High	
Increase financing of agro-env measures	Low	Medium Low	Low	
Support green capital investment in agriculture and food processing	Low	Medium High	High	
Improve access to commercial credit that finances CSA	High	High	High	
R4. Focus on climate resiliency now				
Adopt technologies and practices: irrigation and drainage, water infrastructure, crop or livestock CSAs and technology; crop and livestock breeding, management and operations, pest, disease management	Medium High	High	Medium High	
Incentivize ecosystem-based and nature-based approaches: water quality, soil health, diversification, biodiversity	Medium High	High	Medium High	
R5. Set up foundation for climate mitigation				
Strengthen the capacity of competent authorities to monitor agri-env measure results	Medium High	Medium High	Low	
Establish the animal feeding guideline and regulatory framework	Medium High	Medium Low	Medium Low	
Establish the manure management regulatory framework and relevant guidelines	Medium Low	Medium High	High	
Strengthen animal identification, registration and movement control	High	Medium Low	Medium High	
Gradually increase the number of agri-env measures beyond organic farming	Medium High	Medium High	Medium High	
Strengthen the soil information system for soil health, nitrate directive and GHG monitoring	Low	High	Medium High	
R6. Step up efforts for sustainable development and livelihood diversification of rural areas				
Improve access to internet and digital in rural areas	High	High	Very High	
Create more opportunities for non-farm green activities for rural area	Medium Low	Medium High	Medium High	
Support self-organization in the rural areas	Medium Low	Medium Low	Medium Low	
R7. Knowledge transfer & AKIS				
Build capacity of agricultural education, research and farm advisory services on greening	Medium High	Medium High	High	
Monitoring of designing and implementation of agri-env measures	High	Medium High	Low	
Digital and inclusive provision of farm advisory service and extension	High	High	Low	
Facilitation of private delivery of some farm advisory service to make it more accessible to small farms	Medium High	Medium High	Medium High	
Invest in data collection and monitoring of agri-env indicators, FADN/FSDN in the EU	Medium High	Medium High	Low	

SERBIA

- › Serbia has a good level of alignment with the EU *acquis*, but continued progress is needed. The PA has been consistently capacitated. Serbia's IPARD III plan aims to accredit Measure #4: agri-environmental measures. The accreditation will require intensive monitoring through satellites and on-site inspections. However, the development of the LPIS and IAPCS has been slow, which slows down the implementation of agri-environmental measures. The FADN is established and needs to be further improved towards FSDN. Serbia should speed up the establishment of the integrated administration and control system (IACS) to effectively manage its significantly increased budget and the transition from manual to electronic processing of aid applications. This step is also essential in introducing cross-compliance as a policy tool and bringing the sector's support measures in line with the EU *acquis*.
- › On food safety, Serbia adopted annual programs consisting of animal health protection measures on veterinary policy and plant health measures on phytosanitary policy in 2023. However, Serbia can do more. For example, Serbia has been unable to secure the license of exporting poultry meat to the EU, a license which BiH received in 2019. Serbia is yet to adopt its advanced draft of food safety strategy and action plan for alignment with the EU *acquis*.
- › Serbia can utilize its extensive agriculture budget more efficiently oriented towards climate adaptation and mitigation within its climate resilient agricultural policy. Serbia has a high level of coupled livestock payments which are not tied to environmental conditions. The unsustainable livestock practices and excessive use of manure and fertilizers per hectare of land may lead to soil erosion and water resources contamination. The rapid degradation of land quality and humus levels in the Vojvodina region is alarming. Increasing area payments in 2023 almost to the level of the EU provides an excellent opportunity to introduce land management cross-compliance measure in Serbia.
- › Serbia, with its sophisticated agricultural infrastructure, could lead in adopting cutting-edge climate-smart agricultural practices, potentially setting a regional standard by integrating advanced pest and disease management techniques, sensor and remote sensing technology, biogas technology, and land quality enhancement. These could align with the existing land potential, the resources of the Biosense Institute, and a vibrant private IT sector engaged in agriculture.
- › Renowned for its robust agricultural research, education and extension system, Serbia boasts several institutions that offer a diverse array of programs in agricultural sciences. With a robust foundation in agricultural education and extension services, Serbia is well-positioned to integrate agri-environmental aspects into these domains. Yet, there is a notable need to modernize information delivery systems and services to support the environmental agenda. A comprehensive data collection and monitoring system centering around soil health, nitrate levels, and GHG emissions monitoring is pivotal for informed agricultural policymaking and for the gradual implementation of EU-aligned systems such as the FSDN.
- › Serbia's digital infrastructure is a cornerstone for agricultural innovation and integral to the sustainable development and livelihood diversification of rural areas. Its effort in investing in digital infrastructures (broadband internet throughout the country) and in the state Institute for Digital Agriculture BIOSENSE led to the creation of many innovative companies involved in technological solutions for agriculture.
- › Serbia stands out in the Western Balkans for its developed agricultural credit market with the banking sector advocating for green loans, which serves as a robust foundation for its green transition in agriculture and rural development. The private sector in Serbia, known for its vitality, can be engaged more actively in support the green transition. Harnessing the capabilities and resources of private enterprises can also accelerate the adoption of environmentally sustainable practices and technologies.

<i>Recommendations for North Macedonia</i>	<i>Dev. Level</i>	<i>Priority Level</i>	<i>Complexity</i>	<i>Priority actions to be started now</i>
R1. Improve the regulatory and institutional setup				<ol style="list-style-type: none"> Operationalize digitalized support systems (agriculture land management information system, LPIS and IACS) for subsidies processing, recording, and monitoring. Improve competent authority's capacity in implementing IPARD accredited measures and food safety systems (SPS laboratories, ABPs) to manage animal welfare. Reduce coupled direct farm payments in compliance with current EU farm income support measures and integration of rural development measures into a common policy framework. Increase public funding for general support services (AKIS) and agricultural infrastructure (irrigation systems) for CSAs. Increase AEMs and condition public funding access on climate resiliency actions. Create an information system to improve climate knowledge and increase awareness and promote CSAs among all agricultural stakeholders. Foster the agricultural credit enabling market with a focus on green investments. Establish an M&E system consistent with Common Agricultural Policy (CAP) Enhance access to the internet and digital services in rural areas. Expand and digitalize the Farm Advisory System (FAS), Agricultural Knowledge and Information Systems (AKIS), research, and extension services by involving and developing private advisory services.
Strengthen paying agency to administer agri-env measures (AEMs)	High	High	High	
Establish Land Parcel Identification Systems; Farm Registry; Integrated Administrative Control System	Medium High	Medium High	Very High	
Capacitate SPS and food safety agencies	Medium High	High	High	
Capacitate managing authority able to define proper agri-env measures	High	Very Low	Very Low	
R2. Move from strategies to concrete policy actions				
Monitoring and reporting on strategies implementation	Low	Medium Low	Medium Low	
Strengthening the evidence on results achievement	Low	Low	Low	
Increasing awareness among farmers and other stakeholders about strategies and policies	Low	High	Very High	
R3. Repurpose agricultural public expenditures				
Increase financing of other general support services critical for CSA (AKIS, research, digitalization, etc.)	Medium High	Medium High	High	
Increase financing of agricultural infrastructure critical for CSA (irrigation, cold storage, etc.)	Medium High	Medium High	High	
Reduce and phase-out coupled direct farm payment	Low	High	Very Low	
Make direct farm payments conditioned by cross-compliance	Low	Medium High	High	
Increase financing of agro-env measures	Low	Medium Low	Low	
Support green capital investment in agriculture and food processing	Low	Medium High	High	
Improve access to commercial credit that finances CSA	Medium Low	High	High	
R4. Focus on climate resiliency now				
Adopt technologies and practices: irrigation and drainage, water infrastructure, crop or livestock CSAs and technology; crop and livestock breeding, management and operations, pest, disease management	Medium Low	High	Medium High	
Incentivize ecosystem-based and nature-based approaches: water quality, soil health, diversification, biodiversity	Medium Low	High	Medium High	
R5. Set up foundation for climate mitigation				
Strengthen the capacity of competent authorities to monitor agri-env measure results	Medium High	High	Low	
Establish the animal feeding guideline and regulatory framework	Medium High	Medium Low	Medium Low	
Establish the manure management regulatory framework and relevant guidelines	Medium Low	Medium High	High	
Strengthen animal identification, registration and movement control	Medium High	Medium Low	Medium High	
Gradually increase the number of agri-env measures beyond organic farming	Medium High	Medium High	Medium High	
Strengthen the soil information system for soil health, nitrate directive and GHG monitoring	Low	Medium High	Medium High	
R6. Step up efforts for sustainable development and livelihood diversification of rural areas				
Improve access to internet and digital in rural areas	Medium Low	High	Very High	
Create more opportunities for non-farm green activities for rural area	Medium Low	Medium High	Medium High	
Support self-organization in the rural areas	Medium Low	Medium Low	Medium Low	
R7. Knowledge transfer & AKIS				
Build capacity of agricultural education, research and farm advisory services on greening	Medium Low	Medium High	High	
Monitoring of designing and implementation of agri-env measures	Medium High	Medium High	Low	
Digital and inclusive provision of farm advisory service and extension	Medium High	Medium High	Low	
Facilitation of private delivery of some farm advisory service to make it more accessible to small farms	Medium High	High	Medium High	
Invest in data collection and monitoring of agri-env indicators, FADN/FSDN in the EU	High	High	Low	

NORTH MACEDONIA

- › North Macedonia is aligning more closely with the EU in many aspects of the agri-food sector. North Macedonia possesses a full-bodied LPIS that was started in 2002 with a focus on advanced land parcel identification and area monitoring functions and has the foundational tools necessary to expand agri-environmental measures (AEMs) and potentially become the first in the region to implement cross-compliance measures.
- › Its LPIS provides the basis for the high level of area-based coupled support in the country. All elements of the integrated administration and control system (IACS) are in place and complied with the EU *acquis*.
- › The Paying Agency is progressively enhancing its capacity, reflecting the country's commitment to improving agricultural policy implementation. The implementation of the FADN is on course, setting positive expectations for the adoption of the FADN/FSDN. Such systems are crucial for enhancing data collection and monitoring capabilities, which will subsequently refine agri-environmental policies.
- › North Macedonia made progress in the areas of food safety, and veterinary and phytosanitary policy, particularly in fighting animal diseases, plant health control and implementing pest eradication measures based on phytosanitary monitoring programs' results: control measures for animal diseases with an active and passive surveillance program in place for various diseases; adopted the revised law on animal by-products, amended the legislation on food safety to align with the EU *acquis* on specific requirements for microbiological criteria for food; implemented phytosanitary monitoring program for plant health and developed the phytosanitary information system, aligned the Law on Phytopharmacy with the EU *acquis*.
- › Acknowledging the necessity for a transition to more sustainable practices, the North Macedonian government is committed to investing in both human and financial resources for capacity in implementing IPARD accredited measures and AEMs which is in place but modest. Efforts to improve access to commercial credit for sustainable farming are underway, channeling funds into green investments and fostering eco-friendly agricultural advancements. This commitment is showcased in the strategy to promote private delivery of farm advisory services, ensuring that farmers receive the support needed to adopt environmentally sustainable practices.
- › The country is adopting a proactive stance towards digital agriculture within the public sector, yet there is a need for a more dynamic approach to engage the private sector. The newly launched "E-agriculture" web platform is a good approach in this direction, offering enhanced accessibility to essential national digital system. Support policies could catalyse innovation in private entities, fostering the investment in technologies and infrastructure essential for efficient and sustainable farming.

<i>Recommendations for Montenegro</i>	<i>Dev. Level</i>	<i>Priority Level</i>	<i>Complexity</i>	<i>Priority actions to be started now</i>
R1. Improve the regulatory and institutional setup				<ol style="list-style-type: none"> Enhance managing authority's capacity (Paying Agency in monitoring AEMs & CFP; and Administration of Food, Veterinary and Phytosanitary in using VIS, approving laws). Prioritize food safety system improvement (Phytosanitary/SPS, control system for the safe management of ABP) and link them to the implementation of AEMs and animal health and welfare. Develop a functional IACS for a digitalized support system for the management and control of payments to productive units, monitoring, processing of subsidies, and policymaking. Increase public funding for supporting services and agricultural infrastructures for CSAs (basic infrastructure that provide fishermen with regulated safe, and sanitary landing facilities and access to port). Foster the agricultural credit enabling market with a focus on green investments. Support better manure management and related regulations and guidelines Capitalize on the agriculture-tourism nexus and the potential of the agriculture sector in complementing tourism (agro-tourism) for diversified rural economic opportunities Expand and digitalize the Farm Advisory System (FAS), Agricultural Knowledge and Information Systems (AKIS), research, and extension services.
Strengthen paying agency to administer agri-env measures (AEMs)	Medium High	High	High	
Establish Land Parcel Identification Systems; Farm Registry; Integrated Administrative Control System	High	Medium High	Very High	
Capacitate SPS and food safety agencies	Medium High	High	High	
Capacitate managing authority able to define proper agri-env measures	High	Very Low	Very Low	
R2. Move from strategies to concrete policy actions				
Monitoring and reporting on strategies implementation	Low	Medium Low	Medium Low	
Strengthening the evidence on results achievement	Low	Low	Low	
Increasing awareness among farmers and other stakeholders about strategies and policies	Low	Medium High	Very High	
R3. Repurpose agricultural public expenditures				
Increase financing of other general support services critical for CSA (AKIS, research, digitalization, etc.)	Medium Low	Medium High	High	
Increase financing of agricultural infrastructure critical for CSA (irrigation, cold storage, etc.)	Medium Low	Medium High	High	
Reduce and phase-out coupled direct farm payment	Medium Low	High	Very Low	
Make direct farm payments conditioned by cross-compliance	Medium Low	Medium High	High	
Increase financing of agro-env measures	Medium High	Medium Low	Low	
Support green capital investment in agriculture and food processing	Medium Low	Medium High	High	
Improve access to commercial credit that finances CSA	Medium Low	High	High	
R4. Focus on climate resiliency now				
Adopt technologies and practices: irrigation and drainage, water infrastructure, crop or livestock CSAs and technology; crop and livestock breeding, management and operations, pest, disease management	Medium Low	High	Medium High	
Incentivize ecosystem-based and nature-based approaches: water quality, soil health, diversification, biodiversity	Medium High	High	Medium High	
R5. Set up foundation for climate mitigation				
Strengthen the capacity of competent authorities to monitor agri-env measure results	Medium High	High	Low	
Establish the animal feeding guideline and regulatory framework	Medium High	Medium Low	Medium Low	
Establish the manure management regulatory framework and relevant guidelines	Medium Low	High	High	
Strengthen animal identification, registration and movement control	High	Medium Low	Medium High	
Gradually increase the number of agri-env measures beyond organic farming	High	Medium High	Medium High	
Strengthen the soil information system for soil health, nitrate directive and GHG monitoring	Medium Low	Medium High	Medium High	
R6. Step up efforts for sustainable development and livelihood diversification of rural areas				
Improve access to internet and digital in rural areas	Medium High	Medium High	Very High	
Create more opportunities for non-farm green activities for rural area	High	High	Medium High	
Support self-organization in the rural areas	Medium Low	Medium Low	Medium Low	
R7. Knowledge transfer & AKIS				
Build capacity of agricultural education, research and farm advisory services on greening	Medium High	Medium High	High	
Monitoring of designing and implementation of agri-env measures	High	Medium High	Low	
Digital and inclusive provision of farm advisory service and extension	Medium Low	Medium High	Low	
Facilitation of private delivery of some farm advisory service to make it more accessible to small farms	Medium Low	Low	Medium High	
Invest in data collection and monitoring of agri-env indicators, FADN/FSDN in the EU	Medium High	Medium Low	Low	

MONTENEGRO

- › Montenegro made significant progress in agriculture development with the Strategy for Agriculture and Rural Development for 2023–2028 adopted, the PA and LPIS improved, and systems fully ready for IPARD payment. The country's approach to institutional development and support for farmers, shaped by the World Bank's MIDAS project, has been recognized as exemplary and serves as a model of good practice. The project currently implements a pilot scheme to apply for entrustment of IPARD measure 4 'Agri-environment-climate and organic farming'. A Geospatial Aid Application (GSAA) system which used data from LPIS, farm registry and veterinary services was used for application, payments and spot control of the scheme. These developments show Montenegro's commitment to improving agricultural management practices and environmental stewardship. Notable achievements are seen in agricultural establishments and rural food companies to align with the EU standards, applying national flexibility measures in food safety, and implementing diverse AEMs. Progress was also made in food safety, veterinary and phytosanitary policy, such as the adoption of the second update of Montenegro's strategy for Chapter 12 of the EU *acquis*.
- › Montenegro stands out as the only country in the Western Balkans region with a wide range of environmental measures supported by the largest share of its spending at 2.2 percent in percent to total agricultural budget and at 8 percent in percent to total planned public funding for IPARD III. One such measure is the "sustainable use of mountain pastures," which provides support to agricultural holdings that keep livestock on seasonal mountain pastures for at least three months in a calendar year. Another measure is the support for livestock waste management.
- › Montenegro could further pursue the sustainable use of natural capitals (forests, land, blue economy) that were traditionally utilized for extensive livestock farming for mountain pasture management. It involves sustainable practices to maintain grazing lands at high elevations, crucial for livestock farming, biodiversity, and the local economy. It can also ensure a competitive green agrifood value chain that mitigates increasing climate risks. In the ongoing World Bank project in Montenegro (the second Montenegro Institutional Development and Agriculture Strengthening), agri-environmental measures are applied for the purpose of sustainable land use, forest management, climate mitigation, and the achievement of Neutrality in Land Degradation (LDN) goals.
- › A potential area for Montenegro's rural economy diversification is to stimulate cross-sectoral solutions such as linking agriculture with tourism and developing nature-based agritourism. The establishment of numerous small processing facilities and gastronomy linked with tourism already showcase the potential for agriculture and tourism sectors to complement and enhance each other in their economic potential.
- › Montenegro needs to increase financing of support services critical for Climate Smart Agriculture/nature-based agritourism, such as Agriculture Knowledge and Information System (AKIS), digitalization of the farm advisory and extension services, and competent authority capacity in monitoring the CSA results; support green capital investment in agriculture and food processing infrastructures critical for agriculture and fisheries sector, such as cold chain and cold storage, etc.
- › To bring its support measures fully in line with the EU *acquis*, Montenegro should accelerate legislative alignment in the area of agriculture, and fisheries and aquaculture, adopt and start implementing the new 2023–2028 fisheries and aquaculture strategy; update the action plan for meeting EU cohesion policy requirements while strengthening capacities to manage IPA programs; set up IACS and further farm advisory services and FADN/FSDN; further align the institutional framework and rules of administration for the own resources system; continue upgrading food establishments and further strengthen administrative capacity on food safety controls; and introduce cross-compliance requirements to receive IPARD funds.

<i>Recommendations for Bosnia and Herzegovina</i>	<i>Dev. Level</i>	<i>Priority Level</i>	<i>Complexity</i>	<i>Priority actions to be started now</i>
R1. Improve the regulatory and institutional setup				<ol style="list-style-type: none"> 1. Establish functional Paying Agency and payment systems able to implement AEMs/CSAs 2. Develop Farm and Client Registry, agro-information, and FADN/FSDN to inform future CSA policy planning and making 3. Strengthen food safety system and animal health and welfare. 4. Start developing a functional LPIS and IACS and improve support policy implementation and transparency. 5. Reduce and phase out coupled direct farm payments and increase support to AEMs/CSAs. 6. Increase public funding for CSA infrastructures (energy-efficient cold-storage rooms for the preservation of produce and efficient irrigation systems). 7. Leverage private sector investments into green value chain development and productive partnerships between producers and agri-businesses 8. Enhance agriculture information systems (farm and client register, online payment systems, climate information) and extension services for use of new technologies and adoption of CSAs. 9. Diversify agriculture and rural development through mountainous livestock, agro-forestry, and nature-based tourism. 10. Facilitate the development of private advisory services.
Strengthen paying agency to administer agri-env measures (AEMs)	Low	High	High	
Establish Land Parcel Identification Systems; Farm Registry; Integrated Administrative Control System	Very Low	Medium High	Very High	
Capacitate SPS and food safety agencies	Medium High	High	High	
Capacitate managing authority able to define proper agri-env measures	Medium High	Very Low	Very Low	
R2. Move from strategies to concrete policy actions				
Monitoring and reporting on strategies implementation	Low	Medium Low	Medium Low	
Strengthening the evidence on results achievement	Low	Low	Low	
Increasing awareness among farmers and other stakeholders about strategies and policies	Low	High	Very High	
R3. Repurpose agricultural public expenditures				
Increase financing of other general support services critical for CSA (AKIS, research, digitalization, etc.)	Low	Medium High	High	
Increase financing of agricultural infrastructure critical for CSA (irrigation, cold storage, etc.)	Low	Medium High	High	
Reduce and phase-out coupled direct farm payment	Low	High	Very Low	
Make direct farm payments conditioned by cross-compliance	Medium Low	Medium High	High	
Increase financing of agro-env measures	Low	Medium Low	Low	
Support green capital investment in agriculture and food processing	Low	Medium High	High	
Improve access to commercial credit that finances CSA	High	High	High	
R4. Focus on climate resiliency now				
Adopt technologies and practices: irrigation and drainage, water infrastructure, crop or livestock CSAs and technology; crop and livestock breeding, management and operations, pest, disease management	Low	High	Medium High	
Incentivize ecosystem-based and nature-based approaches: water quality, soil health, diversification, biodiversity	Low	High	Medium High	
R5. Set up foundation for climate mitigation				
Strengthen the capacity of competent authorities to monitor agri-env measure results	Medium Low	Medium High	Low	
Establish the animal feeding guideline and regulatory framework	Medium High	Medium Low	Medium Low	
Establish the manure management regulatory framework and relevant guidelines	Low	Medium High	High	
Strengthen animal identification, registration and movement control	Medium High	Medium Low	Medium High	
Gradually increase the number of agri-env measures beyond organic farming	Medium Low	Medium High	Medium High	
Strengthen the soil information system for soil health, nitrate directive and GHG monitoring	Low	High	Medium High	
R6. Step up efforts for sustainable development and livelihood diversification of rural areas				
Improve access to internet and digital in rural areas	Medium High	Medium High	Very High	
Create more opportunities for non-farm green activities for rural area	High	High	Medium High	
Support self-organization in the rural areas	Medium Low	Medium Low	Medium Low	
R7. Knowledge transfer & AKIS				
Build capacity of agricultural education, research and farm advisory services on greening	Medium High	Medium High	High	
Monitoring of designing and implementation of agri-env measures	High	Medium High	Low	
Digital and inclusive provision of farm advisory service and extension	Medium Low	Medium High	Low	
Facilitation of private delivery of some farm advisory service to make it more accessible to small farms	Medium Low	Low	Medium High	
Invest in data collection and monitoring of agri-env indicators, FADN/FSDN in the EU	Medium High	Medium Low	Low	

BOSNIA AND HERZEGOVINA

- › **Bosnia and Herzegovina (BiH)**'s journey towards greening agriculture is characterized by significant systemic challenges. The absence of a Paying Agency and LPIS presents notable hurdles in the path to modernizing agricultural practices and aligning with EU standards. A challenge is BiH's complex organizational structure comprising two often conflicting entities, which impedes sector development and EU integration efforts. This complexity is mirrored in the agricultural sector.
- › **BiH made limited progress in agriculture and rural development with necessary administrative structures required for the EU alignment.** BiH unevenly implemented the 2018–2021 strategic plan for rural development and has not yet made any significant steps in the adoption of a post-2021 state-level strategic plan. A PA was not established, and little progress was made in developing elements of an IACS or FADN/FSDN.
- › **BiH is slow in its alignment with the EU *acquis* in terms of food safety, veterinary and phytosanitary policy.** Significant works and reforms are still necessary to align with the EU *acquis* in areas of food safety, veterinary and phytosanitary policy, setting up of national reference laboratories and official control system in BiH, registration of farm holdings and the deregistration of holdings that are no longer active, and ensuring the reliability of livestock numbers and species present on active holdings.
- › **The livestock sector's significant role in BiH demands expert knowledge and decision-making that is specifically attuned to the sector's environmental footprint.** Given its importance, a sophisticated approach is essential for incorporating climate adaptation and mitigation strategies. Policies aimed at mitigating the environmental effects of livestock farming must be crafted with this specificity in mind to ensure they are both efficacious and appropriate to the context. Moreover, it is imperative to undertake considerable efforts to guarantee the accuracy and reliability of data for animal identification.
- › **Within this complex environment, BiH has established a creditable food safety system, proving that progress is achievable despite the country's challenges.** This success is especially pertinent in the agricultural lending market, where high competition and low-interest rates have bolstered successful private sector initiatives.
- › **BiH's agricultural budget is modest, heavy on coupled direct payment and lacks dedicated budget for agri-environmental measures that are essential for fostering sustainable development.** Direct payments still need to be aligned with the EU *acquis*. A high percentage of coupled direct payments still accounts in the incentive support program but the government has plans to gradually transition the policy to decoupled payments and investment support. The transition is slow and takes time. However, a positive note is the competitive credit market development in BiH led by major international commercial banks.
- › **BiH could focus on advancing agroforestry, climate-smart agricultural practices and nature-based tourism that protect its dense woodlands while promoting sustainable agriculture and rural development.** Furthermore, BiH has potential in fostering interactions between agriculture and non-agricultural activities for rural development, such as mountainous livestock management combined with CSA solutions and food safety regulations based on flexibility rules linked with tourism.

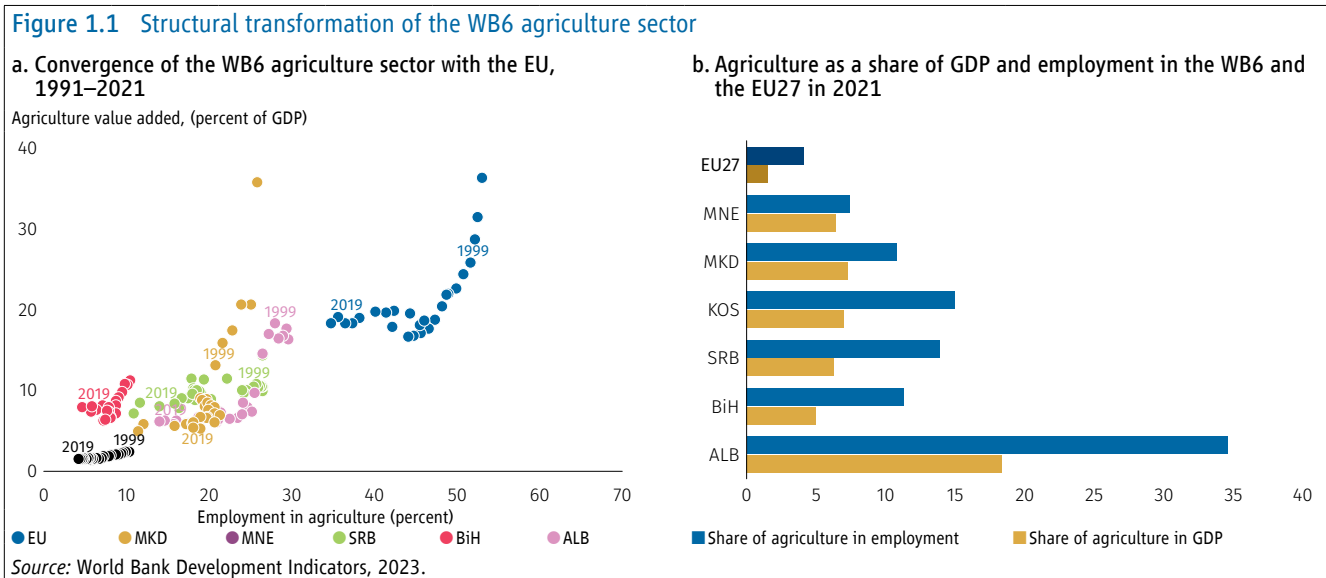
Recommendations for Kosovo	Dev. Level	Priority Level	Complexity	Priority actions to be started now
R1. Improve the regulatory and institutional setup				<ol style="list-style-type: none"> 1. Establish a functional Paying Agency able to implement AEMs 2. Broaden food safety regulations to cover local agriculture practices and link them with AEMs. 3. Start developing a functional LPIS and IACS and improve support policy implementation and transparency. 4. Reduce and phase out coupled direct farm payments and support green capital investment in agriculture and food processing. 5. Increase public funding for general support services (Farm advisory systems) and agricultural infrastructure essential for CSA. 6. Foster the agricultural credit enabling market with a focus on green investments. 7. Increase awareness and promote CSA practices (modern on-farm irrigation technologies and water management, agro-ecological practices) among farmers and stakeholders. 8. Strengthen the capacities of MAFRD and municipalities for the provision of CSA advice (irrigation and drainage) to farmers. 9. Empower farmer groups and private sector's participation in the processing industry applying sustainable practices. 10. Establish and digitalize the FAS, Agricultural Knowledge and Information Systems (AKIS), research, and facilitate private delivery of some FAS and extension services.
Strengthen paying agency to administer agri-env measures (AEMs)	Very Low	High	High	
Establish Land Parcel Identification Systems; Farm Registry; Integrated Administrative Control System	Very Low	Medium High	Very High	
Capacitate SPS and food safety agencies	Low	High	High	
Capacitate managing authority able to define proper agri-env measures	Medium High	Very Low	Very Low	
R2. Move from strategies to concrete policy actions				
Monitoring and reporting on strategies implementation	Low	Medium Low	Medium Low	
Strengthening the evidence on results achievement	Low	Low	Low	
Increasing awareness among farmers and other stakeholders about strategies and policies	Low	High	Very High	
R3. Repurpose agricultural public expenditures				
Increase financing of other general support services critical for CSA (AKIS, research, digitalization, etc.)	Very Low	Medium High	High	
Increase financing of agricultural infrastructure critical for CSA (irrigation, cold storage, etc.)	Low	Medium High	High	
Reduce and phase-out coupled direct farm payment	Medium Low	High	Very Low	
Make direct farm payments conditioned by cross-compliance	Medium Low	Medium High	High	
Increase financing of agro-env measures	Low	Medium Low	Low	
Support green capital investment in agriculture and food processing	Low	Medium High	High	
Improve access to commercial credit that finances CSA	Low	High	High	
R4. Focus on climate resiliency now				
Adopt technologies and practices: irrigation and drainage, water infrastructure, crop or livestock CSAs and technology; crop and livestock breeding, management and operations, pest, disease management	Low	High	Medium High	
Incentivize ecosystem-based and nature-based approaches: water quality, soil health, diversification, biodiversity	Low	High	Medium High	
R5. Set up foundation for climate mitigation				
Strengthen the capacity of competent authorities to monitor agri-env measure results	Medium Low	Medium High	Low	
Establish the animal feeding guideline and regulatory framework	Medium High	Medium Low	Medium Low	
Establish the manure management regulatory framework and relevant guidelines	Low	Medium High	High	
Strengthen animal identification, registration and movement control	Medium High	Medium Low	Medium High	
Gradually increase the number of agri-env measures beyond organic farming	Medium Low	Medium High	Medium High	
Strengthen the soil information system for soil health, nitrate directive and GHG monitoring	Low	Medium High	Medium High	
R6. Step up efforts for sustainable development and livelihood diversification of rural areas				
Improve access to internet and digital in rural areas	Low	Medium High	Very High	
Create more opportunities for non-farm green activities for rural area	Medium Low	High	Medium High	
Support self-organization in the rural areas	Medium Low	Medium High	Medium Low	
R7. Knowledge transfer & AKIS				
Build capacity of agricultural education, research and farm advisory services on greening	Very Low	High	High	
Monitoring of designing and implementation of agri-env measures	Medium High	Medium High	Low	
Digital and inclusive provision of farm advisory service and extension	Medium Low	Medium High	Low	
Facilitation of private delivery of some farm advisory service to make it more accessible to small farms	Medium Low	High	Medium High	
Invest in data collection and monitoring of agri-env indicators, FADN/FSDN in the EU	Low	Medium Low	Low	

KOSOVO

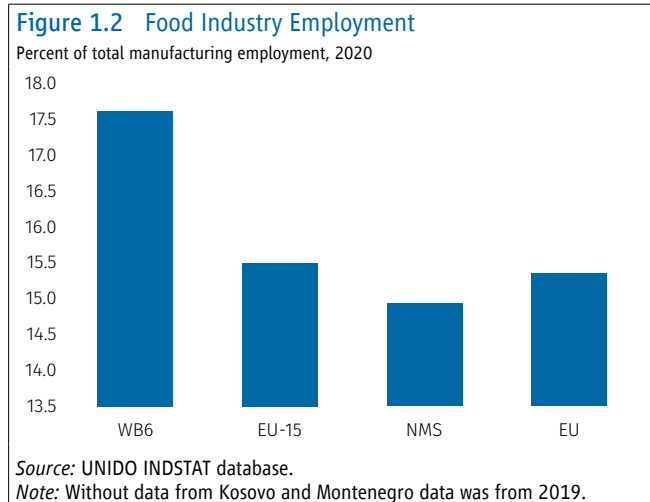
- › Kosovo's agricultural sector faces challenges in developing policies and implementing agri-environmental measures among underdeveloped agricultural institutions. This developmental gap, reflected in the absence of a Paying Agency and only embryonic elements of a Land Parcel Identification System (LPIS) highlights the pressing need for investment in institutional frameworks and capacity building for effective data collection and environmental governance.
- › Kosovo is noticeably lagging in agricultural institutional development compared to the other Western Balkan countries. The institutions have not faced the challenge of implementing complex support programs independently, as the country's support policy is predominantly driven by donors. Thus, it is difficult to expect that Kosovo will be able to implement complex AEMs. The development of the PA, IACS, FADN/FSDN and LPIS is still not a high priority for the government, while food safety regulation is focused on imported products, modestly on locally produced items, and even less on opening export possibilities, signaling a need to broaden food safety scope to cover local agricultural practices.
- › The country's support policy is predominantly driven by donors, reflecting a dependency that Kosovo aims to evolve from. Encouragingly, a dynamic private sector is emerging in Kosovo, particularly in the processing industry, poised to rapidly embrace new sustainable practices. This sector's adaptability is key to implementing climate smart agriculture, setting a foundation for sustainable agricultural growth and contributing to Kosovo's long-term environmental and economic resilience.
- › Kosovo recognizes the transformative potential of digitalization in agricultural advisory services. Efforts are underway to ensure these services are inclusive to and empowering small-scale and marginalized farmers. Yet, the path to digital transformation and innovation relies heavily on continued government and international donor support.
- › The land market in Kosovo, coupled with limited options for collateralizing agricultural land and a lack of competition on the supply side, has inhibited the development of a strong credit market. Financing mechanisms within Kosovo require fortification to escalate agri-environmental measures adequately. While initiatives are in place to involve the private sector in delivering farm advisory services, the importance of public investment and international aid in catalysing the adoption of sustainable methods is evident.
- › Kosovo made little to no progress regarding the veterinary policy, animal health, collection and disposal of animal by-products, and identifying basic cross-compliance measures in the areas of food safety, animal health and welfare. Kosovo made limited progress in the area of food safety, veterinary and phytosanitary policy, as it prepared and adopted the necessary secondary legislation as well as developed surveillance and eradication programs concerning animal diseases and control programs concerning stray dogs. Some progress was made on food control and traceability as well as the laboratory information management system, animal identification and registration, phytosanitary policy.

1.1 Continued importance of the sector

Joining the European Union (EU) is one of the main political goals of Western Balkan (WB6) countries. To meet the criteria for speeding up the integration process to the EU membership, the WB6 agriculture sector is going through a significant structural change, which has led to some alignment with the EU. As a result, the WB6 agriculture sector is shrinking as a percentage of GDP, while remaining relevant in terms of value added, employment, export, and rural economy sustainability. Moreover, the sector is helping to improve environmental sustainability and climate resilience of the WB6 countries. As the sector undergoes further structural reforms, efforts to make agriculture greener presents a chance to support the transformation, ensure access to the EU market, and to enhance productivity, competitiveness, and resilience of the sector, by using available funds, resources, innovation, and knowledge effectively. In fact, more successful alignment for the WB6 agriculture is only possible when greening, i.e., climate adaption and mitigation, is given more priority.



Although the agriculture sector no longer accounts for a large percent of GDP in most WB6 countries as it did twenty years ago, it is still an important economic sector that contributes to GDP and employment (Figure 1.1a). In the early 1990s, the agriculture sector contributed around 36 percent of GDP and 57 percent of employment to Albania. In 2021, the GDP share of agriculture varied from 18.4 percent in Albania to 5–8 percent in other WB6 countries, while the contribution to employment ranged from 34.6 percent in Albania to 2.2 percent in Kosovo. However, it is nonetheless larger than in the EU27 where the EU27 GDP share of agriculture is at 1.6 percent, and an employment share of 4.1 percent (Figure 1.1b).



Meanwhile, the agrifood sector will continue having a strong place in the national development strategies, value addition, jobs, and exports, as well as contributing to climate goals and NDCs. Employment in food processing is substantive and an important sector for jobs (Figure 1.2). The Agrifood sector is key to advancing the EU accession readiness and allow the countries to integrate smoothly and swiftly into the EU realm. There is also strong potential of

the sector to integrate youth and innovation to enhance rural and local development but requires support and incentives to build capacities in local institutions and stakeholder to get there. Innovations and smart new agricultural business are emerging all Western Balkans countries). In the long run, the Western Balkan countries will need to transform not only their primary production sector, but also the food processing sector to be able to transition to a sustainable food system.

The World Bank previously conducted two analyses—*Agriculture for Jobs and Growth in the Western Balkans (2017)* and *Exploring the Potential of Agriculture in the Western Balkans (2018)*—on the potential of agriculture and its pathway in the WB6. Findings of these analyses remain relevant and consistent with discussions subsequently.

1.2 Farm productivity and export competitiveness for the EU market remain low

Despite its continued importance and recent progress, the WB6 agriculture sector, with few exceptions, is still highly fragmented and characterized by low productivity and value addition and weak export competitiveness complicated by deeply rooted structural problems.

a. Structurally, WB6 is mostly rural and dominated by farm duality with most farms being very small.

- › Compared with the EU's one-fifth population in rural areas, around half of the population in the WB6 lives in rural areas, and this defines their approach to food, agriculture, and the environment. Many research and reports emphasize difference between urban and rural population regarding the importance of agriculture activities for families, level of self-consumption, education level, concerns about air pollution and waste management etc. People living in rural areas may have a closer connection to nature and rely more directly on natural resources for their livelihoods. WB6 rurality to large extent defines the governments' approach to agriculture, environment, and climate change.
- › While the EU-27 average farm size is 16 ha per farm, the average farm size in the WB6 is only around one-third (Serbia) to one-tenth (Albania) the average size of the EU-27. 80 percent small farms in Kosovo have less than 2 ha of arable land. With an average farm size ranging between 1 ha (in Albania) and 5 ha (in Serbia and Montenegro) and many (35 to 40 percent) agricultural producers in the region being semi-subsistent, selling surplus production to local markets, production at scale, innovation and integration are not possible.

This structural fragmentation has been hindering the federation of small farmers and discouraging investment especially among the subsistence farmers.

b. Financially, agricultural public spending as a share of GDP has been substantial and is growing in recent years. IPARD III allocations and donor funding are also increasing. However, there is still a huge gap with the EU in terms of support for climate-smart agriculture (CSA) and the way how and where the budget is spent. Most agricultural public expenditures focus on supporting an increased production through coupled subsidies and are not aligned with the EU's new Common Agricultural Policy (CAP), where the public support for agriculture has multiple developmental objectives. Farm capital formation and Agricultural Knowledge and Innovation System (AKIS) are significantly underinvested compared to the EU. As a result, most WB6 farms remain undercapitalized, thereby stay less productive and less competitive.

c. Institutionally, the capacity of the WB6 governments for the provision of public goods (i.e., food safety, connectivity, organic labelling and certification, research, innovation and extension, marketing, and logistics infrastructure, etc.) has been consistently low and underfunded. The WB6 countries are yet to deepen Food Safety, Veterinary and Phytosanitary policy as well as the institutional set up required to implement this policy.

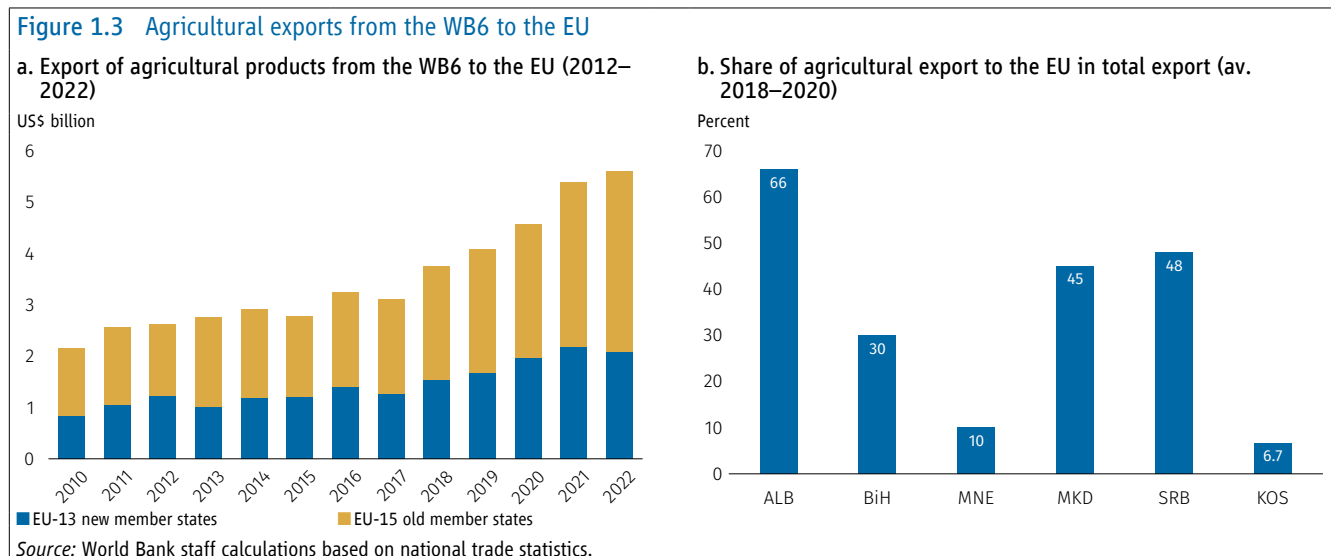
d. On farm, most farms in WB6 countries have low intensity productive systems that use less (and green) fertilizers and chemicals (pesticides, insecticides, herbicides, etc.), show a declining trend in livestock production, and emit lower amounts of greenhouse gas (GHG) emissions from agriculture. Many WB6 farms are still subsistent. However, the per capita emissions from agriculture are approaching the EU level.

e. Human capital wise, many people, especially young ones, have left the countryside for other places. The workers in the main farming sector have low skills because they have little education and few chances for training. This also makes it harder for the sector to create more value and jobs outside of farming, to offer different ways of earning a living in rural areas, and to increase rural incomes.³ People who are younger and better educated tend to move away from rural areas more.

f. The lack of federation or organization of farmers, the poor connections among agrifood value chain actors, the low adoption of climate smart practices and technologies, and the food supply risks caused by climate change, are all negatively impacting agricultural productivity and the sector's role in the economy.

g. New challenges, to top it all and more than ever, the sector's role in the rural economy is threatened by new challenges that arise from the shifting weather patterns, aggravated by climate change.

The EU market, however, is important. In 2022, the WB6 agricultural exports to the EU reached US\$5.7 billion, increasing more than twofold since 2010 (Figure 1.3). The EU market accounts for almost 50 percent of North Macedonia and Serbia's agricultural exports and reaching 66 percent for Albania. Going forward, export to the EU will be a main driver for the greening of agriculture, adoption of different food safety standards and doing more on climate mitigation. Addressing challenges in the agrifood sector including greening the sector can have strong multiplier effects for jobs and growth beyond the provisioning of food security.



3 World Bank. 2017. *Agriculture for Jobs and Growth in the Western Balkans: A Regional Report*. Washington, DC.

1.3 Structural challenges, climate impacts, and slow greening threaten to derail further convergence with the EU

Progressing towards further convergence with the EU, WB6 countries must tackle the issues that have continued to affect the farming communities—structural challenges in farming systems, production coupled farm support, low greening process, and increasingly emerged climate impacts. According to the WB6 Country Climate and Development Report (CCDR, 2024), WB6 countries are highly vulnerable to droughts and shifts in growing seasons, particularly certain sectors, and subregions. In May 2014, catastrophic floods hit the WB6 countries, causing damage to BiH estimated to be equivalent to 15 percent of GDP, while making 12,000 ha of land unusable in Serbia. Most recently, in January 2023, floods caused huge damage and drownings, and affected thousands of hectares of land in northern Albania.⁴ Droughts have also become more frequent. These not only reduce crop yields but also contribute to soil degradation and long-term water scarcity. Increasingly frequent and intense droughts during the last two decades have already caused great damage to agriculture in Serbia. Production is expected to fall by 10 percent in the second half of this century (Knez et al., 2022). More frequent frost had a negative effect on wheat yields in all WB6 countries, with the strongest impact in Serbia (Muller and Hofmann, 2022).

The magnitude of climate change in the WB6 is seen in the increase in summer heatwaves during recent decades, with highest intensity in southern Bosnia and Herzegovina, Montenegro, and northern Albania.⁵ The accelerated climate change is triggering more frequent and intense hazardous weather events, which endangers the sector's contribution to the broader economy. Climate change impacts exacerbate existing weaknesses in agriculture sectors in the WB6, posing a threat to food security and economies.

Montenegro is particularly exposed and vulnerable to climate risks such as drought, floods, forest fires, and heat waves.⁶ Floods is the first and most common climate risk that made Montenegro suffered three major ones (2007, 2009 and 2010). The 2010 flood alone caused around EUR 44 million (1.4 percent of GDP) (EM-DAT, 2019) of damage and losses and over EUR 13 million of damage and losses were in agriculture significantly affecting about 30,000 hectares of agricultural land where the largest part of the national vegetable production is located according to the FAO estimation. Droughts and forest fires are also common in Montenegro⁷ and affected the quality and quantity of agricultural yield, as well as the rate of irrigation and wood mass. Climate projections show that climate extremes will become even more frequent and pronounced in the future and agriculture will become one of the most vulnerable sectors.

Agriculture in Albania is one of the sectors most vulnerable to climate change. A World Bank study from 2013 showed how different crops and animals would be affected by changes in temperature and precipitation in different farming regions under medium climate change scenario and concluded the seasonal changes in climate have clear implications for crop and livestock production if no adaptation measures are adopted beyond the ones that farms apply.⁸ The study found that grapes and olives would suffer the most from climate change, with lower yields in all agro-ecological zones (AEZs) and especially in the Intermediate AEZ (I-AEZ).⁹ The Lowland AEZ (L-AEZ) is projected to be the worst-hit area by climate change among three AEZs in the Vjosa River Basin, followed by the I-AEZ. Some of the crops that are expected to have a significant drop in yield by 2060 are alfalfa, grapes, olives, maize, and watermelon. For example, maize yield

4 <https://balkaninsight.com/2023/01/20/floods-in-western-balkans-cause-huge-damage-drownings/>.

5 JRC Science for Policy Report. Status of environment and climate in the Western Balkans. <file:///C:/Users/wb512433/Downloads/kjna31077enn.pdf>.

6 Third National Climate Change Report to the UNFCCC, Ministry of Ecology, Spatial Planning and Urbanization, 2020.

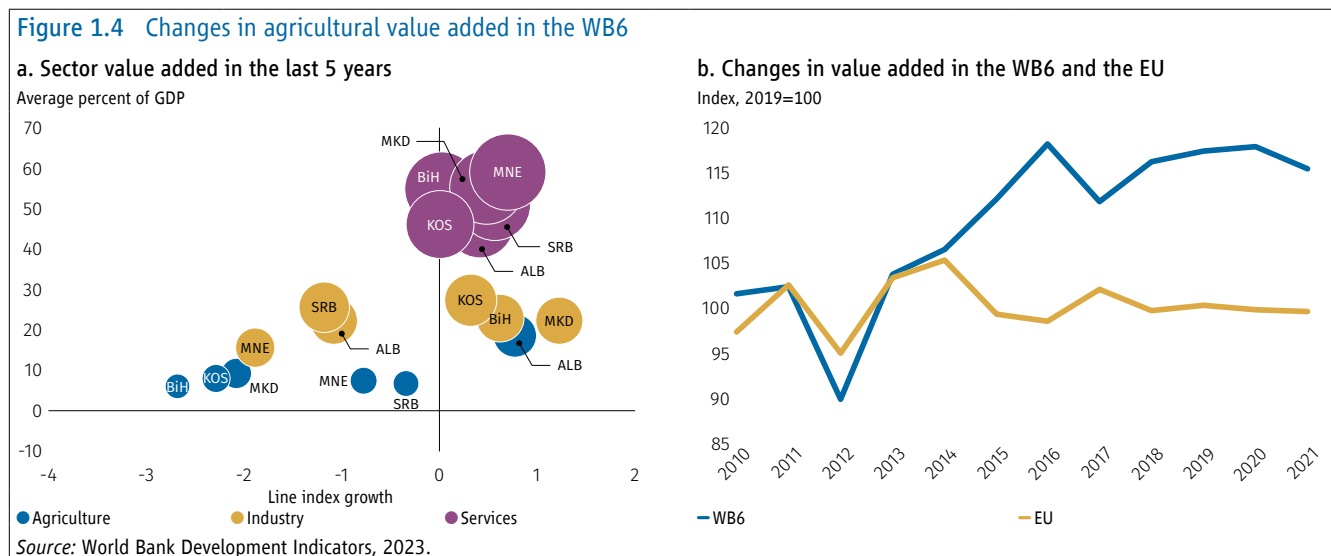
7 Ibid.

8 Sutton, William R., Jitendra P. Srivastava, James E. Neumann, Kenneth M. Strzepek, and Peter Droogers. 2013. Reducing the Vulnerability of Albania's Agricultural Systems to Climate Change: Impact Assessment and Adaptation Options. World Bank Study. Washington, DC: World Bank. doi:10.1596/978-1-4648-0047-4. License: Creative Commons Attribution CC BY 3.0.

9 Three agro-ecological zones (AEZ): the Lowland, Intermediate and Southern Highlands (Southern Highlands and Northern & Central Mountains) mountain zones.

is expected to decrease by about 8 percent by 2050 in the L-AEZ and 4 percent in the I-AEZ. On the other hand, the Southern Highlands Mountain region is projected to be less impacted by climate change. For livestock, the analysis found that sheep and cattle would face more challenges in the L-AEZ, due to factors such as heat stress, water scarcity, pests and diseases, and forage availability. The North and Central Mountain region is projected to have the least impact, as forage production is less affected. Goats are projected to face more difficulties in the Lowland and Intermediate AEZs, due to the heat and water stress. The least vulnerable categories are projected to be pigs and chickens. The South highland AEZ is projected to have more diseases, as the vectors that transmit them are influenced by global warming moving from south to north.

Since the sector remains fragile to climate and other shocks that leads to highly volatile growth pattern, the average agriculture growth in WB6, with some exceptions, lagged total growth before and during Covid-19 (Figure 1.4a). Climate change associated with disasters and the low preparedness for climate change will only result in WB6 agricultural production becoming more volatile than in the EU (Figure 1.4b).



The sector will keep facing the threats of climate change that make it more vulnerable. All major simulations of future climate conditions project a temperature increase for the Western Balkans of 3.5°C up to 8.8°C by the end of this century (IPCC 2021). The IPCC provided strong empirical evidence and high agreement across all reviewed studies that summer temperature will go up more than the global average on land, leading to more frequent and severe heat waves (IPCC 2021). The likely increase of intensity and frequency of extreme rain will raise the chances for flooding and landslides (Djurdjevic et al. 2019).¹⁰ If suitable measures are not taken and risk management for water resources and agriculture is not improved, the extreme rain or dry days will put at risk not only the already fragile climate sustainability and biodiversity of the region but also the livelihood of the people working in agriculture and the contribution of the sector to GDP.¹¹

Therefore, helping farmers and authorities with strategies and actions to prevent the most severe effects of climate change could make a big difference for the WB6 agriculture sector. The World Bank describes climate-smart agriculture (CSA) as a comprehensive approach to address three main goals: sustainably increasing agricultural productivity and incomes; adapting and building resilience to climate change; and reducing and/or removing greenhouse gas emissions,

¹⁰ Daniel and Max. 2022. Impacts of climate change on agriculture and recommendations for adaptation measures in the Western Balkans.

¹¹ Ibid.

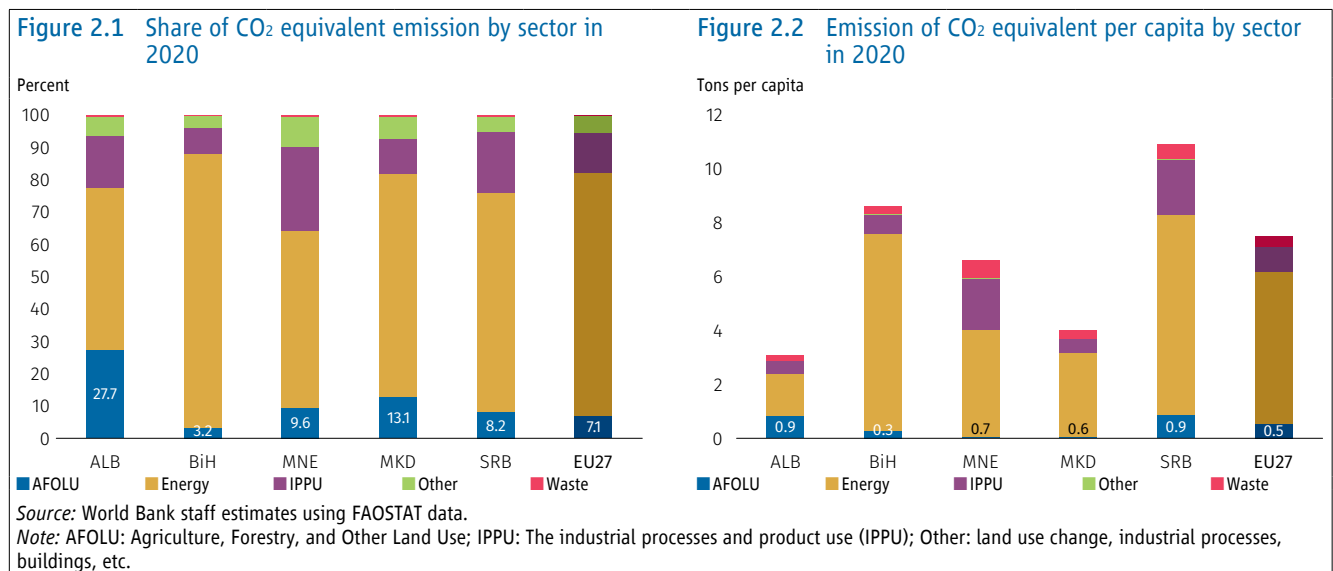
wherever possible. Similarly in the EU, agri-environmental measure (AEM)¹² is used as a policy tool to promote environmentally benign farming systems and condition public support to sustainable agricultural practices. In this report, AEMs and CSAs are used interchangeably considering their shared principles. As such, increasing support for the widespread adoption of CSAs/AEMs is a pressing need.

12 AEMs encourage farmers to protect, maintain and enhance the environmental quality of their farmland and can target soil protection, conservation or improvement, address in particular water erosion (conservation tillage practices such as no-tillage), soil contamination. Instead of focusing on single soil conservation practices, AEMs may also focus on the adoption of environmentally benign farming systems such as conservation agriculture and organic farming.

2.1 Low absolute GHG emissions but similar to EU in per capita emission

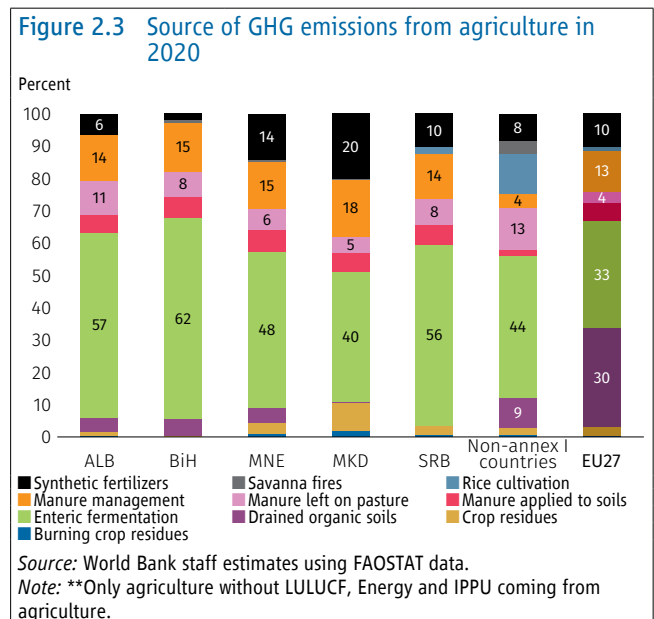
The WB6 produces much less GHG than the EU, but the proportion of agriculture and the per capita rate in the country GHG production are similar to the EU, except for Albania. In 2020, agriculture in the WB6 made up a relatively small 0.2 percent of the global agricultural methane and nitrous oxide production, and the total agricultural GHG production in the WB6 was 39 times smaller than the production in the EU. Albania had 190 times less GHG production from agriculture than EU countries, Bosnia and Herzegovina 198 times, Serbia 80 times, Montenegro 1,234 times, North Macedonia 424 times.

The energy sector is the primary contributor to GHG emissions in both the EU and WB6. Part of the energy-related emissions come from agriculture on-farm energy use, energy used in making pesticides and fertilizers, food processing and packaging etc.



Among WB countries, Albania stands out with the highest share of agriculture in its GDP, which also translates to the highest share of GHG emissions (Figure 2.1). Serbia has higher per capita emissions compared to the EU, largely driven by the energy and IPPU sector, since high use of thermoelectric power plants and processing factories rely on coal (Figure 2.2).

The highest percent of agriculture sector emissions in WB6 countries were a consequence of livestock production activities, mainly enteric fermentation, manure management, and manure left on pastures (Figure 2.3). Serbia has lower GHG emission coming from enteric fermentation while the highest manure management, crop residues and synthetic fertilizers. Due to the common practice of intentionally removing water



from soil to improve soil conditions for crop growth “drained organic soil” has high share in the EU. Due to the extensive livestock production and high share of small ruminants “Manure left on pasture” is a significant contributor in Albania.

2.2 Reasons for relatively low absolute emissions

The current environmental impact of WB6 agriculture sector is low, but this is more due to the high ruralness and low agricultural intensity than to deliberate policy decisions.

Table 2.1 Agricultural growth and GHG emissions in the WB6 and the EU, 2010–2020

Regions	Annual average agricultural growth, %	Annual average growth of agricultural methane emissions, %	Annual average growth of agricultural nitrous oxide emissions, %
EU	0.4	-0.4	0.0
WB6	0.9	-1.3	-1.4

Source: World Bank staff estimates using various sources and latest available data.

The low intensity of crop and livestock production has contributed to the relatively low level of GHG emissions in the WB6 agriculture sector, as well as their decoupling from agricultural growth. In most WB6 countries in 2020, the agriculture sector generated about 10 percent of total emissions (Figure 2.1). The share was large only in Albania, at 28 percent. In comparison, the agriculture sector globally generates more than 25 percent of total emissions. During 2010–2020, annual average agricultural growth of the WB6 region was 0.9 percent, while agricultural methane

and nitrous oxide emissions annually declined by 1.3 and 1.4 percent, respectively (Table 2.1). In comparison, the EU agriculture sector grew by 0.4 percent annually during 2010–2020, while agricultural methane emissions declined annually by 0.4 percent. Agricultural nitrous oxide emissions have not declined at all in the EU over the past decade. This implies that agricultural growth in the region was much more decoupled from GHG emissions than in the EU.

In some respects, the WB6 agriculture sector is relatively more environmentally friendly than that of the EU. On average, most WB6 countries use less fertilizers and chemicals (pesticides, insecticides, herbicides, etc.) per hectare (Figure 2.4), and emit less greenhouse gas (GHG) emissions per capita (Table 2.2). In some countries, the share of high-diversity landscapes, especially in BiH, exceeds that of the EU. Thus, the WB6 countries are in a good position to meet many EGD targets by 2030, in the case that they are required to do so as part of EU accession.

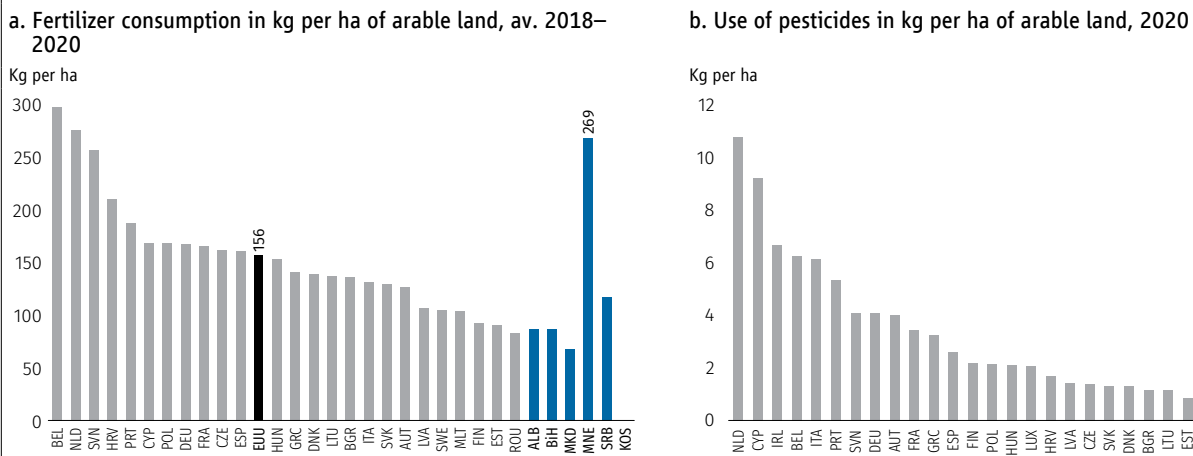
Table 2.2 Agriculture GHG emissions per capita in the WB6 vs the EU27

CO ₂ eq t/pc	ALB	BiH	MNE	MKD	SRB	EU27
Agri-food systems	1.6	1.8	1.7	1.5	2.9	2.4
Emissions on agricultural land	1.1	0.9	0.7	0.6	1.9	1.3
AFOLU	0.9	0.3	0.7	0.6	0.9	0.5

Source: World Bank staff estimates using various sources and latest available data.

2.2.1 Use of chemicals

Average use of fertilizers and pesticides in the WB6 countries, except for Montenegro, has been relatively low and is lower than the averages in most EU member states (Figure 2.4). The WB6 region has a high proportion of small-scale or subsistence farms, where the use of modern inputs is rather limited. The use of modern inputs among commercial farmers is also limited due to inadequate access to finance and low levels of productivity.

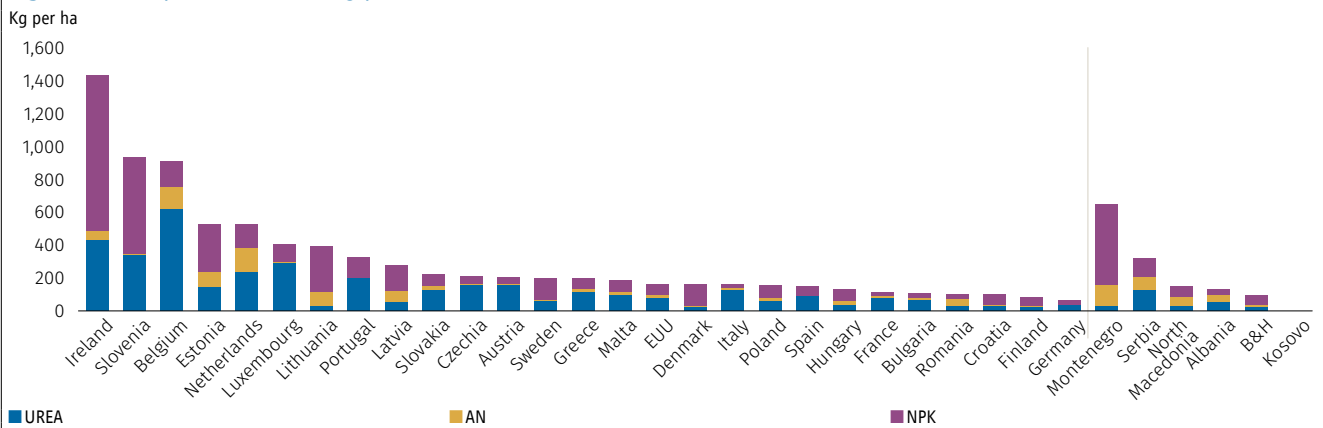
Figure 2.4 Use of fertilizers and chemicals in the WB6 and the EU, 2018–2020

Source: World Bank staff estimates using FAO and national sources.

Note: Serbia does not officially publish the data on pesticides.

Montenegro uses more fertilizer than the other WB countries and has a higher consumption than many EU countries but is an average user of pesticides (Figure 2.4). To do a consistent cross-country analysis, the use of pesticides is calculated by the area of arable/crop land, not based on total agricultural land which includes pastures and where pesticides are rarely used. Zeta region in Montenegro is characterized by highly intensive farming practices, which led to high use of pesticides.

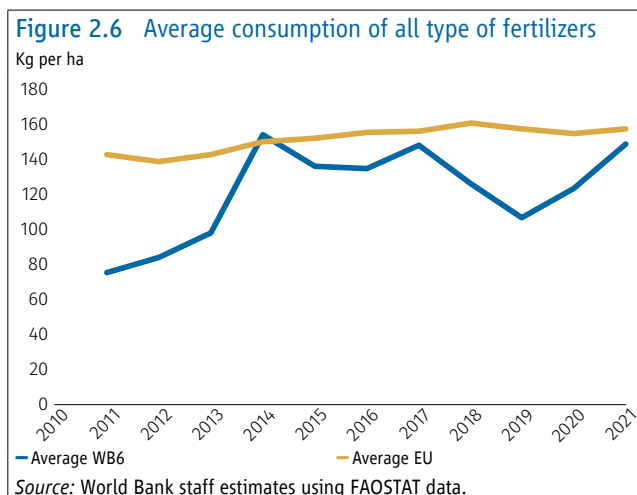
WB6 countries use fewer mineral fertilizers in total and on a per area basis compared to the EU countries (Figure 2.5). EU countries have more advanced agricultural policies and support mechanisms that promote efficient fertilizer use, while WB countries are in the process of developing or implementing such policies.

Figure 2.5 Import structure in kg per hectare of arable land

Source: World Bank staff estimates using FAOSTAT data.

WB6 countries rely on importing fertilizers as they have very limited own production. Import of fertilizers in WB6 mainly comes from Commonwealth of Independent States (CIS) countries, especially NPK and UREA fertilizers (Figure 2.5). In 2022, compared to 2020, WB6 countries spent an additional US\$277 million on importing all types of fertilizers. Despite this increase in spending, the amount of fertilizer imported decreased by 29 percent or 313,000 tons.

Less fertilizer use does not guarantee environmentally friendly agriculture as proper nutrient management considering soil health and productivity and proper application matter. Utilizing precision agriculture practices, exploring alternative nutrient sources, and employing optimized application methods can contribute to minimizing environmental impact. However, this can be a common challenge in WB6 countries, where the agriculture sector comprises numerous farmers and extension services may be underdeveloped. Adopting a holistic approach that combines best practices, efficient nutrient management, and sustainable agricultural techniques becomes imperative.



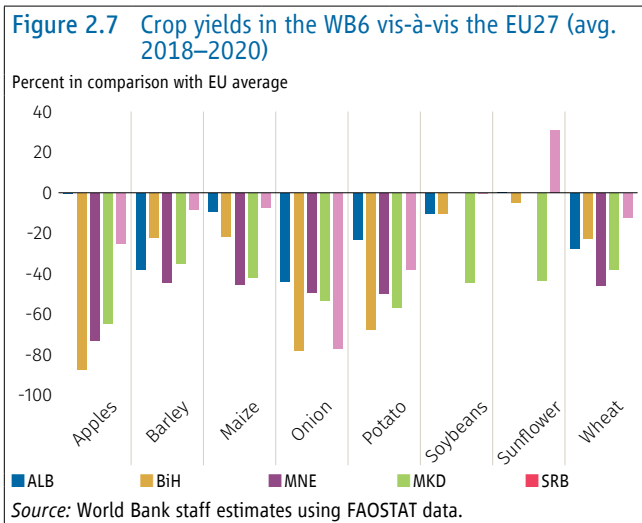
Farmers in WB use less but lower quality and less green pesticides. According to available statistics, annual pesticide consumption in the WB6 countries has been lower compared to most EU countries and has shown a decreasing trend (Figure 2.4b). Despite improvements in the professionalization of farmers and their pesticide usage practices, there are still concerns regarding proper use, particularly among small farms that lack the resources to outsource professional plant protection services or access high-quality public services. While pesticide usage in WB countries is lower than in the EU, there are still environmental and natural resource threats due to the high level of generic pesticide usage, insufficient monitoring, and common improper use.

A specific problem among WB6 countries is the high use of generic pesticides. The WB countries, particularly Serbia, are striving to enhance competitiveness by utilizing cheaper generic pesticides, which pose risks to both the environment and food safety. Generic pesticides lack proper regulation and quality control, leading to concerns regarding their composition, effectiveness, and safety. They may contain impurities or incorrect concentrations of active ingredients, which can have detrimental effects on the environment. These substances persist in the environment for extended periods and can be toxic, posing a threat to beneficial insects and disrupting the balance of ecosystems. Additionally, the inadequate regulation and monitoring of generic pesticides can contribute to the development of pesticide resistance in pests and weeds. Furthermore, their usage can result in water and soil contamination. There is a significant space for improvement of pesticide usage in WB6.

2.2.2 Low intensity of crop production

The level of crop production intensity in WB6 is relatively lower compared to the EU, primary due to a significant proportion of low input use, non-professional, self-sufficient farmers contributing to the overall production. Higher crop yields often indicate that agricultural resources are used more efficiently, and production can be achieved through sustainable and environmentally friendly practice. Predominantly yield depends on: (1) Quality and quantity of input used; (2) Level of efficiency of applied technology; (3) Knowledge about crop management practice and pest and disease control; (4) Growing natural conditions—soil fertility, climate, and weather conditions. WB6 countries are using less inputs, lower technology application, have less opportunity to access advice than EU countries, and have similar natural conditions like EU countries.

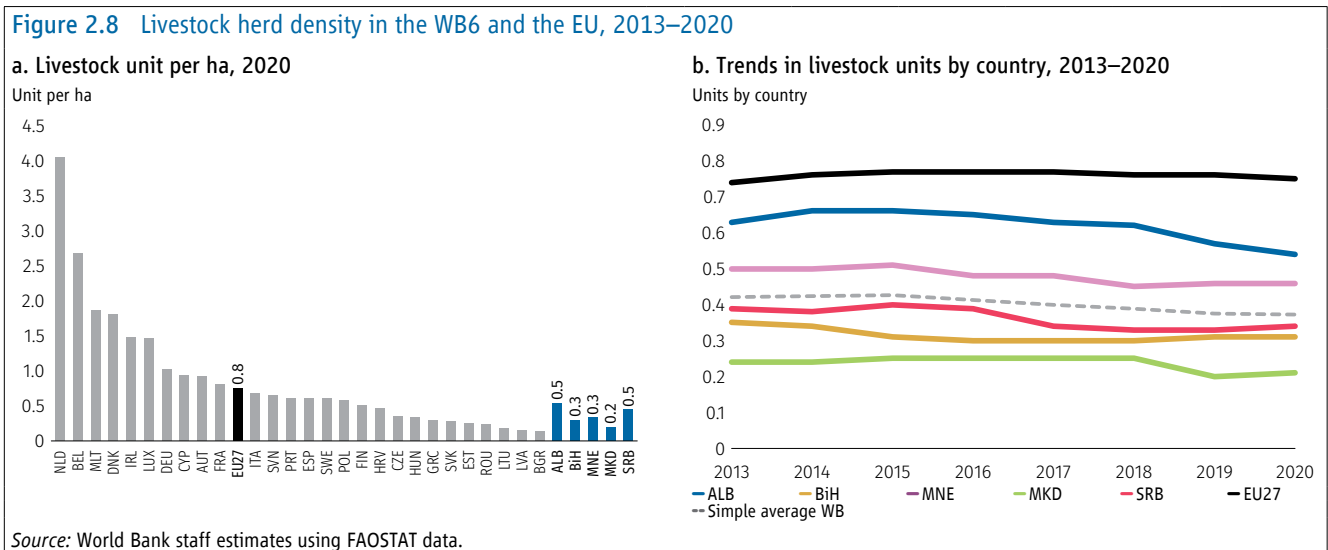
There are notable variations in the intensity of production across sectors and countries in WB6 region. Serbia stands out with higher average yields in various agricultural productions compared to other WB6 countries (Figure 2.7). Serbia accounts for about two-thirds of the WB6 region's production, and exports of cereals and industrial crops (maize, sour



cherry, plum, peach, strawberry, carrot, and processed food and beverages). However, yields in Serbia are still below the best-performing EU countries. Other countries rely on cereal and meat imports. Bosnia and Albania generally have lower yields, except for stone fruits in BiH and indoor perishable vegetable production in Albania. Montenegro has relatively small primary production and it is mainly focused on fodder and self-sufficient vegetable farming that adopts highly intensive methods where manual labour handles weed removal, harvesting, and planting. Such intensive yet environmentally friendly agricultural practices are observed in other WB6 countries observable in other WB countries as well.

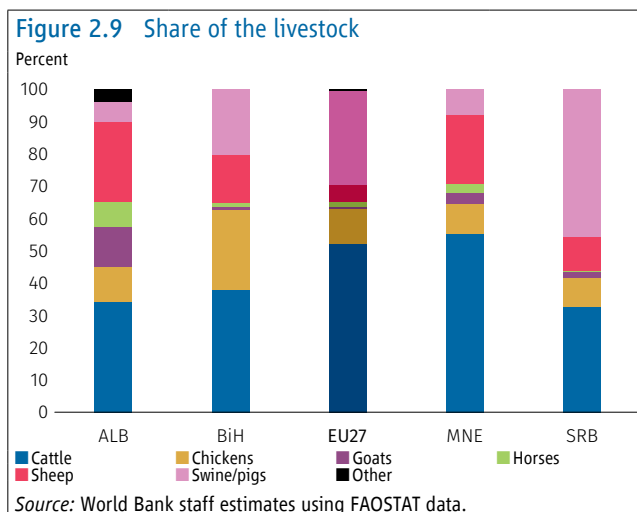
2.2.3 Low intensity of livestock

The extent and intensity of livestock production in the WB6 countries have been low and declining, resulting in a relatively low carbon footprint from livestock. The density of animals in the WB6 region, at 0.4 per ha, is lower than the average livestock density in the EU. Indeed, it is much lower than in the EU countries with large livestock herds, such as the Netherlands, Denmark, and Austria, where land is limited, requiring highly intensive production methods and practices to overcome land constraints (Figure 2.8a). The WB6 region is characterized by a long-term stagnation in livestock production and productivity, indicating the difficulty for WB6 farmers to manage more capital and labor-intensive technologies, exacerbated by strict requirements on food safety, traceability, and animal welfare in the EU that affects the WB6's export of livestock products there. As a result, the WB6 countries are experiencing a decreasing trend in livestock production, except for poultry (Figure 2.8b).



There is a different and balanced focus of livestock production among the WB6 countries (Figure 2.9). In Serbia and the EU, there is a significant share of pork production, while cattle production dominates in other WB countries with Montenegro more on the cattle and sheep production, Bosnia and Herzegovina (BiH) having high share of cattle, chicken and poultry production, and Albania more on small ruminants.

However, WB6 countries have low and declining levels of livestock production because of structural problems in the institutions and regulations and the support and advice services. Livestock production in the EU is mostly in a few countries with little land that use very intensive production methods. If the EU is reducing the livestock production in the future to meet its carbon ambition goal, this could lead to transfer of some livestock production to the WB6 and could be a chance for WB6 countries to consider now how to improve the sector. WB6 need to monitor the trend of EU's livestock sector strategy and develop WB6 own sustainable livestock strategy aiming to improve the sector, absorbing some of the activities while reducing GHG emissions if livestock activities will increase as a result.



Effective pasture management has gained significant importance given the substantial proportion of high pasture in WB6 countries. The WB6 countries are characterized by diverse and mountainous landscapes and has higher level of pasture compared to the EU. Traditional livestock farming and seasonal livestock movement between lowlands and highlands have deep historical roots in the WB6, making extensive grazing a long-standing and economically viable practice. Much of the available land, whether communal, state-owned, or private, is available for extensive grazing and pastures. Pastoralism and traditional livestock farming hold considerable economic and cultural significance in the region. Moreover, they offer opportunity for environmental preservation, reduced emissions, high-quality livestock production, and the conservation of mountainous rural landscapes. These practices often bind local communities closely to their livestock and herding traditions. While some Western Balkan countries have upheld pastoral practices through agricultural policies, a strategic and comprehensive approach is necessary to fully harness this potential.

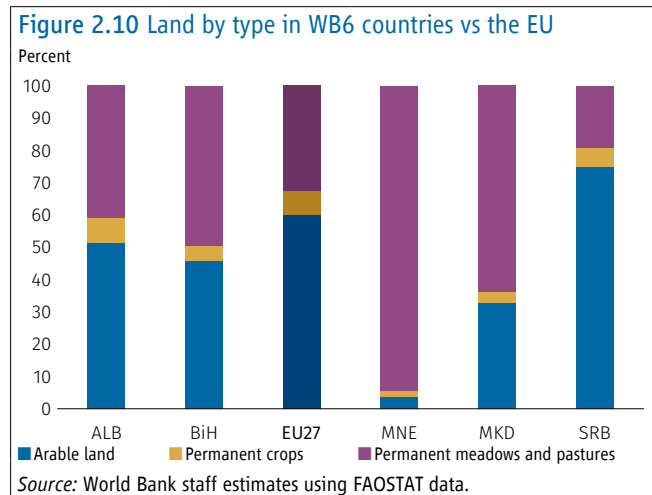
High mountain pasture management involves sustainable practices to maintain grazing lands at high elevations, crucial for livestock farming, biodiversity, and the rural economy. Pasture management is subject to state and local policy decisions. In the WB6 countries the key is to solve land ownership and small farm households' access to land so to motivate farmers to use those pastures. On top of that, pasture management includes assessing pasture health, planning grazing to prevent overuse, allowing recovery time, managing water resources, using fencing to guide livestock, controlling weeds and pests sustainably, maintaining infrastructure, collaborating with communities, conserving biodiversity, adapting to climate change, etc.

2.3 Fallow land in the WB6

A significant share of arable farmland in WB6 countries is abandoned or fallow. While the EU is encouraging farmers to adopt the concept of fallow land, in some WB6 countries, this is already the norm due to a shortage of labor and a lack of interest in farming. Many rural areas in WB countries have experienced significant population decline due to migration to urban areas or emigration to other countries. As people leave rural areas, agricultural land is left unused and abandoned.

Agriculture in the WB6 region face various economic challenges, which discourage farmers from continuing their agricultural activities or investing in their land. Abandoning agriculture activities is especially common in hilly and mountainous area. Inherited land is often divided among family members over generations, leading to smaller, fragmented and less efficient agricultural plots. Certain environmental factors, such as soil degradation, water scarcity, or unfavorable climate conditions, can make farming less viable in specific areas. If the land becomes unproductive or unsuitable for agriculture, farmers may abandon it. Land policies and land consolidation continue to be challenging in the region and take time for governments to address. However, many examples in the region show that through increased cooperation farmers have been able to overcome such constraints.

Nevertheless, it is challenging to determine the precise extent of abandoned agricultural land in the WB6 countries. There is a lack of consistent monitoring and reporting mechanisms about abandon land in all WB countries. Farm registration and Land Parcel Identification System (LPIS) are not functioning fully, definition between permanent pastures and abandon land is not clear, there is limited resources, capacity, or coordination among relevant institutions responsible for collecting and analysing such data.



2.4 Low adoption of CSA technologies by farmers

Although agricultural public budget together with IPARD allocations and donor funding has been substantial and still growing in recent years, the green transition of WB6 agriculture is slow. A huge gap still exists with the EU in terms of support for climate-smart agriculture (CSA) and the way how and where the budget is spent. Most agricultural public expenditures focus on supporting an increased production through coupled subsidies and are not aligned with the EU's new Common Agricultural Policy (CAP), where the public support for agriculture has multiple developmental objectives.

Cost benefit analysis of CSAs/good agricultural practices

An FAO (2023) study analyzed the impact of disaster risk reduction on agricultural productivity and the results indicated that every USD 1 invested in the farm-level disaster risk reduction good practice package would generate US\$8.18 and US\$6.78 in benefits under non-hazard and hazard conditions, respectively.¹³ The study showed that in farms affected by dry spells, the good practice package brought cumulative net benefits per acre over 11 years about ten times higher than those of the existing local practices. The benefit-cost ratio was 2.15, as compared to 1.16 for the existing local practices. Other good practices such as cotton cultivation with laser levelling, ridge sowing, integrated pest management and compost application and wheat cultivation with levelling and integrated pest management also showed a higher benefit-cost ratio. The analysis indicated that every US\$1 invested in cotton and wheat cultivation practices would generate US\$4.69 and US\$3.89 for cotton and US\$3.22 and US\$2.67 for wheat under non-hazard and

13 FAO (2023). The impact of disaster on agriculture and food security.

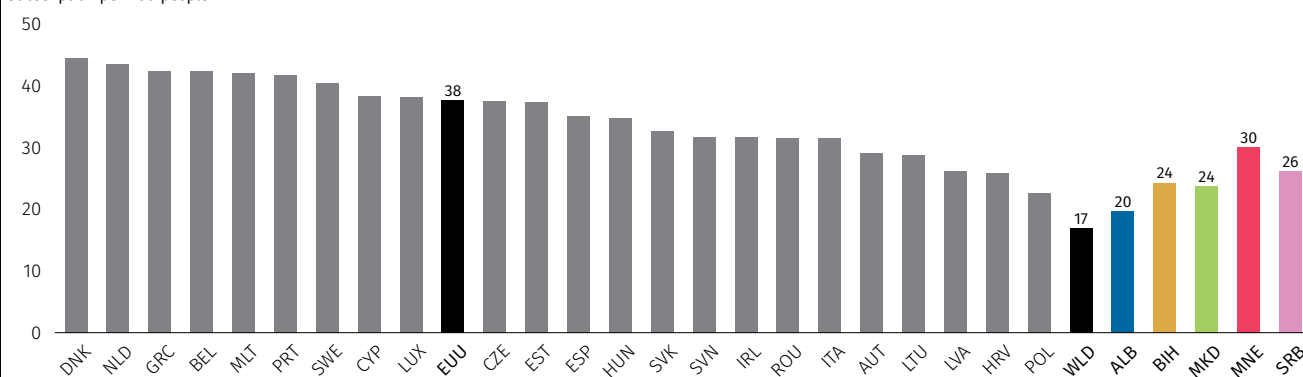
hazard conditions, respectively. The net present values (NPV) of the tested good practices showed positive results. For instance, rice cultivation and the alternate wet and dry method in Pakistan showed 86 percent increase in NPV under both non-hazard and 85 percent increase under hazard conditions, followed by more than 50 percent increase from wheat cultivation with land levelling and integrated pest management, under both non-hazard and hazard conditions, respectively.

2.5 Low level of digitalization

While WB6 countries are making progress, there is still significant need and room for improvement in terms of digitalization. Digitalization in WB countries is showing improvement, evidenced by infrastructure development, policy measures, increased digital adoption, and the emergence of a vibrant entrepreneurial ecosystem. The fixed broadband subscription per 100 people has still a gap with the EU but comes closer. Also, digitalization in agriculture is shown in precision agriculture, smart irrigation systems, and sustainable crop management. The private sector is more agile in adopting digital technologies and implementing digital solutions, while the public sector and policymakers often face challenges and complexities in the implementation of comprehensive digital systems like LPIS and Integrated

Figure 2.11 Fixed broadband subscriptions per 100 people in 2021

Subscription per 100 people



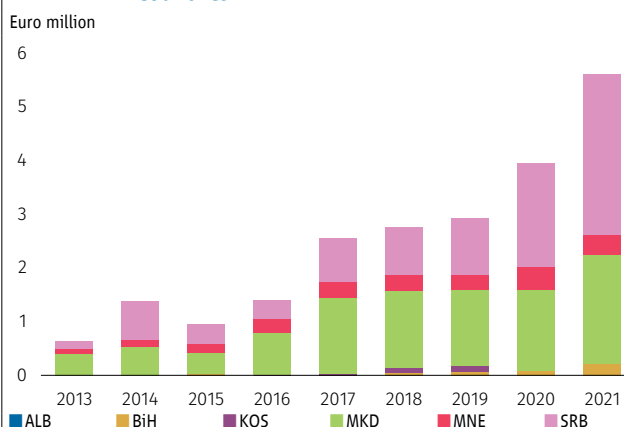
Source: World Bank Development Indicators (2021).

Administrative Control System (IACS).

2.6 Possibility of exporting organic products motivates subsidies for organic farming

Organic production in the WB6 countries gets significant help from various donor-funded and local projects that can boost its export potential to the EU, which is currently very low. There is also a rising trend of systematic support for organic farming across the region (Figure 2.12). The

Figure 2.12 Budget support for organic production WB6 countries



Source: World Bank calculation using the Standing Working Group (SWG) data and national budgets.

export of organic products from WB6 countries to the EU is minor—on average, the share is about 0.8 percent of the region’s total agricultural export to the EU.

Organic production in WB6 countries might increase if there are more subsidies for it, but that won’t address the underlying problems and might not improve competitiveness. The EU has many policies to support organic farming, such as increasing the land used for it, paying organic farmers more, and aiming for 25 percent of land under organic farming and management by 2030. But organic farming also struggles with negative market forces in the EU and relies heavily on subsidies to survive. The New CAP focuses a lot on organic farming because of the reduction of pesticide use than increasing organic food supply.

Table 2.3 Support for Organic Production in WB6 countries

Country	Level of direct payment per ha	For livestock	Certification subsidies	Other
SRB	250 percent more funds than conventional with maxi per beneficiary is 560,000 RSD	Head payment is higher for 40 percent than conventional	50 percent of the control and certification costs or 65 percent in Less Favoured Areas (LFA)	Premium price for milk for 40 percent more than regular
MNE	€250/ha field crops; €350/ha vegetables; €400/ha for perennials; €100 for transition period.	Cow and heifer - €100; sheep and goats - €100; poultry - €2; bee society - €40.	Monteorganica as state certification body offers services free to producers.	Direct support per product for placement of organic products to market (in EUR per unit)
ALB	100 K ALL in 1 st , 140 K in 2 nd year of conversion and 200 K ALL in the 1 st year when fully certified	No systematic	State paid for certified land for wild collection	Through RD investment support
BiH	From 500–600 BAM/ha, or in a protected area it is 200 BAM per 100 m ² . But low limit in the budget.	Ad hoc at canton level	In RS: 50 percent of the cost of the certificate with maxi of 10,000 BAM user/Year. In FED BiH: Possible to receive from canton and Ministry.	Different cantonal and project support but no systematic national measures
KOS	Announced in the strategy that should be introduced	No	No functional certification and inspection system (Strategy statement)	Through different project support
MKD	Top up to the direct payments from 30 percent (fodder) to 100 percent (horticultural production)	No	50 percent of the costs for certification	70 percent of the costs for lab analysis.

Section III. Factors that delay the greening progress

WB6 countries have very green agricultural strategies. On 10th November 2020, the Western Balkans leaders met in Sofia at the WB6 Summit as part of the Berlin Process¹⁴ initiative and adopted the Document on the Green Agenda for the Western Balkans, which outlined the main actions for a green transition in the region.

In the Green Agenda, five main areas of intervention directly address agriculture and food systems:

- » Decarbonization: climate, energy, mobility
- » Circular economy
- » Depollution: air, water & soil
- » Biodiversity: protection & restoration of ecosystems
- » Sustainable food systems & rural areas

In the Green Agenda, seven priority actions are listed under the area of sustainable food systems and rural areas. These include:

- » Aligning with EU standards for food safety, plant and animal health and welfare
- » Strengthening the sanitary controls to ensure food safety along the entire food chain and improve the traceability and labelling of food products.
- » Promoting environmentally friendly and organic farming and reduction of synthetic chemical products used in the food production.
- » Supporting cooperation to facilitate transfer of innovative & environmentally friendly technologies and farming methods.
- » Reducing waste in rural areas
- » Implementing sustainable development of rural areas
- » Support investments in renewable energy, GHG emission reductions and adaptation to climate change.

However, the uptake of green practices is slow in WB6 countries due to various causes. This chapter discusses the challenging factors that prevent the implementation and adoption of green practices in WB6.

3.1 Structural constraints

As the WB6 agriculture sector gets more support to enhance and speed up the green transition, historical roadblocks need to be removed.

Climate adaptation is hindered by many structural barriers, including the ones mentioned above. The WB6 countries have a relatively high proportion of rural areas, which makes it harder to change the mindset toward more commercial and environmentally friendly agriculture. The small size of farms limits the adoption of CSA technologies that have been effective elsewhere but that need scale to be adopted cost-efficiently. Furthermore, low investment in AKIS and other public institutions and slow digitalization, which are essential to develop and support the implementation of more complex agri-environmental measures, impede CSA adaptation. Even the low carbon footprint nature of the WB6 agriculture sector, climate mitigation was not a high priority for WB6 authorities historically. WB6 authorities are also waiting for more results from the European Green Deal (EGD) implementation. There are still uncertainties about how the

¹⁴ The Berlin Summit is part of the Berlin Process, an initiative of several EU Member States, under German leadership, to engage with the six Western Balkan partners and promote regional cooperation and the European perspective of the region.

EGD will be implemented, for example related to the adequacy of funding mechanisms, the availability of technological solutions needed to achieve the EGD goals, the suitability of CSA technologies to specific agroecology in the WB6 region, institutional requirements, and socio-economic consequences of the change, including possible job losses in agriculture. The ability of the EU to find internal strengths to carry out all these processes is also uncertain. Moreover, the EGD requires a comprehensive framework of laws and regulations to guide its implementation. The exact details of these legislative measures, including timelines, targets, and enforcement mechanisms, are still being developed.

To align their efforts with direct EU initiatives and support the EGD actions, WB6 countries need to step up efforts in three key aspects below.

First, climate change makes climate adaptation of the agriculture sector more urgent, requiring public support (AKIS, public institutions, budget) to help farmers enhance their climate resiliency investments. WB6 need to increase or shift public spending for AKIS toward climate-resilient agricultural practices and technologies to support the sectoral green transition. An IFC study has estimated the financial costs and investments of several types of CSA technologies that could be implemented by WB6 farmers on a commercial basis. The potential of increasing commercial adoption of CSA technologies for irrigation, land cultivation, greenhouses, and livestock is estimated to cover 92,000 ha in Serbia, 25,000 ha in North Macedonia, and 19,000 ha in Albania.¹⁵ It would be highly valuable to conduct a similar exercise for assessing a potential application of various CSA practices, such as conservation agriculture, improved nutrient management, enhanced feeding practices, cultivation of cover crops or integration of green manure, efficient water management, and integrated pest management.

Next, the need to keep access to the EU market and the EU accession commitments should promote more investment in climate mitigation and CSAs/sustainable agriculture practices. Export-oriented producers that compete in WB6 countries are actively adapting their practices and operations to follow new EU rules and standards. The defined minimum residue level affects pesticide use, which greatly impacts the adoption of sustainable practices by farmers in the WB6. The common adoption of global good agriculture practices (GAP) standards by the WB6 export-oriented producers, as demanded by the EU and most other advanced markets, has become essential to ensure product quality, safety, and meet international market requirements. Therefore, increasing requirements for accessing the EU market will be a major driver for changes in the environmental standards of the WB6 countries.

Finally, the fast progress of digitalization can assist in addressing some of the structural and institutional barriers for implementing CSA actions, as shown in the EU. The private sector may become more interested in offering green/carbon funding for agriculture if digitalization helps lower the cost of tracking, measuring results, and verifying them, as well as the use of CSA technologies themselves.

3.2 Policy and progress

Despite WB6's growing focus on making the agriculture sector more environmentally friendly, little success was achieved in reaching the Strategic Priority targets and complying with the Nitrate and Water Directives, i.e., a gap between plans and actions.

15 IFC. 2022. *Potential Climate Smart Investments in Agriculture and Agribusinesses in Albania, North Macedonia, and Serbia*. Western Balkans Agricultural Risk Management Facility.

› Nitrate Directive status

All WB6 countries, as official EU accession candidates, have committed to implementing the Nitrate Directive as part of the EU environmental acquis but very few efforts are made in this direction. At the time of writing, none of the WB6 countries have designated Nitrate Vulnerable Zones. WB6 countries have not yet prepared an action plan to prevent and decrease nitrate pollution from harmful agricultural practices, nor introduced measures. The Nitrate Directive also obliges member states to create action programs to reduce nitrate pollution in Nitrate Vulnerable Zones (NVZs) where nitrate pollution is most likely to happen, including measures such as crop rotation, lowering the amount of nitrogen used on crops, and enhancing the storage and handling of manure.

Table 3.1 Nitrate Directive status

Country	Transposed in the law	Monitoring in surface and ground water	Enforcement and monitoring of the programme	Improvement measures
SRB	Yes	No	No	No
MNE	Yes	Ongoing		No
ALB	Pending, some parts of the Nitrate Directive are covered in national legislation	No systemic	No	No
BiH	Draft proposal prepared	No systematic	No	No
KOS	Partly	Limited and not systematic	No	No
MKD	Yes	Ongoing	No	Progress

Source: EU (2023). Communication on EU enlargement policy and annex.

The proportion of agricultural land that has degraded due to direct inputs of nutrients in agricultural systems is estimated to range from 5 percent to 15 percent of the total agricultural area. There is variation among WB6 countries, and nitrates are not regularly measured. Data on nitrogen levels in surface and groundwater is not fully collected and stored in a database.

› Cross-compliance

Cross-compliance is not seen as policy option in WB6 countries at the moment. Cross compliance as a condition for direct payment is not implemented in any of the WB countries. Even more they are not in forced in the cases where it is manageable and logical, like in the case of rented state agricultural land.

Some of the main factors are: (1) *Institutional Capacity*: setting up and carrying out a cross-compliance system needs strong administrative and IT structures and mechanisms for supervision and compliance; (2) *No need as part of the alignment with CAP*: cross-compliance measures is a process that takes time, and WB6 countries may be gradually incorporating them into their agricultural policies and practices as part of their EU accession preparations; (3) *Prioritization of Direct Support Measures*: WB6 countries might currently prioritize the implementation of direct support measures to address specific agricultural challenges, such as improving productivity, income support, or rural development; (4) *Implementation Challenges*: Implementing cross-compliance involves coordination among various stakeholders, including agricultural producers, government agencies, and environmental authorities. It requires clear guidelines, regular monitoring, and adequate enforcement mechanisms.

3.3 Weakness of competent authorities

One of the main challenges is to improve institutional capacity for developing, implementing, and monitoring agricultural policies, especially in relation to climate smart agriculture. At the institutional level, institutional set up and arrangement is lacking to support CSA investments with impact. At the policy level, there is no dedicated department or staff that will deal with environmental policy in agriculture. Moreover, there is a lack of data and digital information system that will be used to raise awareness of the importance of environmental considerations. There is no proper communication about environmental policy with stakeholders including Government and farmers. Regarding implementation, there is no fully functional Paying Agency. Albania, North Macedonia, Montenegro, and Serbia established IPARD paying agency which contributed to the capacity and transparency improvement but the IT development and integrating farm registry to other databases are lagging. As a result, the adoption rate of the CSA technologies is still low.

Table 3.2 Overview of institutional capacity

	<i>POLICY CREATION</i>	<i>IMPLEMENTATION</i>	<i>MONITORING AND CONTROL</i>
PROBLEM/NEED	<ul style="list-style-type: none"> ▶ There is no specialised department often no even people that will deal with environmental policy in agriculture ▶ There is lack of data which will be used to increase awareness of importance of environmental concerns ▶ There is no proper communication about environmental policy with stakeholders including Government and farmers 	<ul style="list-style-type: none"> ▶ There is not fully functional Paying Agency or even there is no at all ▶ Low level of development of the IT in the policy implementation (only MKD has developed LPIS which still need further improvement) ▶ Lack of capacity working in the implementation of the state support and other policies 	<ul style="list-style-type: none"> ▶ There is no proper monitoring of the policy achievement, consequently no policy changes based on the monitoring of the economic social and environmental impact ▶ Still political impact dominate in all of the WB6 countries as main driver for policy changes
ACHIEVEMENTS	<ul style="list-style-type: none"> ▶ Increasing share of the environmental measures in majority of the WB6 countries ▶ IPARD environmental measures in countries that are eligible for IPARD 	<ul style="list-style-type: none"> ▶ Established IPARD paying agency in ALB, MKD, MNE and SRB significantly contributed to the capacity and transparency improvement ▶ Established Farm registered integrated with other databases that are at different stages of development from best in MKD do lowest in KOS. 	<ul style="list-style-type: none"> ▶ Establishment of EU driven FADN/FSDN in ALB, MNE, SRB, MKD ▶ Measuring and submission to FAO and UNFCCC data about GHG emissions
DEVELOPMENT CHALLENGES	<ul style="list-style-type: none"> ▶ There is modes developed procedures for monitoring of the main environmental indicators ▶ Create agri-environmental measures that will have economic and impact on environment 	<ul style="list-style-type: none"> ▶ Employing more people and increase capacity of the PA and people involved in the LPIS and farm registration ▶ Implementation of the different GAP measures 	<ul style="list-style-type: none"> ▶ Establish system which will enable monitoring of the cross-compliance measures ▶ Increase monitoring of the land and water pollution ▶ Enforcement of the environmentally responsible policy

The Agricultural Knowledge and Innovation System (AKIS) which combines agricultural education, research and farm advisory services struggles to effectively address agricultural sector structural constraints it was designed for, making it challenging to expect effective leadership in environmental and climate change mitigation and adaptation. AKIS in the WB6 countries struggles to effectively raise productivity and competitiveness that it was designed for, making it challenging to expect its effective leadership on greening the agriculture sector. In addition, the current AKIS

structure lacks a necessary expertise and knowledge in digital agriculture and new technologies on climate adaptation and mitigation, which are crucial for tackling new challenges in the region's changing landscape.

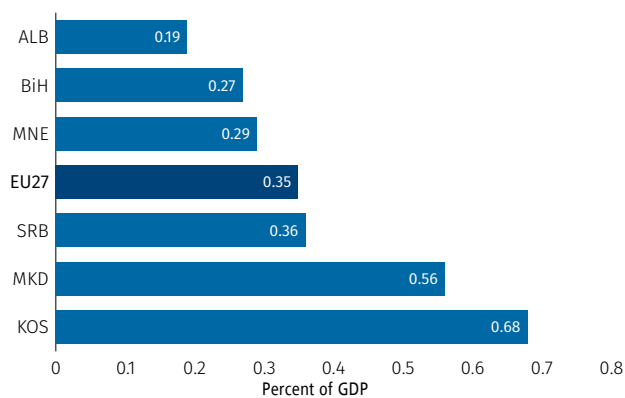
Efforts must be made to reform extension services, research, and agricultural education in order to effectively meet the needs of farmers in moder, technologically advanced, and environmentally friendly agriculture production and marketing. Strengthening the institutional capacity within AKIS by fostering collaboration between research institutions, agricultural organizations, the private sector, and policy makers would help bridge the existing knowledge gaps and facilitate the dissemination of up-to-date information and innovative approaches. It is also important to equip AKIS institutions with staffing, knowledge, and infrastructure to design and support implementation of even simple agri-environmental measures, while measuring and verifying environmental outcomes of the support. Over time, they should be able to administer the implementation of more complex agri-environmental measures, such as eco-schemes, which are now required in the EU.

By enhancing the technical expertise within AKIS and integrating it with emerging technologies, such as Internet of Things (IoT), remote sensing, and big data analytics, the system can better support farmers in adapting to environmental challenges, improving resource management, and enhancing productivity.

3.4 Agricultural budget spending patterns by country (funding for CSA and agri-environmental measures)

WB6 agricultural public expenditures have been substantial and are growing, providing a good foundation for making funds available for the green transition. During 2020–2022, North Macedonia¹⁶, Kosovo, and Serbia allocated more funds for agriculture as a share of GDP than the EU27 (Figure 3.1).¹⁷ However, as a share of agricultural value added, WB6 support was only half of that in the EU27, implying that WB6 farmers are less dependent on state support, thereby offering the authorities an opportunity to reform agricultural public expenditure for enhanced support of greening the sector without large losses to farmers. Only Albania stands out as a country in the WB6 region with a comparably low level of agricultural support, requiring both spending more and spending better going forward.

Figure 3.1 Agricultural budget support in the WB6 and the EU27 in percent of GDP



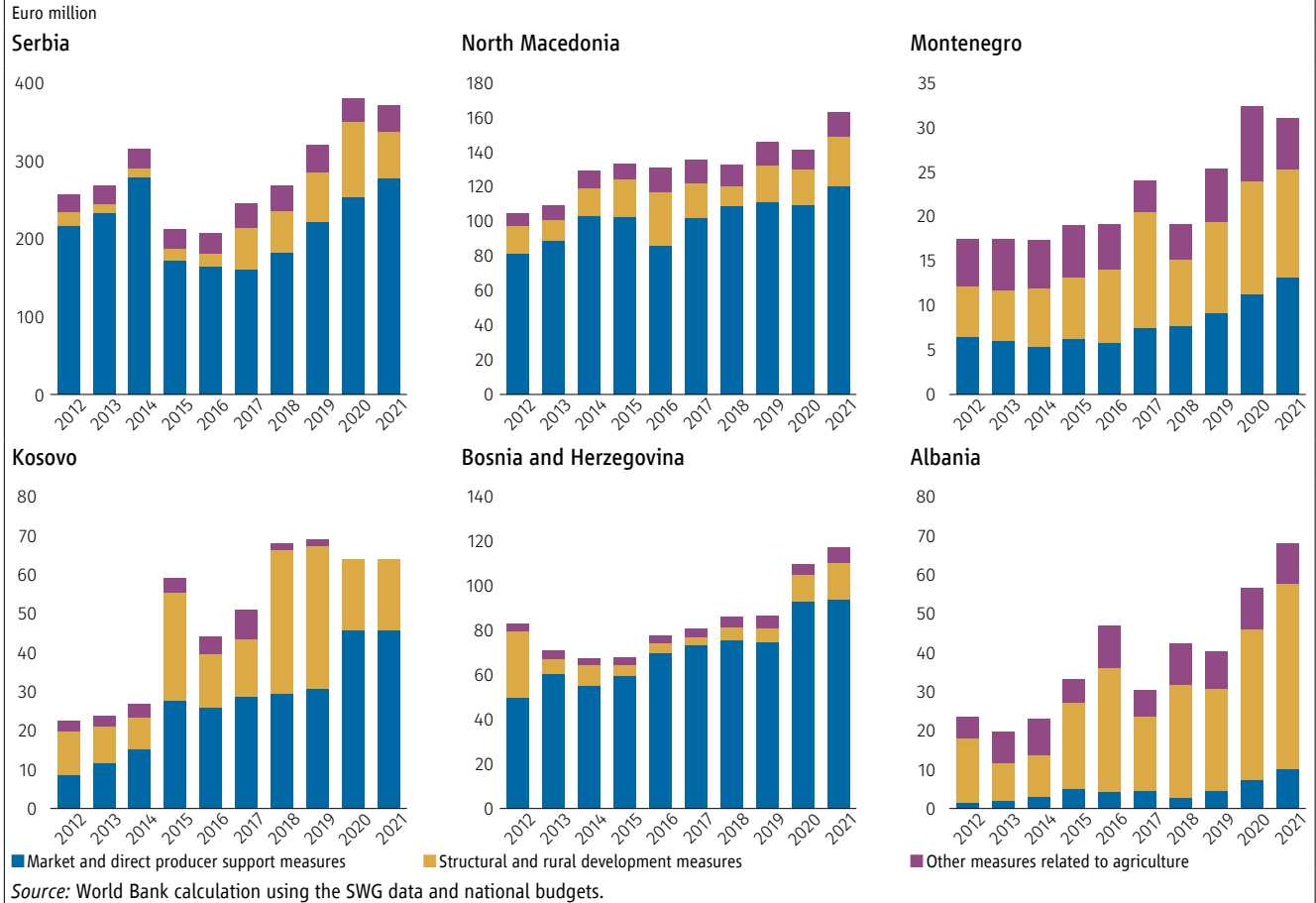
Source: World Bank staff calculations using the data from SWG for the WB6 countries and EUROSTAT.

Note: Public expenditures and GDP are the average of 2020 and 2021.

The agricultural budgets in WB6 countries are aligned with their financial possibilities (Figure 3.2). When measured per hectare and per farm, these budgets are smaller compared to the EU, but they constitute a larger percentage of GDP. Policy makers in WB6 countries generally favor direct coupled payments to farmers, except for Albania and Kosovo. The budget is consistently increasing, particularly in terms of direct support measures.

¹⁶ World Bank. 2023. *Green Growth in North Macedonian Agriculture*. Washington, DC.

¹⁷ Overall agricultural budget support in the WB6 region is probably even higher. WB6 farmers receive tax exemptions and fuel subsidies such as for blue fuel. However, the data on these expenditures are not readily available and, thus, not added here.

Figure 3.2 Agricultural budgets in WB6 countries

Different direct support to farmers can be done in following formats:

- » **Market Support:** Financial assistance is typically provided for public stocks of cereals.
- » **Price Support:** Commonly seen as subsidies for milk in Serbia, Bosnia and Herzegovina, and North Macedonia.
- » **Area/Animal Payment:** This support type dates back to the early 2000s. Serbia initiated it in 2007, and by 2012, significant animal payments were added to existing area payments. In North Macedonia, area payment is fully coupled, while in Serbia, it's linked to a wide range of products (almost all crops) and is a flat payment regardless of the crop. It's considered coupled support. Apart from Albania, all Western Balkan countries have fully coupled animal payments. In Serbia, this payment per animal head constitutes about two-thirds of total support.
- » **Input Subsidy:** Mainly exists in Serbia, functioning as an area payment. Recipients receive a flat payment not tied to specific inputs like fuels, fertilizers, or pesticides. This payment is validated through receipts.
- » **Disaster Compensation:** While relatively small, disaster compensation is a recurring feature annually in BiH. North Macedonia and Albania have also employed disaster compensation measures in certain years.
- » **Other direct support:** This category covers miscellaneous ad hoc payments not classifiable under the mentioned types of direct support.

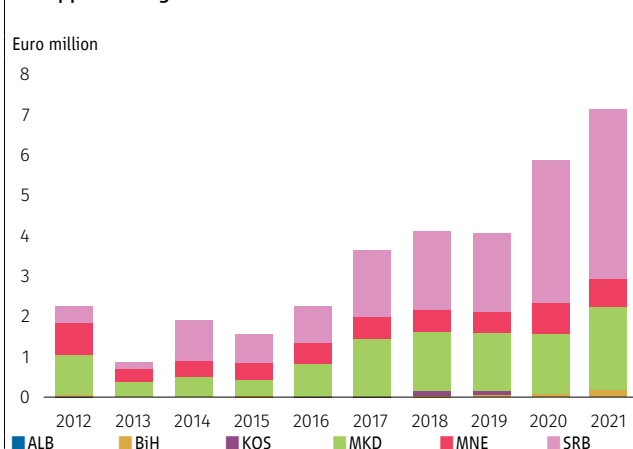
3.5 Growing but not growing funding on CSAs

Financial assistance, technical expertise, and capacity-building initiatives provided by donors have facilitated the implementation of the green agenda in the region, focusing on adoption of green technologies, the implementation of renewable energy projects, and the improvement of environmental policies and practices.

On national levels, IPARD, and development partner funding has been readily available to finance CSA measures in the WB6 region. As a result, the national agri-environmental/CSA budget increased annually by 24 percent on average for all WB6 countries from 2012 to 2021 (Figure 3.3a). Growth is particularly noticeable after 2020, driven by increases in Serbia and North Macedonia. Among the WB6 countries, Montenegro has allocated the highest share of its overall budget to environmental measures, while Serbia allocates 59 percent of overall budget for in WB6 countries (Figure 3.3b). Albania, Kosovo, and Bosnia and Herzegovina (BiH) have relatively fewer payments that can be considered as environmental support measures in their budgets.

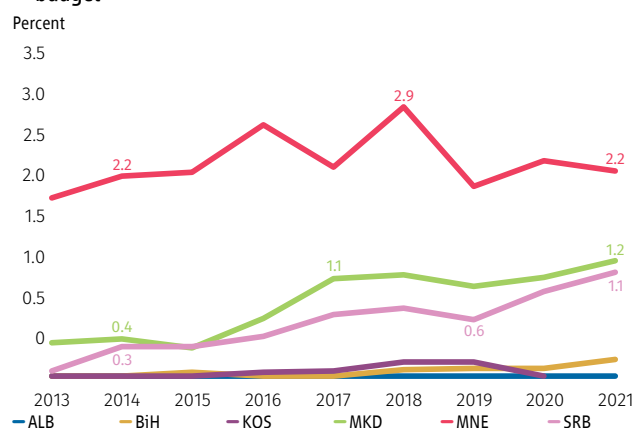
Figure 3.3 Public expenditures for agri-environmental measures in the WB6 region, 2012–2021

a. Support for agri-environmental measures in the WB6 countries



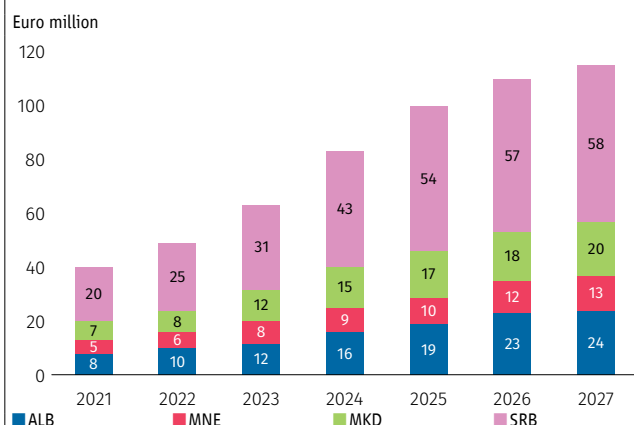
Source: World Bank calculations using the SWG data and national budgets.

b. Agri-environmental measures in percent to total agricultural budget



Moreover, the third phase of the IPARD funds, available for all WB6 countries except Bosnia and Herzegovina and Kosovo, is projected to reach EUR 115 million in 2027, which is three times more than the EUR 38 million budget provided in 2021 (Figure 3.4). Overall IPARD III allocation for eligible WB countries (Albania, Montenegro, North Macedonia, Serbia) in 7 years are Euro 560 million. Average yearly allocation from EU varies from Euro 9 million in Montenegro through Euro 14 million in North Macedonia, Euro 16 million in Albania, and Euro 41 million in Serbia. From 13 IPARD measures, Albania planned to accredit 11, Montenegro, North Macedonia, and Serbia 7. All WB countries will accredit Measure 4 Agri-environmental measure (AEMs). Share of the M4 in overall IPARD measures vary from 1 percent in North Macedonia, through 2 percent in ALB, 5 percent in Serbia to 8 percent in Montenegro.

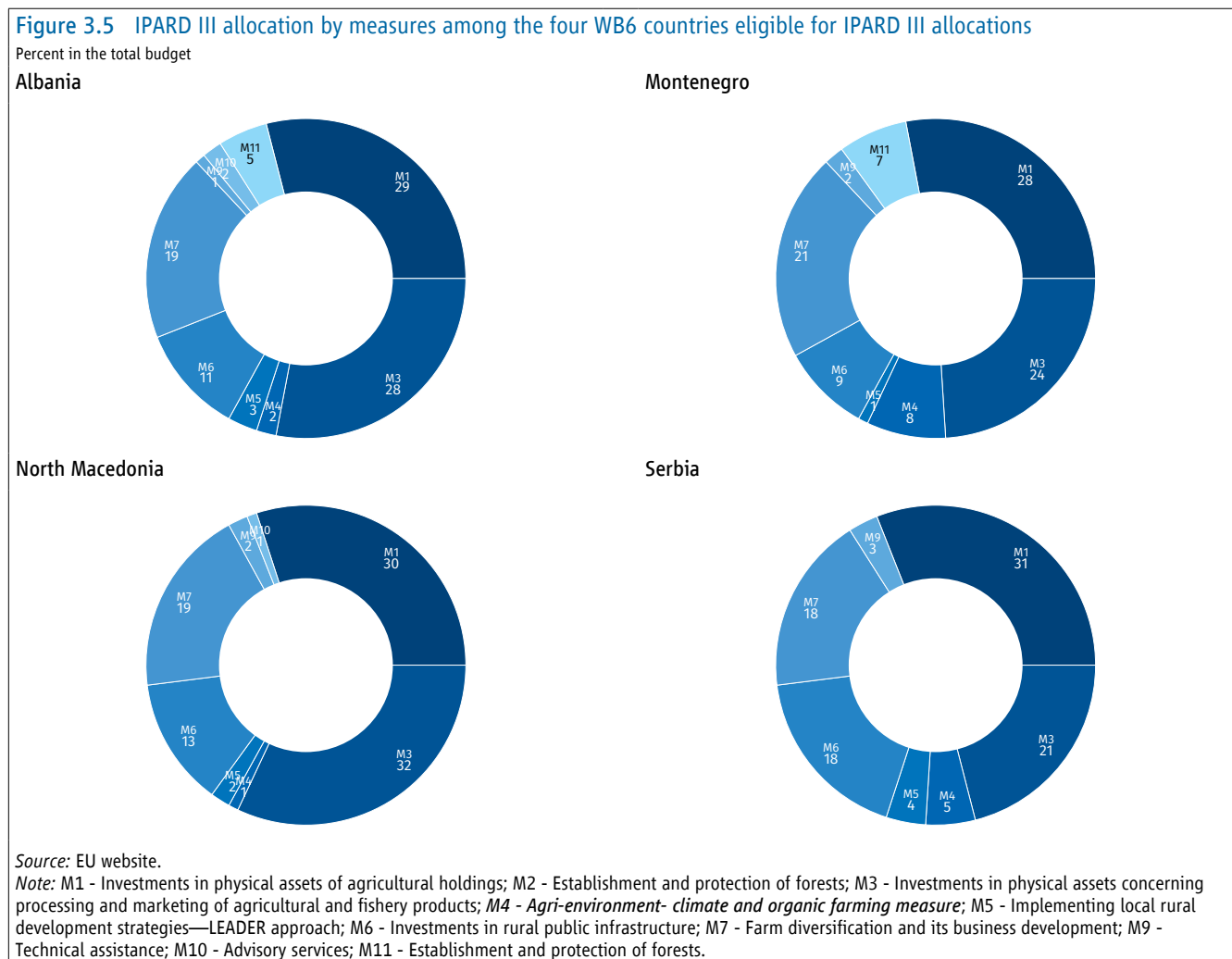
Figure 3.4 IPARD III allocations by the eligible WB6 countries



Source: World Bank Staff estimates using the EU DG AGRI data.

Despite increasing budget, actual spending and investments on CSA/agri-environmental measures have remained modest and vary among countries. In the country with the largest recent increase in spending, i.e., North Macedonia, the share in total IPARD expenditures grew from 0.4 percent in 2013 to 1.2 percent in 2021 (Figure 3.3b). Across the four WB6 countries eligible for IPARD III allocations, the share of allocation by measures indicates limited support for agri-environmental measure (M4) in Albania and North Macedonia (Figure 3.5).

Montenegro is the only country that has a variety of environmental measures that are backed by the highest share of this spending at 2.2 percent in percent to total agricultural budget (Figure 3.3b) and at 8 percent in percent to total planned public funding for IPARD III (Figure 3.5). One example of these measures is the “Sustainable use of mountain pastures,” which gives support to agricultural holdings that keep livestock on Montenegrin katuns (seasonal mountain pastures) for at least three months in a calendar year. The support is given in the form of a cash payment. Another example is the support for livestock waste management, which includes help for building facilities to store manure/silage and buying specialized tanks for manure storage.



IPARD III is a program that triggers transformation, not only by offering monetary rewards but also by being a program that WB6 policy makers are keen to try out and because of its tight regulation. Carrying out IPARD III, M4 sub-measures will have a vital role in improving environmental awareness in agriculture through means of empowering the institutions to apply agri-environmental measures effectively, introducing farmers to these measures, and increasing the knowledge of stakeholders.

Under the sub-measure “Agri-environment-climate and organic farming” (Table 3.3), all WB6 countries provide a range of choices for agri-environmental investments. The most common option has been organic farming. Other suggested investments are protecting local breeds of small ruminants and genetic resources (Albania and Montenegro), improved crop rotations (North Macedonia and Serbia), green cover for permanent crops (North Macedonia), creating pollinator strips (Serbia), managing pastures sustainably (Montenegro and Serbia), and handling livestock waste (Montenegro).

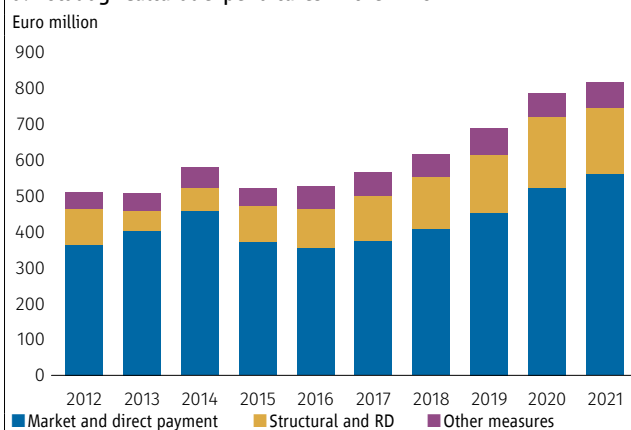
Table 3.3 IPARD III eligible WB6 countries’ menu of options to invest in M4: Agri-environment-climate and organic farming

	<i>Albania</i>	<i>Montenegro</i>	<i>North Macedonia</i>	<i>Serbia</i>
IPARD III, M4 SUB-MEASURES	Organic farming (only to F&V, MAP, and vineyards) Conservation of local breeds of small ruminants: sheep and goats Maintenance of traditional olive groves	Sustainable use of mountain pastures Organic production Genetic resources in agriculture	Green cover of permanent crops Crop rotation of vegetables Organic farming	Crop rotation on arable land Weed control in perennial plantations Establishment and maintenance of pollinator strips Sustainable management of meadows and pastures

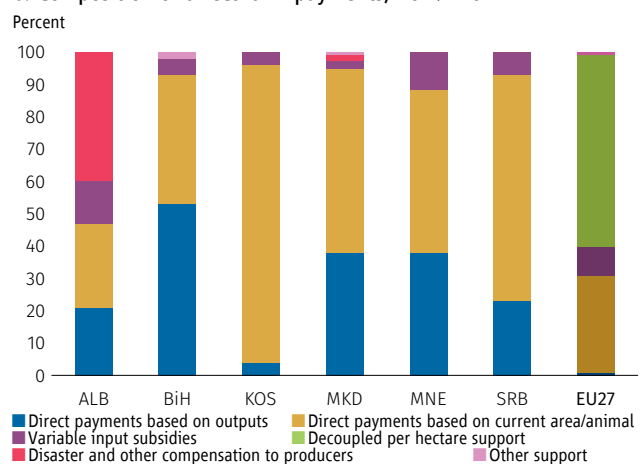
Source: IPARD.gov.mk: https://ipard.gov.mk/wp-content/uploads/2023/07/IPARD-PROGRAMME-2021_2027-I-st-modification-ENG.pdf; <https://www.gov.me/ipard/ipard-iii>; <https://ipard.gov.al/>; <https://uap.gov.rs/ipard-iii-podrska-ruralnom-razvoju/>.

Figure 3.6 Functional composition of agricultural public expenditures in the WB6 and the EU

a. Total agricultural expenditures in the WB6



b. Composition of direct farm payments, 2019–2021



Source: World Bank staff calculations using the data from SWG for WB6 countries.

Instead of supporting the CSA measures, most agricultural public expenditures in the WB6 region are used for direct farm payments (Figure 3.6a), a large share of which is coupled to production of specific crop and livestock products. In countries such as BiH, Kosovo, North Macedonia, and Serbia, the share of direct farm payments in total agricultural budgets reaches 70–80 percent (Figure 3.6b), most of which is coupled to livestock production or the use of fertilizers and chemicals.¹⁸ These measures are not subject to minimum cross-compliance requirements (i.e., good agricultural and environmental practices), while they generate significant GHG emissions and bring other environmental damage, in addition to reducing overall agricultural productivity and creating other market distortions.¹⁹ Less distortive decoupled

18 EU. 2021. *Recent Agricultural Policy Developments in the Context of the EU Approximation Process in the Pre-Accession Countries*. Joint Research Center Technical Report.

19 World Bank. 2018. *Exploring the Potential of Agriculture in the Western Balkans*. Washington, DC.

support, which dominates the EU CAP, is still limited in the WB6 countries. North Macedonia has recently committed to shifting from coupled to decoupled support and introduce cross-compliance, in line with the EU requirements, but the actual implementation of these actions remains to be seen. Other countries have yet to introduce cross-compliance as a condition for farmers to receive support.

In 2021, over 90 percent of all budgets exclusively allocated to spend on agri-environmental measure went to direct support to organic production (Figure 3.7). There was modest attempt to establish agri-environmental measures other than supporting organic production. In addition to supporting organic production, the WB6 countries have implemented common measures to support genetic resources, particularly for the preservation of old livestock breeds. This measure exists in SRB, MNE, MKD, and BiH although with varying levels of support.

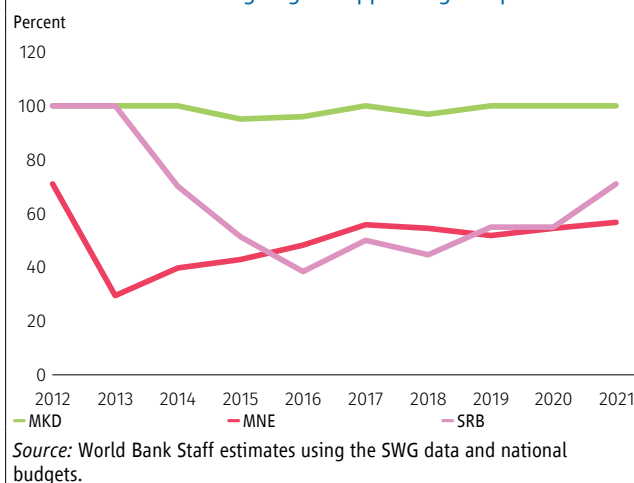
WB6 agricultural public expenditures, while substantial in terms of amounts/levels to influence on agricultural production, have not yet prioritized financing of greening and climate-smart agriculture. When funds are offered for agri-environmental measures, these are less popular among farmers than other options in the IPARD or national budgets for investments in measures that do not require such strict environmental standards. In this regard, the adoption of CSA practices in the WB6 countries remains very small. In addition, commercial banks in the region do not offer any financial products to promote CSA practices or reward farmers for adopting CSA. Private financing has also been limited in this area.²⁰

The SWG database on rural development support is divided into four main groups: (1) Improving the competitiveness of agro-food sector; (2) Providing environmental and societal benefits; (3) Supporting rural economy and population; and (4) Miscellaneous rural development measures. Within Group 1, improving the competitiveness of agro-food sector is the main and often the only one component which includes: a. On-farm investment and restructuring support (primary production), b. Agricultural infrastructure (rural infrastructure) and c. Off-farm storage, processing, marketing, and promotion (storage and processing).

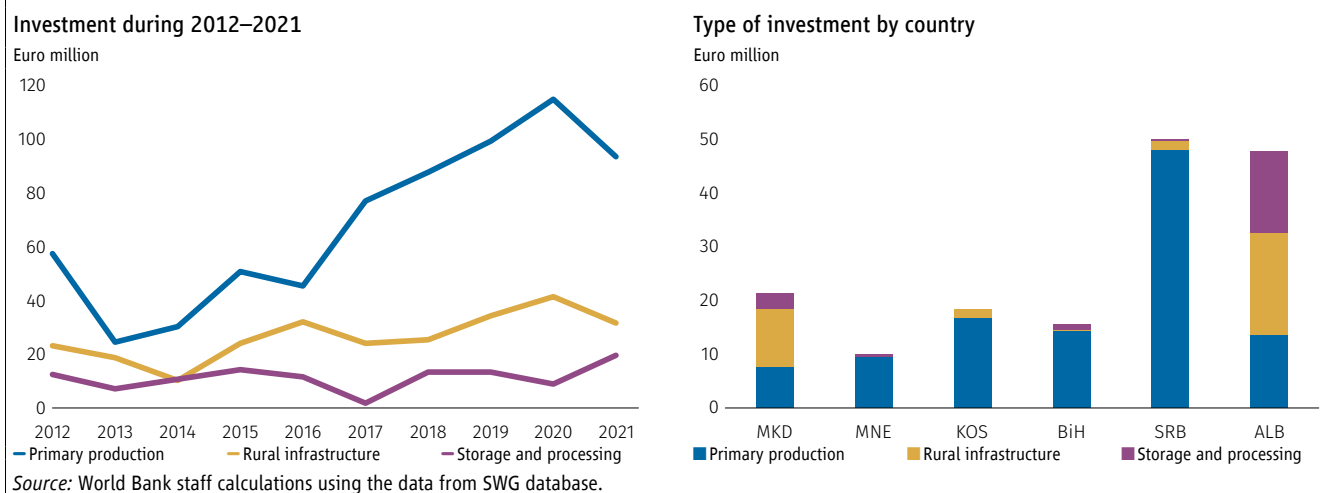
According to SWG database on rural development support, more than 90 percent of the rural development investment support across WB6 countries is directed towards co-matching grants aimed at enhancing competitiveness. Moreover, during the period 2017–2021, an even larger share, ranging from 65 percent to 74 percent, was allocated to facilitate the acquisition of various mechanization and equipment at the primary production level (Figure 3.8).

Over the years, investment in off-farm value chains has slightly increased. Albania and North Macedonia appear to have a well-balanced investment portfolio supporting both on-farm (primary production) and off-farm (rural infrastructure, and storage and processing) activities while other countries are still more focused on investing in primary production with very little investment in rural infrastructure.

Figure 3.7 Percent of support from agri-environmental measures going to support organic production



20 IFC. 2022. *Potential Climate Smart Investments in Agriculture and Agribusinesses in Albania, North Macedonia, and Serbia*. Western Balkans Agricultural Risk Management Facility.

Figure 3.8 Support to competitiveness improvement by type of investment

The full potential of Pillar II (Rural Development) is not being harnessed for agricultural environmental initiatives and the procurement of climate-smart machinery, equipment, and livestock. This pillar could serve as a robust avenue for promoting agri-environmental measures and supporting the adoption of climate-smart investments and contribute significantly to sustainable agricultural practices and resilience in the face of evolving climatic challenges. Lastly, a highly targeted national investment support program often results in limited types of equipment being utilized at the primary production level.

Coupled direct payments are most distortive as they usually reduce agricultural productivity and contribute to GHG emissions. In 2018, the World Bank concluded that improvements in agricultural productivity and employment in the EU went hand in hand when supported by decoupled CAP payments of both Pillar 1 and Pillar 2, but not the coupled payments under Pillar 1.²¹ This is because farmers, when they no longer receive subsidies coupled to the production of low value-added crops, switch to higher value-added crops. The same conclusion was derived from the analysis of agricultural support in the WB6 countries during 2011–2015, namely that support coupled to the production of specific crops was found to reduce agricultural productivity, while decoupled support had a positive and significant effect on agricultural productivity.²²

Another result of large direct payments to farmers is that they crowd out other expenditures. Agriculture in WB6, for example, suffers from underinvestment in capital formation and AKIS, undermining long-term competitiveness and climate resiliency of the sector. This can be already seen in the WB6 countries where the level of investments in farm capital formation remains small, and the gap with the level in the EU is huge (Figure 3.9).²³ Little public spending on stimulating private capital investments is a missed opportunity in the WB6 region, where agriculture is dominated by small farms that require public co-financing of investments to be able to afford them in principle.

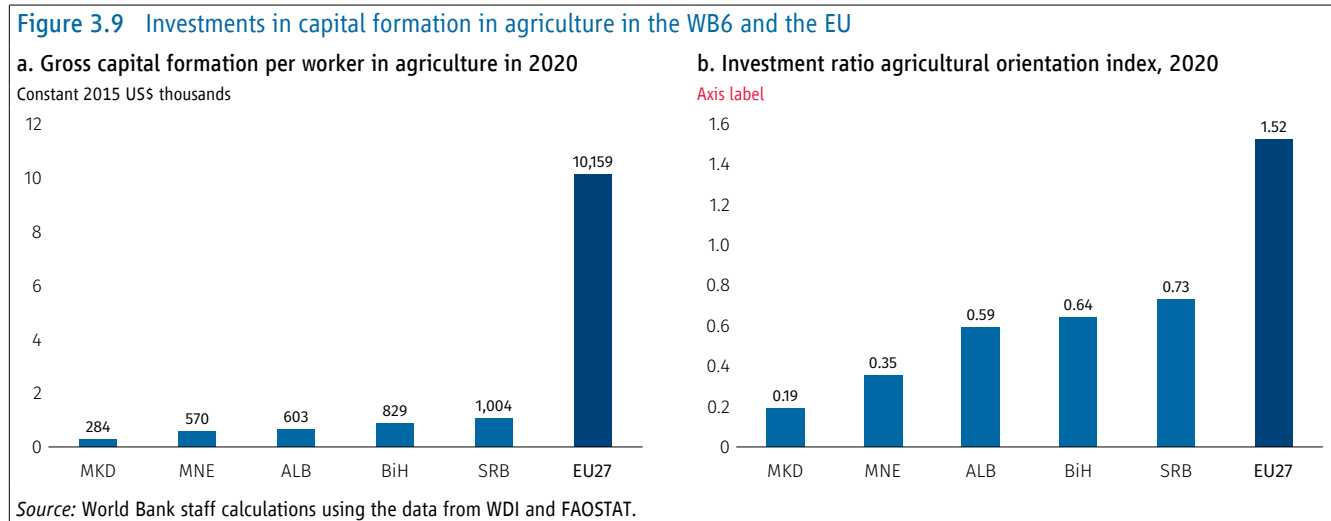
The consistently low budget spent on the AKIS is another major unfavorable factor that constraints the sector from leveraging private finance. It is a missed opportunity to boost agricultural growth as innovation and digitalization play a crucial role in addressing environmental concerns and climate change in agriculture. A recent estimate by the World Bank indicates that closing the 25 percent gap for investments in research and development, as a part of AKIS, with the

21 World Bank. 2018. *Thinking CAP: Supporting Agricultural Jobs and Incomes in the EU*. EU Regular Economic Report No. 4, Washington, DC.

22 World Bank. 2018. *Exploring the Potential of Agriculture in the Western Balkans*. Washington, DC.

23 The recent estimate of the World Bank indicates that closing one-quarter of the gap in the stock of agricultural capital per worker relative to EU27 levels would increase agricultural labor productivity by 76 percent in Albania, 82 percent in BiH, 30 percent in Serbia, and 6 percent in Montenegro.

EU could increase agricultural productivity by 15 percent in Albania, 25 percent in BiH, 16 percent in North Macedonia, and 6 percent in Serbia.²⁴ Along with weak capacity of AKIS institutions and ineffective service delivery models, the small budgets for R&D on environmental and social benefits have undermined the support for CSA adoption, proven to be critical in the EU member states, for example.



Therefore, efforts to re-orient public support and transition to decoupled support could contribute to increasing investment in AKIS and capital formation which will help improve productivity and competitiveness of agriculture across the WB6 region.

Lastly, WB6 countries policy makers often tend to replicate certain EU measures without fully knowing and assessing their context within the unique circumstance of their own countries. Agricultural policy makers in the WB are partially obligated to introduce EU-style measures due to their involvement in pre-accession processes. They tend to adopt EU measures without considering the difference between EU and their countries neither looking in the history why the EU measures is established, or which problems intend to solve. They selectively choose only politically advantageous aspects from the EU model, neglecting the overall picture and the implementation of cross compliance.

Key elements of improvement of the state support in agriculture in WB6 countries informed by the EU are to increase rural development on account of direct support; introduce cross-compliance and increase efficient environmental measures; promote environmentally friendly equipment and mechanization in investment support; better targeted beneficiary selection; improve control of the measure and reduce corruption; and simplify procedures but use more available digital tools. More elaborated lesson learns from the EU and global greening experience are discussed in Chapter 4.

24 World Bank. 2018. *Exploring the Potential of Agriculture in the Western Balkans*. Washington, DC.

Section IV. Global experiences, EU alignment and regional strategies

4.1 Lessons from the EU on greening agriculture

The EU has increased its commitment on greening agriculture and has been prescribing the greening agriculture pathway through strict eligible criteria.

Firstly, together with other EU legislation and policy initiatives, considerable resources in CAP Pillar 1 (direct payments and market measures) and Pillar 2 (rural development policy) have included policy measures relevant to environmental and climate challenges for EU member states (MSs). A complementarity/synergy of Pillar 1 and 2 measures is critical to increase competitiveness and resiliency results.

- › The transition to decoupled support has helped reduce the carbon footprint of the agriculture sector. Not closely linked to environment/climate ambitions, green direct payments²⁵ of the 2014–2020 CAP Pillar 1 supporting farmers for activities going beyond minimum requirements have aimed at enhancing the environmental performance of farm activities and contributed most to the reduction of GHG emissions. As part of the greening payments in practice in EU, farmers receive the green direct payment if they comply with three mandatory practices that benefit the environment (soil and biodiversity in particular): (1) *crop diversification*, (2) *maintaining permanent grassland*, (3) *dedicate 5 percent of arable land to areas beneficial for biodiversity*.
- › Pillar 2 measures²⁶ offer a wide range of tools potentially beneficial to the environment and climate. This includes Agri-environment-climate measure (AECM), which provide public goods in climate change mitigation and adaptation, and the protection and improvement of ecosystem and ecosystem services.

Secondly, cross-compliance proves to be an important cross-cutting tool to generate environmental benefits that also increase productivity. Cross-compliance provides the foundations of minimum requirements of farmers on environment and climate and links CAP measures to farmers' compliance with basic standards and the application of good agricultural practices. It should be meaningfully strict and enforced to make an impact.

Another cross-cutting measure relevant to environment/climate is the farm advisory system (FAS). FAS are compulsory for all EU MSs and facilitate farmers' awareness on farm practices and various standards. FAS provides advice for topics including cross-compliance rules, green direct payments requirements²⁷, basic requirements on maintaining agricultural land to be eligible for direct payments; climate change mitigation and adaptation; etc.

However, CAP impacts on adaptation seem to be a black box. MSs have not focused cross-compliance on adaptation. The provision of farm advice on climate performance improvements through adaptation action has been a low policy priority. Findings on the capacity of the CAP to climate change mitigation are less optimistic. Most mitigation measures supported by the CAP have had a low potential to mitigate climate change. Livestock emissions, mainly driven by cattle, represent around half of emissions from agriculture. However, the CAP does not aim to limit livestock numbers.

Moreover, not all agri-environmental measures that are supported for a long time produce significant positive environmental effects. Some became direct farm/area payment with no environmental result. It requires time to learn

25 Aiming to maintain crop diversity and permanent grassland and promote biodiversity-friendly practices.

26 Pillar 2 measures were mainly achieved through Agri-environment-climate measure (AECM) which reward farmers for the adoption of practices (defined in MS rural development programmes - RDP) which go beyond cross-compliance and greening requirements on climate change, water, soil, air, biodiversity, landscapes, etc.

27 The greening payment covered the whole eligible area of the holding (including permanent crops) while obligations applied only on arable land and permanent grassland areas. They introduced three practices, namely crop diversification; maintenance of permanent grasslands; and Ecological Focus Areas (EFA) (European Commission, 2017b).

from local implementation experience to ensure a scaled-up implementation of effective agri-environmental measures in the future. For example, organic farming faces negative market pressures in the EU and relies heavily on subsidies to survive. The high focus on organic farming in the new CAP is more to reduce the use of pesticides than to increase the supply of organic food.

To align with the EGD, the 2023–2027 CAP has undergone significant changes in terms of its objectives and foresees a greener allocation of funds. EU MS are obliged to spend a minimum of 40 percent of their CAP budget on climate and the environment and a minimum of 35 percent share of European Agricultural Fund for Rural Development (EAFRD) budget on environment/climate in rural development interventions. At least 25 percent of the budget of direct payments (Pillar I) is allocated to eco-schemes, providing stronger incentives for climate-and environment-friendly farming practices and approaches. This new scheme involves annual commitments and payments, as well as the possibility to combine with other CAP interventions to jointly address specific environmental and climate issues.

AKIS has a reinforced role vis-à-vis environment/climate issues. Together with FAS, AKIS will support farmers in making sustainable management decisions. Also, EIP-AGRI will be funding innovative projects targeting the improvement of environment/climate performance of farms.

Last, but perhaps most important, the new green architecture of the CAP requires strengthened capacity of public institutions for supporting more complex but more impactful agri-environmental measures. The new delivery model (NDM) of the CAP gives a strong emphasis on results and performance. Each MS has drawn up its CAP Strategic Priorities setting out how it will direct CAP funding towards specific targets, and how these targets will contribute to the overall and specific objectives of the CAP (European Parliament, 2020d; European Commission, 2020h).

4.2 Lessons from other countries

4.2.1 Guiding principles of global lesson learnt

A recent World Bank global study also pointed out that the agrifood system is a huge, untapped source of low-cost climate change action and the payoffs for investing in cutting agrifood emission are estimated to be much bigger than the costs. The study finds particularly three quarters of existing opportunities to reduce emissions in a cost-effective way lies in middle-income countries where the WB6 belong.²⁸ Every country can harness priority opportunities to implement the low-carbon practices and reducing emissions doesn't mean limiting or reducing production (reducing livestock, reducing the amount of fertilizers used), it can be achieved through agriculture climate adaptation and mitigation measures.²⁹

A large pool of innovative farming greening practices from across the world were reviewed as global case studies in areas where the EU has not yet adopted them, while these countries have shown some success in using different methods to make agriculture greener and support CSAs for small farmers. Costa Rica, Croatia, India, Jordan, Mongolia, Republic of Korea, Uruguay, the United States, Zambia, and globally have used different methods to make agriculture green and support CSAs for small farmers. Every country is unique and so is their farming sector. Each country has a different set of climate-smart options and a different ability to implement them. The list of options is based on these experiences and hope to offer pathway aspirations for transitioning WB6's farming sector.

28 World Bank. 2024. Recipe for a livable planet.

29 Ibid.

Box 4.1 Areas the EU has yet to mainstream and other countries have showed successful experience

- (1). Digitalization in agriculture and CSA:
 - a. Agroclimatic information system/platform (World Bank project)
 - b. Digital soil and fertilizer management and soil information system
 - c. Digital extension advisory services
- (2). Nature based, conservation agriculture and integrated landscape approach:
 - d. Integrated landscape approach Emission Reduction program (World Bank Zambia project)
 - e. Conservation Agriculture/Ecosystem approach
 - f. National Agro-Ecological Zonification and Agricultural Spatial Land Use Planning to Support Optimize Sustainable Agriculture Management (World Bank Croatia RAS)
- (3). Innovative financing for agriculture value chain:
 - g. Index based Livestock Insurance (World Bank Mongolia project)
 - h. Matching grants for Climate Resilient Agriculture investments (World Bank project)
 - i. Payment for ecosystem services (PESs) as a tool for restoration and rural development

4.2.2 Key takeaways from global lesson learnt

Lesson learns were draw on innovative agricultural policy, programs and governance mechanism, incentives, decision-support tool, and intervention facilitation platforms such as farm service outreach/information dissemination channels. Recommendations were generated around three principles (Figure 4.1): 1) what practices would help the WB6 to better align to the EU requirements; 2) what are the regulatory frameworks and governance mechanisms in promoting CSAs; and 3) how to promote CSAs to small farmers and how to do it in a more innovative and digitalized way?

Figure 4.1 Guiding principles for the global lesson learnt

<i>What practices would help the WB6 to better align to the EU requirements?</i>	<i>Regulatory frameworks and governance mechanism in greening agriculture/promoting CSAs</i>	<i>How to promote CSAs to small farmers and how to do it in a more innovative and digital way?</i>
<p>Good practices in agricultural innovation policy and agriculture innovation systems governance</p> <p>A panoramic lens on climate resilient agriculture</p> <p>Funding, financing, and incentives tied to improved farming practices and agro-industry services</p> <p>Conservation policy and program design</p>	<p>Regulatory frameworks or incentives tied to improved farming practices and agro-industry services</p> <p>Institutional setup as for agroclimatic information systems, quality data inputs and management, etc.</p>	<p>Communication innovation, information platforms and dissemination channels (farmers field schools, farmers to farmers, CSA digital platform, etc.) to make CSAs catchier to farmers and rejuvenate the sector</p>

This section provides a summary of the aspirations to the WB6.

(1) Enhancing climate resilience of agriculture through integrated food systems approach

As demonstrated in global lesson learns and committed in regional agendas as well as at the WB6 Summit in 2020, a food-systems approach is the predominant narrative. It is crucial to shift focus from production focused short-term solutions to fostering resilience through the agricultural “ecosystem” when government designs comprehensive programs that incorporate climate-resilient technologies and practices across the entire value chain. This includes considering resilience before farm gate to ensure income security by cost, choice of crop, value addition through

grading, cleaning, standardization, etc., to the yields of farming together through providing technical assistance to aggregate efforts and resources across small and medium farmers and supporting systems to the farmer producer organizations (FPOs) to farm identified crops together to reach scale and quality; followed by working with FPOs and bringing climate resilient crops to market.

(2) Developing incentive-based mechanisms for conservation and environmental policy

Costa Rica, Mexico, and China all have initiated large-scale programs that give direct payments to landowners for undertaking specific land use practices that could increase the provision of hydrological services, biodiversity conservation, erosion prevention, carbon sequestration, or scenic beauty. The U.S. Conservation Reserve Program run by the USDA since the mid-1980s is based on the same theory. USDA Economic Research Service (ERS) examined the cost-effectiveness of conservation policies and programs and identified conservation program design features that increase environmental gain per program dollar. ERS investigated the environmental impact of broader agricultural policies and programs:

- › **Incentives:** Paying farmers to adopt specific conservation practices and paying for the level of environmental performance are two different approaches with distinct benefits. Paying for performance is more cost effective than paying for practices because program incentives are directly linked to environmental outcomes. However, it's difficult to observe the performance and thus make it hard and costly to implement performance-based payments. Cost-based payments directed to farms, fields, and practices with high expected benefits may be a practical compromise.
- › **Strategic targeting:** In voluntary conservation or incentive programs, eligibility requirements, participation incentives, and ranking/scoring of program applications can be used to direct payments to fields, practices, or specific resource concerns that are likely to generate large environmental gains relative to cost. After assessing different targeting approaches, spatial targeting (prioritizing adjacent fields for enrollment) was found to increase total environmental outcomes.
- › **Additionality/cross-compliance (conditionality):** A conservation practice that is adopted by a farmer who receives financial assistance is "additional" only if the practice would not have been adopted without the payment. The payment must be critical to securing adoption and any associated environmental gain to satisfy the requirements of "additionality." ERS research shows that USDA conservation programs are effective in encouraging conservation practice adoption, although additionality varies across conservation practices.
- › **Contract design:** All USDA conservation programs contract with farmers to specify the application of conservation practices and related payments. Most contracted practices are completed as scheduled.

(3) Coupling/conditioning financing incentives to improved farming practices and agro-industry services

Policy measures that could accelerate the transformation to a net zero agri-food system are emerging. One main lesson learnt throughout all the US conservation programs is that funding environmental improvements rather than maintenance can generate more benefits. Simulation results suggest that the "improved performance" policy could provide much larger environmental benefits than a "good performance" program for the same level of expenditures. A US\$1billion program with payments for improved performance produces over 5 times the reduction in soil erosion (nearly 110 million tons versus 20 million tons) than if payments are provided for good performance (USDA, 2006).

- › A more equitable or increased distribution of IPARD funds coupled with AEMs is strategic to increase the climate resilience of agriculture in the WB6.
- › **Complementary financing for environment:** Globally, an increasing level of funding is targeted to pay farmers and rural communities for the provision of environmental services, for example through PES schemes (Costa Rica), Conservation Programs (USA) and pilots for Reducing Emissions (Zambia and Costa Rica) from Deforestation and forest Degradation and maintaining or enhancing forest carbon stocks (Costa Rica REDD+ ER program).

(4) Digital climate smart agriculture transformation in the WB6

Communication innovation, information platforms and dissemination channels (farmers field schools, farmers to farmers, CSA digital platform, etc.) can make CSAs catchier to farmers and rejuvenate the sector. WB6 can take advantage of the digital revolution using different digital tools to make agriculture more innovative, efficient, accountable while having a quicker adaptation to changing environments by harnessing the precision, rapidity, and consistency of data and analyzes. Digital CSA transformation can happen in many ways, for instance:

- › Empower smallholder farmers to access digital agricultural extension and advisory services (AEAS) through enabling policies and institutional supports.
- › Provide farmers' access to decision support tools (agroclimatic info, soil mapping and information, nutrient management, spatial zoning) with **site-specific climate-smart options**.
- › Explore and develop digital application channels (web, mobile, app) for government CSA financing schemes or programs and designate local service agents to guide and support smallholder farmers in assessing the digital channels for funds or schemes.
- › Establish information and CSA dissemination channels (farmers field schools, farmers to farmers, digital platform, etc.) to educate and train farmers on digital literacy and promote CSAs digitally.
- › **Roadshows/demonstration of CSAs pilots or digital CSAs cross different spatial clusters or producer groups to showcase the impact of innovative agricultural practices.**

4.3 International climate action framework, EU Alignment, and regional strategies

International frameworks such as NDCs are currently being updated in WB6. Since NDCs largely follow a 5-year revision cycle, they provide short-term entry points and commitments of the sector in country climate adaptation and mitigation. At COP28, many of the WB6 countries have recently signed the Emirates Declaration on Sustainable Agriculture, Resilient Food Systems, and Climate Action, committing to integrate food into their climate plans by 2025.

Western Balkans agriculture policy is then largely influenced by some major EU policies/strategies: the new CAP and EGD, IPARD (I, II, III), and WB6 Green Growth Agenda.

The CAP for 2023–2027 is underway with the approval of the 28 CAP Strategic Plans (SPs) which are designed to make a significant contribution to the ambitions of the EU Farm to Fork and Biodiversity Strategies. The 28 CAP SPs set higher ambitions in EU's environmental and climate objectives that go beyond current CAP provisions and incentives. The SPs also boost support for improving knowledge, innovation and digitalization and helping farmers to transit to a more resource efficient, resilient, and sustainable agricultural system.³⁰

30 Common Agricultural Policy for 2023–2027.

The CAP has a direct link to the EGD targets as well. Payments to beneficiaries are linked to a stronger set of conditionalities instead of previous weaker cross-compliance measures. There is a higher share of eco-schemes targeting organic farming, animal welfare and others (at least 25 percent of direct payments). Rural development measures need to include climate, biodiversity, animal welfare and environmental targets (at least 35 percent of rural development funds). Forty percent of the budget will have to be climate-relevant and support biodiversity. EU member states should reduce the use of fertilizers by 20 percent and pesticides by 50 percent by 2030. At least 25 percent of the EU's agricultural land should be under organic farming. The sale of antimicrobials for farmed animals and in aquaculture should be reduced by 50 percent by 2030. Nutrient losses should be reduced by at least 50 percent, while ensuring no deterioration in soil fertility, and bringing back at least 10 percent of agricultural area under high diversity spaces are called for by 2030.

The New CAP will redistribute income support payments from larger to smaller farms, using different combinations of tools, depending on size, viability, and farm structures (Figure 4.2 & Figure 4.3). Modernization investments are expected to reach almost 400,000 of EU farms and support climate resilient and digital agriculture.

Figure 4.2 Planned distribution of direct payments and EU rural development funds 2023–2027

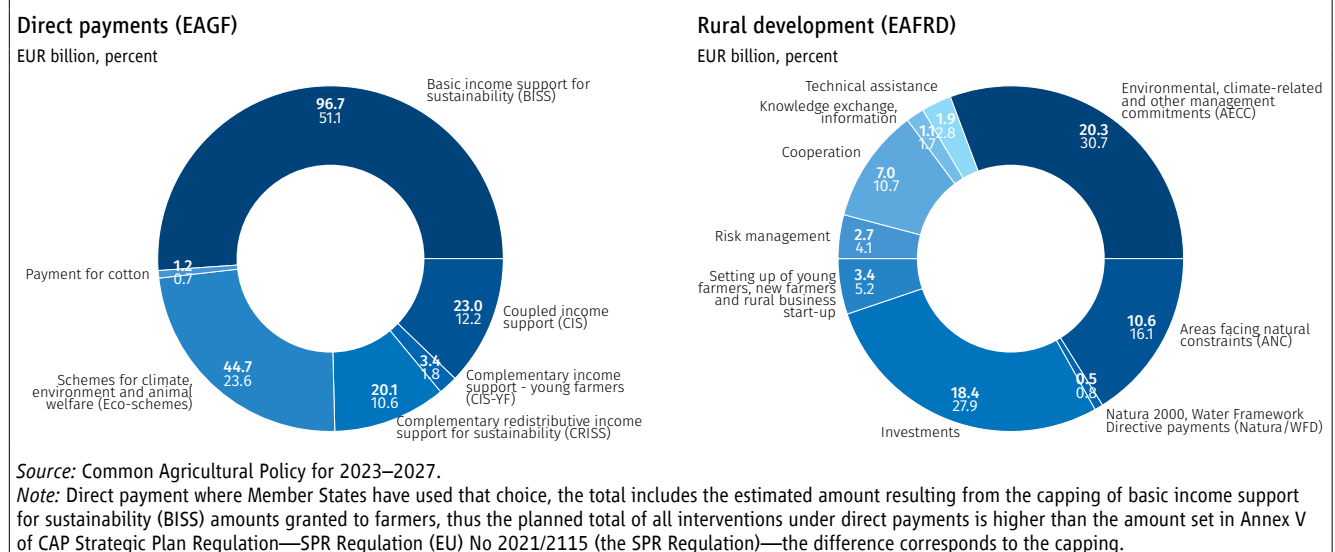
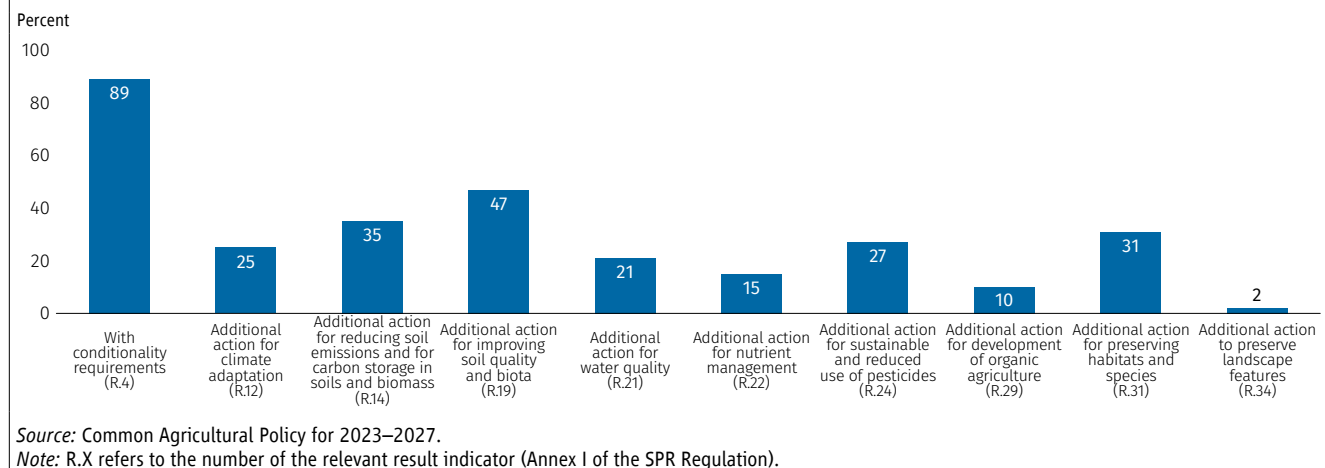


Figure 4.3 Share of the EU's utilized agricultural area (UAA) under mandatory and additional actions related to climate and environment



Box 4.2 The New CAP

The Common Agricultural Policy (CAP) is one of the oldest and most comprehensive policies of the EU, and accounts for nearly 40 percent of the EU's total common budget. With many objectives in place, such as supporting farm incomes, becoming competitive on global markets, producing healthy foods at affordable prices, and improving living conditions in the rural areas, more recently managing natural resources in a sustainable manner and agriculture's greening have become new priorities. The CAP greening started in 2014 with discussions on measures such as farmland set aside for biodiversity, minimum areas for organic farming, and the reduced use of plant protection products and fertilizers. Finally, in December 2021, the agreement on the New CAP reform was formally adopted for the period of 2023–2027. The New CAP supports agriculture in making a much stronger contribution to the EU Green Deal (EGD) goals to become climate neutral in 2050.³¹ Under the New CAP, there is a direct link to the EGD targets.³² Payments to beneficiaries are linked to a stronger set of conditionalities instead of previous weaker cross-compliance measures. There is a higher share of eco-schemes targeting organic farming, animal welfare and others (at least 25 percent of direct payments). Rural development measures need to include climate, biodiversity, animal welfare and environmental targets (at least 35 percent of rural development funds). Forty percent of the budget will have to be climate-relevant and support biodiversity. EU member states should reduce the use of fertilizers by 20 percent and pesticides by 50 percent by 2030. At least 25 percent of the EU's agricultural land should be under organic farming. The sale of antimicrobials for farmed animals and in aquaculture should be reduced by 50 percent by 2030. Nutrient losses should be reduced by at least 50 percent, while ensuring no deterioration in soil fertility, and bringing back at least 10 percent of agricultural area under high diversity spaces are called for by 2030.

The IPARD III program increased the focus and budget on agri-environmental measures and climate objectives, which has already been seen in the past several decades as discussed in Chapter 3 (Figures 3.3, 3.4, 3.5). The Green Agenda for the Western Balkans, laying down the key initiatives aimed at a green transition for the region, lists seven priority actions under the objective of sustainable food systems and rural areas. The New Growth Plan for the Western Balkans will boost the Western Balkans' socio-economic convergence with the EU & accelerating EU reforms.³³ The Growth Plan has four pillars:

- » Enhancing economic integration with the EU's Single Market
- » Boosting economic integration within the WB6 through the Common Regional Market, which could add 10 percent to their economies according to the World Bank estimation
- » Accelerating fundamental reforms
- » Increased financial assistance

The New Growth Plan for the Western Balkans indicated that a funding of up to Euro 6 billion (Euro 2 billion in the form of non-repayable grants and Euro 4 billion in concessional loans) will be provided to implement the Growth Plan through a new financing instrument named Reform and Growth Facility for the WB6. Financing is channeled as Euro 3 billion for direct support and another Euro 3 billion for investments identified under the Western Balkans Investment Framework (WBIF). At least, 37 percent of the non-repayable financial support channeled through the WBIF should contribute to climate objectives. Since payment conditions for this new facility will be complementary to and mutually reinforcing with the financial assistance under the broader IPA III, it will have a positive impact on greening and bringing countries closer to fulfilling the criteria for EU membership. Furthermore, since the Common Regional Market is based on the adoption and implementation of EU rules and standards, it will serve as a stepping-stone towards the EU's Single Market in many aspects, and as a catalyst in accelerating accession negotiations while reaping early economic benefits.

31 https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en.

32 <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2019%3A640%3AFIN>.

33 European Commission. 2023. The New Growth Plan for the Western Balkans.

5.1 Overview of green agricultural strategies in WB6

Despite the low carbon footprint, the WB6 authorities are committed to promoting both adaptation to, and mitigation of, climate change. The Sophia Declaration is an example. Signed in 2020, the Sophia Declaration launched the WB6 Greening Agenda to facilitate an inclusion of greening agriculture in the WB6 new strategic plans for agriculture and rural development.³⁴ Most of these strategic plans are very green and include specific quantitative targets as commitments and budgets (Table 4.1), similar to the New EU CAP strategic plans (Table 5.1) below. Annex I provides more details.

Supporting climate mitigation measures is critical for the WB6 not only to align with the EGD as part of the EU accession, but also to maintain access to the EU market. The EU increasingly requires exporters to meet similar environmental requirements as introduced in the EU under the EGD.

Table 5.1 An overview of WB6 countries agricultural strategies

Country	Agricultural Strategy	Objectives and Priorities	Definition of the Environmental Objectives	Key Actions / Indicators / Budget
Albania	2021–2027	Four overall objectives and two cross-sector objectives	<p>Under the main objective one: “Sustainable development of agriculture and rural areas” as one of four specific objectives are identified environmental and climate change objective: “Sustainable management of natural resources and taking measures to mitigate negative effects, as a result of climate change”. Under this objective has three action directions: (1) Contribute to climate change mitigation and adaptation, as well as to renewable energy; (2) Promoting sustainable and efficient management of natural resources; (3) Protecting biodiversity, ecosystem services and preserving habitats and landscapes.</p> <p>Under economic objective are identified two actions directed to environment protections: (1) Increasing the resilience/ resilience (ability to respond) of farms to climate factors; (2) Gradual alignment with EU standards in the areas of environment, food safety, plant and animal health and animal welfare.</p>	As instruments and measures of planned intervention under environmental actions are envisage Rural development (pillar type II measures) type of interventions and more specifically are dedicated schemes named Aggregated and climate schemes”. It is planned to use EU IPARD III and National Budget (co-finance) sources.

³⁴ The leaders from the WB6 countries gathered in Sofia on November 10, 2020, at the WB Summit under the framework of the Berlin Process initiative and adopted the *Document on the Green Agenda for the Western Balkans*, laying down the key initiatives aimed at a green transition for the region.

Table 5.1 An overview of WB6 countries agricultural strategies (continued)

Country	Agricultural Strategy	Objectives and Priorities	Definition of the Environmental Objectives	Key Actions / Indicators / Budget
Bosnia and Herzegovina	Republic Srpska: 2021–2027 Federation BiH: 2015–2019 extended 2020, 21, 22, 23.	Republic Srpska: One of 5 main objectives and 7 out of 28 specific objectives. Federation BiH: One of 4 main objectives 8 of 35 operational objectives	RS: One Main objective: Environmental protection and sustainable resource management. BiH: Sustainable management of natural resources and adaptation of agriculture to climate change. In both strategies through specific/operational objectives are covered genetic resource, energy, organic production, water and land protection, increase protected areas etc.	RS: it is predicted that for implementation of the environmental strategic objective is allocated 5.7 percent of the overall agrarian budget, to achieve ambitions indicators like increase of producers with sustainable energy use from 0 to 50, or organic production for 50 percent. BiH: No specific indicators, neither budget commitments.
Kosovo	2022–2028	One of 4 main objectives and 3 out of 12 specific objectives	Main Strategic Objective: Sustainable management of natural resources (land, forests, and water). There three specific objectives: (1) Contributing to mitigating and adapting to climate changes as well as renewable energy; (2) Promoting sustainable and efficient land, water, and air management; (3) Biodiversity protection, enhanced ecosystem services, and conservation of habitats and landscapes.	0.7 percent of the budget in period up to 2024 (427,000 Euros) will be invested for implementation of the environmental strategic objective.
Serbia	2014–2024	One of 5 main objectives and two of 14 priority actions are directly oriented to the climate and environment.	One Main objective: Sustainable resource management and environmental protection. Two priority action: (1) Adaption and mitigation to the climate changes; (2) Protection and improvement of the environment and preservation of natural resources.	13 actions are directly related to the climate (4) and environmental protection (9). That budget for agri-environmental measures should be increase from 0 in 2013 through 13 in 2016 to 45 million Euros in 2023.

Table 5.1 An overview of WB6 countries agricultural strategies (continued)

Country	Agricultural Strategy	Objectives and Priorities	Definition of the Environmental Objectives	Key Actions / Indicators / Budget
Montenegro	2023–2028	One of 5 main objectives, one of 14 priority actions and two of 13 operational objectives are directly oriented to the climate and environment	<p>The main objective: Ensure efficient management of Montenegro’s natural resources and achieve the objectives of the green agenda.</p> <p>One priority action: Encourage agricultural production that contributes to nature protection and develop management requirements in protected areas.</p> <p>Three operational objectives: (1) Contribute to mitigating climate impacts, including reducing greenhouse gas emissions and improving carbon sequestration, as well as promoting sustainable energy; (2) Support sustainable development and efficient management of natural resources such as water, soil and air, including reducing dependence on chemicals; (3) To stop the loss of biodiversity.</p>	<p>It is projected to increase area under organic from current 1.8 percent to 24.7 percent in 2028, as well as a reduction in the use of pesticides from 6 to 3 kg/ha and mineral fertilizers from 151 to 75 kg/ha.</p> <p>Increase protected areas from the current 10,000 to 20,000 hectares.</p>
North Macedonia	2021–2027	One of 3 main objective and three of 9 specific goals	<p>Strategic objective: application of environmental practices in production that lead to mitigation and adaptation to climate change.</p> <p>Three strategic goals under: (1) Contributing to climate change mitigation and adaptation as well as greater use of sustainable energy; (2) Encouraging sustainable development and efficient management of natural resources such as water, soil and air; (3) Contribute to the protection of biodiversity, improvement of ecosystem services and conservation of natural habitats and landscapes.</p>	<p>From 2023 introduce Climate and Environmental Support Schemes. Scheme will be voluntary and supported through direct payment.</p> <p>Agricultural land under IPM to increase from 5 to 30 percent.</p> <p>Area under organic to increase for around 10 percent.</p>

WB6 countries have an opportunity to accelerate greening their agriculture, making further structural transformation more just and resilient to climate change.

Further structural transformation in the WB6 agriculture sector would require more proactive and concerted policy actions on climate adaptation and mitigation, i.e., the green transition. Good initial conditions, such as the low intensity of the current farming practices, greening of the recent national strategic plans, the IPARD funds’ availability for financing agri-environmental measures, and the EU laboratory of innovations on CSA development and adoption to learn from all, could support a faster green transition in the WB6 region. Most WB6 countries spend sufficient national funds for agriculture; thus, funds are available in principle to support the green transition, but these funds need to be

repurposed to make a difference for the Greening Agenda and, at the same time, make structural changes that would improve competitiveness.

Seven policy recommendation areas cross-cutting WB6 are proposed to accelerate greening of the WB6 agriculture sector. These recommendations apply to all WB6 countries, given their relatively low baseline on CSA adoption and lack of concrete CSA-enhancing programs on the ground but are also tailored to countries based on their different development stages in relevant areas.

- » R1. Improve the regulatory and institutional setup
- » R2. Move from strategies to actions
- » R3. Repurpose the budgetary support to increase the climate resiliency of agricultural production and productivity
- » R4. Focus on climate resiliency now and do it more innovatively
- » R5. Set up foundation for climate mitigation
- » R6. Step up efforts for sustainable development and livelihood diversification of rural areas
- » R7. Knowledge transfer & agricultural knowledge and innovation system (AKIS)

The development status, priority, and complexity levels of these seven areas are discussed in detail one by one in subsequent subsections. A summary presentation in color coded table is also provided for each of the recommendation areas. The color code ranges from pale green standing for low level of development, priority, and implementation complexity to dark green representing high level of development, priority, and implementation complexity. The scoring/ color coding was provided by technical consultant and adjusted in consultation with stakeholders from counterparts.

*Scoring for development level by countries / priority level / complexity (implementation difficulties).						
Low	Medium				High	
<i>Development level by countries / Priority level / Complexity (implementation difficulties).</i>						
*Scoring was provided by technical consultant and adjusted in consultation with counterparts.						

5.2 Proposals for greening agriculture in WB6

R1. Improve the regulatory and institutional set-up

Overall, the WB6 countries have made significant progress in various aspects of food safety, veterinary and phytosanitary policy and agriculture and rural development using the EGD framework and the New CAP developments to guide investments and actions on institutional strengthening, while also being selective on short-term priorities. Nevertheless, the capacity to formulate and execute agri-environmental measures was limited and needs to be strengthened.

Gaps persist in policy and institutional frameworks for the effective implementation of agri-environmental measures, with some countries experiencing complex or lengthy procedures. The highest priority is to establish a cross-compliance system linked to direct payments which are currently widely utilized in WB6 countries.

While SPS and food safety agencies are not obstacles to introducing climate adaption and mitigation measures since they are present in the field and close to farmers, they can be useful toll in greening agriculture. Therefore, moving forward, four areas can be prioritized:

1. Strengthen administrative capacity and infrastructures of Paying Agencies to administer agri-env measures: in particular on evaluating, processing, and monitoring agri-env measures application, as applicable. Prioritize the support to climate adaptation and resiliency now, while building capacity of public institutions, including piloting more complex agri-environmental programs and cross-compliance mechanisms, to contribute more to climate mitigation in the future. The latter requires strong institutions and mechanisms to be in place for successful implementation.
2. Land Parcel Identification Systems, Farm Registry, and Integrated Administrative Control System to have cross-compliance is essential in establishing and implementing a fully functioning PA with integrated systems and the foundation for agri-environmental measures. Ensure the necessary administrative capacity is available for the setting up of the Farm Accountancy Data Network (FADN) which will be transitioned to Farm Sustainability Data Network (FSDN),³⁵ ensure transfer of the farm register and the land parcel identification system (LPIS) to the Paying Agency (PA); ensure that the administrative capacity required for the entrustment of budget implementation tasks under the IPARD III program is in place, in line with the principles of sound financial management.
3. SPS and food safety agencies: Continue to implement the strategy for aligning national legislation with and implementing the EU acquis, specifically for relevant laws on officials controls, quality policy and organic food production, animal health and plant health; further increase the share of food establishments compliant with EU standards; continue to strengthen administrative capacity and infrastructures in particular on food safety controls and strengthen the capacity to implement effective disease surveillance and vaccination, as applicable.
4. Capacitated competent authority able to define proper agri-env measures: Although some individuals can develop agri-environmental measures based on international best practices and trainings but capacity in such area continues to be needed due to high turnover within the Ministry.
5. Adopt a legislative framework, if absent, to further align with the EU acquis on areas such as support payments, common market organization and farm advisory services.

Development level by country	ALB	BiH	MKD	MNE	KOS	SRB	Priority	Complexity
Paying agency to administer agri-env measures								
Land Parcel Identification Systems (LPIS); Farm Registry; Integrated Administrative Control System (IACS) to have cross-compliance								
SPS and food safety agencies								
Capacitated managing authority able to define proper agri-env measures								
*Scoring for development level by countries / priority level / complexity (implementation difficulties).								
Low	Medium							High
<i>Development level by countries / Priority level / Complexity (implementation difficulties).</i>								
*Scoring was provided by technical consultant and adjusted in consultation with counterparts.								

Albania achieved some progress regarding (i) increased administrative capacity to prepare the IPARD III program; (ii) the adoption of the law on wine; and (iii) adopting an implementation plan for the setting up of the farm accountancy data network (FADN). The path of institutional development in Albanian agriculture, while initially promising, encountered a setback with the suspension of IPARD III funds by the EU following a European Anti-Fraud Office (OLAF) investigation. The establishment and enforcement of agri-environmental measures have thus emerged as a challenge. Initiatives related to the LPIS and IACS are in their infancy, signalling the beginning of a complex journey ahead.

35 Farm Sustainability Data Network is an initiative that will expand the scope of the current network collecting data on EU farms to include data on their environmental and social practices. Ultimately FADN is phasing out and all WB6 need to move to FSDN. WB6 countries currently implement FADN, which will pave the way for transitioning to FSDN.

Albania has also advanced the agenda on food safety, veterinary and phytosanitary policy and made progress on designing and adopting the food safety national sectoral policy. Limited progress was achieved particularly on alignment with the acquis on official controls, animal and plant health. Food safety institutions are progressing from a very low level and need extra and continuous capacity building.

Bosnia and Herzegovina (BiH)'s journey towards agricultural greening is characterized by significant systemic challenges. The absence of a Paying Agency and LPIS presents notable hurdles in the path to modernizing agricultural practices and aligning with EU standards. A key obstacle to these challenges is BiH's complex organizational structure comprising two often conflicting entities, which impedes both development and EU integration efforts. This complexity is mirrored in the agricultural sector.

BiH made limited progress in agriculture and rural development with necessary administrative structures required for the EU alignment. A PA was not established, and no progress was made in developing elements of an IACS or FADN. Direct payments still need to be aligned with the EU acquis. BiH needs to develop farm advisory services. BiH is unevenly implementing the 2018–2021 strategic plan for rural development and has not yet made any significant steps in the adoption of a post-2021 state-level strategic plan.

BiH is slow in its alignment with the EU acquis in terms of food safety, veterinary and phytosanitary policy. Significant works and reforms are still necessary to align with the EU acquis, particularly as regards veterinary policy, placing on the market of food, feed and animal by-product, phytosanitary policy, public and animal health requirements, setting up of national reference laboratories and official control system in Bosnia and Herzegovina, notably for the registration of farm holdings and the deregistration of holdings that are no longer active, plus to ensure the reliability of livestock numbers and species present on active holdings. Substantial work is also required to ensure the reliability of information in the central database for animal identification.

Montenegro made significant progress in agriculture development with the strategy for agriculture and rural development for 2023–2028 adopted and the PA and LPIS improved, despite the challenging environment with small land parcels and intricate ownership structures. The country's approach to institutional development and support for farmers, shaped by the World Bank's MIDAS project, has been recognized as exemplary and serves as a model of good practice. The project currently implements a pilot scheme to apply for entrustment of IPARD measure 4 'Agri-environment-climate and organic farming'. These developments show Montenegro's commitment to improving agricultural management practices and environmental stewardship. Notable achievements are seen in agricultural establishments and rural food companies to align with the EU standards, applying national flexibility measures in food safety, and implementing diverse agri-environmental measures. However, progress in setting up the IACS remained slow, farm advisory services have yet to be strengthened, efforts to develop the FADN need to be furthered, LPIS has yet to be rolled out across the whole territory.

Progress was also made in the field of food safety, veterinary and phytosanitary policy, such as the adoption of the second update of Montenegro's strategy for alignment with and implementation of the EU acquis relevant for Chapter 12 including a general action plan and a Specific action plan for control and eradication of classical swine fever, and 2023 program for food and feed safety and quality measures.

Moving forward, Montenegro should accelerate legislative alignment in the area of climate smart agriculture (such as the Law on Organic Farming), and Fisheries and Aquaculture (adopt the Law on Structural Measures and State Aid in Fisheries and Aquaculture and Law on Marine Fisheries and Mariculture), adopt and start implementing the new 2023–2028 Fisheries and Aquaculture Strategy; and in the area of food to continue upgrading food establishments and further strengthen administrative capacity in particular on food safety controls; to update the action plan for meeting EU

cohesion policy requirements while strengthening capacities to manage IPA programs; to further align the institutional framework and rules of administration for the own resources system.

North Macedonia is possessing a full-bodied LPIS that was started in 2002 with a focus on advanced land parcel identification and area monitoring functions and has the foundational tools necessary to expand agri-environmental measures and potentially become the first in the region to implement cross-compliance measures, aligning more closely with EU standards. North Macedonia is close to achieving EU alignment, partly due to the high level of area-based coupled support.

The Paying Agency is progressively enhancing its capacity, reflecting the country's commitment to improving agricultural policy implementation. The implementation of the FADN is on course, setting positive expectations for the adoption of the FSDN. All elements of the integrated administration and control system (IACS) are in place and comply with the EU acquis. The area-based payments continue to be determined based on the land parcel identification system (LPIS). Its established Paying Agency, LPIS, and a functioning food safety system will be able to manage agri-environmental measures well.

North Macedonia made some progress in the areas of food safety, and veterinary and phytosanitary policy, particularly in fighting animal diseases, plant health control and implementing pest eradication measures based on phytosanitary monitoring programs' results: control measures for animal diseases with an active and passive surveillance program in place for various diseases; adopted the revised law on animal by-products, amended the legislation on food safety to align with the EU acquis on specific requirements for microbiological criteria for food; implemented phytosanitary monitoring program for plant health and developed the phytosanitary information system, aligned the Law on phytopharmacy with the EU acquis.

Kosovo's agricultural sector faces challenges in developing policies and implementing agri-environmental measures among underdeveloped agricultural institutions. This developmental gap highlights the pressing need for investment in institutional frameworks and capacity building for effective data collection and environmental governance.

Kosovo is noticeably lagging in agricultural institutional development compared to other IPARD Western Balkan countries. The institutions have not faced the challenge of implementing complex support programs independently, as the country's support policy is predominantly driven by donors. Thus, it is difficult to expect that Kosovo will be able to implement complex agri-environmental measures. The development of the PA, IACS, FADN and LPIS is still not a high priority for the government, while food safety regulation is focused on imported products, modestly on locally produced items, and even less on opening export possibilities.

Kosovo made little to no progress regarding the veterinary policy, animal health, collection and disposal of animal by-products, and identifying basic cross-compliance measures in the areas of food safety, animal health and welfare.

Kosovo made limited progress in the area of food safety, veterinary and phytosanitary policy, as it prepared and adopted the necessary secondary legislation as well as developed surveillance and eradication programs concerning animal diseases and control programs concerning stray dogs. Some progress was made on food control and traceability as well as the laboratory information management system, animal identification and registration, phytosanitary policy. Standard operating procedures and the necessary accompanying documentation required for the monitoring of 18 high priority pests (quarantine organisms) were prepared. Alignment is yet to be ensured for novel food and for genetically modified organisms.

Serbia has come closer to alignment with EU acquis in agriculture development. Capabilities of its PA is continuously enhanced. Its IPARD III plan has an ambition to accredit unique agri-environmental measures in the Western Balkans, such as pollinator strips and crop rotation, which will require intensive monitoring through satellites and on-site inspections. However, the development of the LPIS and IAPCS has been slow, which slows down the implementation of agri-environmental measures. The FADN is established with sample size and the quality of the data to be further improved. Serbia should speed up the establishment of the integrated administration and control system (IACS) to effectively manage its significantly increased budget and the transition from manual to electronic processing of aid applications. This step is also essential to initiate cross-compliance and to bring its support measures in line with the EU acquis.

Regarding food safety capacity, Serbia was ahead in the past compared to other WB6 countries, inheriting institutions from the former Yugoslavia and Serbia and Montenegro (SCG). Serbia adopted annual programs consisting of animal health protection measures on veterinary policy and plant health measures on phytosanitary policy in 2023. However, recent years have shown that Serbia is falling behind. For example, Serbia has been unable to secure the possibility of exporting poultry meat to the EU, a license which BiH received in 2019. Serbia is yet to adopt its advanced draft of food safety strategy and action plan for alignment with the EU acquis. The Serbian food safety sector faces a personnel shortage, and with additional environmental responsibilities, both the number and capacity of staff need to be increased.

R2. Move from strategies to actions

Although institutional capacity exists, these bodies are not the primary decision-makers, as the decision-making process is heavily politicized with a top-down approach. In this environment, prioritizing high-quality data, data warehouse systems in the Ministry, and evidence-based policies—especially those addressing environmental issues—are ignored. The WB6 need to move from strategies to concrete policy actions aimed at promoting and adopting practices that reduce GHGs, conserve natural resources, enhance climate resilience, and promote sustainable livelihoods for farmers. These actions will require leveraging public policies and expenditures to scale up the support for CSA adoption, encouraging research and innovation in CSA technologies, disseminating knowledge, coordinating actors involved in the agrifood systems, educating farmers and consumers about environment and climate impacts, and monitoring and measuring impact.

Moving forward, WB6 countries should make further progress in moving strategies to actions:

1. Update and speed up implementation of the action plan for EU acquis alignment in agriculture and rural development, specifically in CSAs and diversification of rural economy.
2. Take measures to improve implementation and avoid further loss of IPARD funds, ensure the smooth rollover of entrusted IPARD measures to the 2021–2027 period, and prepare new measures for entrustment.
3. Monitor and report on strategies implementation.
4. Strengthen the evidence on results achievement.
5. Increase awareness among farmers and other stakeholders about strategies and policies regarding climate smart agriculture and agri-environmental measures.

<i>Development level by country</i>	<i>ALB</i>	<i>BiH</i>	<i>MKD</i>	<i>MNE</i>	<i>KOS</i>	<i>SRB</i>	<i>Priority</i>	<i>Complexity</i>
Monitoring and reporting on strategies implementation								
Strengthening the evidence on results achievement								
Increasing awareness among farmers and other stakeholders about strategies and policies								
<i>*Scoring for development level by countries / priority level / complexity (implementation difficulties).</i>								
Low	Medium						High	
<i>Development level by countries / Priority level / Complexity (implementation difficulties).</i>								
<i>*Scoring was provided by technical consultant and adjusted in consultation with counterparts.</i>								

Not much difference is observed between the WB6 countries in the development of policies, strategies, implementation, and evidence for results achievement. All the WB6 countries need to establish clear policy priorities, improve stakeholder involvement, enhance data collection, management, and accessibility, strengthen the independence of institutions, increase capacity building for environmental management, promote environmental incentives, and conduct regular reviews of policies to make necessary adjustments.

The WB6 countries face challenges in implementing their ARD strategies. While the strategies are ambitious, their actual enactment is not. Policymakers are confused, aspiring to follow EU policies and measures but recognizing that some do not have the expected impact, others are costly, and the majority do not align with national strategies. As a result, strategies have become documents comprising a mixture of what farmers want to hear, what the EU expects, accession requirements, local needs, available resources, etc. Environmental concerns are particularly undervalued in these strategies.

R3. Repurpose the budgetary support to increase the climate resiliency of agriculture sector

General underinvestment in research, AKIS, and digital solutions across the region led to inefficiencies and a gap in meeting environmental and developmental objectives. A notable reliance on direct payments to farmers is common. Farmers prefer direct payments that come without stringent requirements, and policymakers tend to allocate these funds at the expense of investments in sustainability and environmental compliance. A comprehensive support for broader green agricultural practices is missing. The implementation of agri-environmental measures happens within a limited range and depth, often not fully realizing the potential or meeting environmental compliance. While some suites of CSAs exist, the support for organic farming remains the primary, sometimes the only, agri-environmental measure. Financially, a few countries made some progress in competitive credit markets and lower interest rates, but it is still uncommon across the region. The banks in WB6 countries are promoting green financing, however the demand is low. Many budget repurposing options exist to help address the challenges and support the sector in increasing climate resilience.

1. Increase financing of other general support services critical for CSA (AKIS, research, digitalization, ministry/competent authority capacity).
2. Increase financing of agricultural infrastructure critical for CSA (irrigation, cold storage, etc.).
3. Reduce and phase out coupled direct farm payment that is known for its potential to increase pressures on natural resources, reduce overall sector productivity, and inefficiency for transferring income to farmers; and transition to more decoupled payments and encourage investments to co-finance capital expenditures for farm modernization and CSA adoption as decoupled payment may provide valuable ecosystem services that serve as better collateral assets.

4. For all redirect farm payments, launch cross-compliance requirements, starting with enforcing their minimum level and gradually converging with higher standards adopted by the EU farmers.
5. Increase financing of agro-environmental measures (Measure 4 of IPARD III) dedicated to increase farm competitiveness and climate resiliency, including support for digital CSA platforms, AKIS and agri-environmental demonstrations/pilots. Directly paying farmers to supply public goods, such as ecosystem services or carbon sequestration in agricultural soils, and to adopt resource-saving production practices, would help reduce emissions and provide farmers with new income sources.
6. Support green capital investment in agriculture and food processing.
7. Improve access to commercial credit that finances CSA.

Table 5.4 Development status, priority, and complexity in repurposing budgetary support among WB6

<i>Development level by country</i>	<i>ALB</i>	<i>BiH</i>	<i>MKD</i>	<i>MNE</i>	<i>KOS</i>	<i>SRB</i>	<i>Priority</i>	<i>Complexity</i>
Increase financing of other general support services critical for CSA (AKIS, research, digitalization, competent authority capacity)								
Increase financing of agricultural infrastructure critical for CSA (irrigation, cold storage, etc.)								
Reduce and phase-out coupled direct farm payment								
Make direct farm payments conditioned by cross-compliance								
Increase financing of agro-env measures								
Support green capital investment in agriculture and food processing								
Improve access to commercial credit that finances CSA								
*Scoring for development level by countries / priority level / complexity (implementation difficulties).								
Low		Medium					High	
<i>Development level by countries / Priority level / Complexity (implementation difficulties).</i>								
*Scoring was provided by technical consultant and adjusted in consultation with counterparts.								

Albania: Albania's agricultural budget, though modest in size, reflects a strategic allocation of funds towards rural development and investment support, with a notable increase in direct support observed since 2020. However, policy and institutional gaps persist, presenting a barrier to the implementation of comprehensive measures. To introduce cross-compliance and enhance agri-environmental support, there is an evident need for capacity building within environmental management and for fostering partnerships between financial institutions and the agricultural community. Support for organic farming is growing, but it remains the sole agri-environmental measure. The agricultural credit market is lagging and characterized by fragmentation and a scarcity of resources, which hampers the capacity to enforce a wide range of agri-environmental directives effectively.

Bosnia and Herzegovina: The country's agricultural budget is modest, but the current allocation lacks dedicated agri-environmental measures that are essential for fostering sustainable development. A high percentage of coupled direct payments still accounts in the incentive support program but the government has plans to gradually transition the policy to decoupled payments and investment support. The transition is slow and takes time. However, a positive note is the competitive credit market development in Bosnia and Herzegovina, led by major international commercial banks, which has resulted in low-interest rates.

Montenegro: Montenegro has the highest share of agri-environmental measures in the overall agricultural budget and allocates a significant portion of payments to rural development. However, the agricultural lending market in Montenegro faces obstacles due to limited competition and the reliance on a state development fund attempting to substitute the banking sector. The fund's efforts are often hampered by capacity constraints and funding limitations,

which underscores the need for a more robust and efficient financial framework to support agricultural development. When funding is provided either directly to borrowers or through commercial banks, farmers benefit from lower interest rates, but the procedures are lengthy and not conducive to green lending.

North Macedonia: The financing of the 2021–2027 national strategy for agriculture and rural development (NSARD) has been budgeted under the 2023–2027 national program for agriculture and rural development and nearly 80 percent of the funds are allocated to direct support measures. North Macedonia continued a policy of complex coupled schemes of direct support to farmers. A new e-application system for direct support has simplified the application process and control system.

Acknowledging the necessity for a transition to more sustainable practices, the Macedonian government is committed to investing in both human and financial resources. Agri-environmental measures support is in place but modest. Efforts to improve access to commercial credit for sustainable farming are underway, channelling funds into green investments and fostering eco-friendly agricultural advancements. This commitment is showcased in the strategy to promote private delivery of farm advisory services, ensuring that farmers receive the support needed to adopt environmentally sustainable practices.

Kosovo: Kosovo has a modest and unstable budget for agricultural investment support. Low competition on the supply side and numerous institutional barriers hinders development of the financing landscape, particularly the issue of collateralizing agricultural land makes the lending costly. Financing mechanisms within Kosovo require fortification to escalate agri-environmental measures adequately.

Serbia: Serbia allocates the most extensive payments to public administration, research, extension, etc. However, many of these investments are inefficient. A swift reorientation towards greening is imperative, emphasizing climate mitigation and adaptation within its agricultural policies, where the country is still at an early stage of integration. A specific issue in Serbia is the high level of coupled livestock payments which are not tied to environmental conditions. The rapid degradation of land quality and humus levels in the Vojvodina region is alarming and calls for immediate action, particularly for state-owned land in the rental market. Increasing area payments in 2023, almost to the level of the EU, provides an excellent opportunity to introduce land management cross-compliance. The share of investment support as percent of overall budget is relatively small, leading to low green investment. However, Serbia stands out in the Western Balkans for its developed agricultural credit market with the banking sector advocating for green loans, which serves as a robust foundation for its green transition in agriculture and rural development.

R4. Focus on climate resiliency now and do it more innovatively

Many project examples demonstrated climate resilience in the region. Some are donor-driven, primarily utilizing funds from EU Horizon or other sources, but mostly are private initiatives such as ICT companies introducing digital innovations to the sector when they see opportunities. Innovations range from the application of sensors, remote sensing options, Geographic Information Systems (GIS), Internet of Things (IoT), block chains and others. Drawing lessons from EU and international best practices and proven technologies, following are two streams of approaches for climate resiliency recommended now:

1. **Technologies and practices:** irrigation and drainage, water infrastructure, crop or livestock CSAs and technology; crop and livestock management and operations, pest, disease management, crop, or livestock breeding
2. **Ecosystem-based and nature-based approaches:** water quality, soil health, diversification, biodiversity

Table 5.5 Development status, priority, and complexity in climate resilience support among WB6

Development level by country	ALB	BiH	MKD	MNE	KOS	SRB	Priority	Complexity
Technologies and practices (5–6 examples): irrigation and drainage, water infrastructure, crop or livestock CSAs and technology; crop and livestock management and operations, pest, disease management, crop, or livestock breeding								
Ecosystem-based and nature-based approaches (3–4 examples): water quality, soil health, diversification, biodiversity								
*Scoring for development level by countries / priority level / complexity (implementation difficulties).								
Low	Medium						High	
<i>Development level by countries / Priority level / Complexity (implementation difficulties).</i>								
*Scoring was provided by technical consultant and adjusted in consultation with counterparts.								

Strategic investments tailored to these approaches can foster climate resilience. **Albania** can strengthen its defenses against climate change by developing water management infrastructure that supports *vital irrigation and drainage systems*, ideally integrating these with existing solar energy initiatives. **Bosnia and Herzegovina** could focus on *advancing forest-based, climate-smart agricultural practices* that protect its dense woodlands while promoting sustainable agriculture. BiH has potential in promoting nature-based solutions such as mountainous livestock management combined with CSA solutions and ecological tourism. **North Macedonia** might prioritize *diversifying its agriculture, nurturing resilient crop varieties*, and adopting innovative technologies to strengthen its robust fruit and vegetable sectors. **Montenegro**, with its abundant natural beauty, can *capitalize on biodiversity* by implementing nature-based solutions that integrate agriculture with tourism, thus benefiting both sectors. **Kosovo** should aim to *improve soil health and water quality*, crucial for sustained agricultural productivity. **Serbia**, with its sophisticated agricultural infrastructure, could lead in adopting cutting-edge climate-smart agricultural practices, potentially setting a regional standard by *integrating advanced pest and disease management techniques, sensor and remote sensing technology, biogas technology, and land quality enhancement*. These could align with the existing land potential, the resources of the Biosense Institute, and a vibrant private IT sector engaged in agriculture. Besides these strategies, it would be beneficial for all Western Balkan countries to invest in *on-farm renewable energy sources* such as solar and biogas facilities to provide sustainable energy for farms and the broader country.

R5. Set up foundation for climate mitigation

The movement toward agrifood sector mitigation is increasingly reflected in countries' NDCs with AFOLU or agrifood systems included in countries' mitigation commitments. The quality of these commitments has improved and was reflected in the doubled share (from 20 percent to 38 percent) of NDCs with agriculture sector-specific GHG targets and the increased share (from 63 percent to 78 percent) with specific agriculture-related mitigation actions (Crumpler et al., forthcoming). However, most NDC commitments are conditional on international support, including 92 percent of middle-income countries' NDC commitments in the AFOLU sector (Crumpler et al., forthcoming).³⁶

Currently, all WB6 countries are in the initial stage of developing and implementing regulatory frameworks aimed at climate mitigation within the agricultural sector. No noticeable difference is seen across the countries in terms of institutional and authority capacity to monitor, report, and implement agri-environmental measures related to climate mitigation which all needs to be strengthened. At COP28, many of the WB6 countries have recently signed the Emirates

36 World Bank. 2024. Recipe for a Livable Planet. <https://openknowledge.worldbank.org/server/api/core/bitstreams/1386466e-caf7-4a9f-a96d-d20c1bdfef43/content>.

Declaration on Sustainable Agriculture, Resilient Food Systems, and Climate Action, committing to integrate food into their climate plans by 2025. The implementation of the Nitrate Directive has been progressing at an early stage.

<i>Development level by country</i>	<i>ALB</i>	<i>BiH</i>	<i>MKD</i>	<i>MNE</i>	<i>KOS</i>	<i>SRB</i>	<i>Priority</i>	<i>Complexity</i>
Strengthen the capacity of competent authorities to monitor agri-env measure results								
Establishment of the animal feeding guideline and regulatory framework								
Establishment of the manure management regulatory framework and relevant guidelines								
Strengthen animal identification, registration and movement control								
Gradually increase the number of agri-env measures beyond organic farming								
Strengthen the soil information system for soil health, nitrate directive and GHG monitoring								
<i>*Scoring for development level by countries / priority level / complexity (implementation difficulties).</i>								
Low	Medium						High	
<i>Development level by countries / Priority level / Complexity (implementation difficulties).</i>								
<i>*Scoring was provided by technical consultant and adjusted in consultation with counterparts.</i>								

All WB6 countries also lack digitalised accurate information systems that monitors GHGs and soil quality, hindering effective climate action planning. These commonalities reflect a region in the early phases of acknowledging and addressing the pressing global issue of climate change within their agricultural sectors. A lack of national policy coherence within the agrifood sector could inhibit policy effectiveness. Improving this coherence and repurposing inefficient subsidies toward agrifood system mitigation can deliver emissions reduction and multiple other benefits.³⁷ The WB6 need to set up good regulatory foundation for climate mitigation prioritizing efforts in agri-environmental measures, soil health, land use, animal feeding and manure management to reduce emissions beyond organic farming.

R6. Step up efforts for sustainable development and livelihood diversification of rural areas

The region especially its rural areas need to step up efforts for sustainable development and livelihood diversification from the sustainable use of natural capitals (forests, land, blue economy) and stimulate cross-sectoral solutions to ensure a competitive green agrifood value chain that mitigates increasing climate risks. Improving digital infrastructure to allow reliable internet access is also crucial for the effort.

One effort can be widely pursued in the region is the sustainable use of natural capitals that were traditionally utilized for extensive livestock farming for mountain pasture management. It involves sustainable practices to maintain grazing lands at high elevations, crucial for livestock farming, biodiversity, and the local economy. Montenegro implements agri-environmental measures to promote use of high mountainous pasture. Having the highest percentage of mountainous pasture in Europe, Montenegro started the national measure in 2007 and continued until now, with average yearly allocation of around 300 thousand euros. The support is paid per livestock unit and is given to registered agricultural households that fulfil the prescribed criteria. Livestock must be properly marked with ear tags, and their movement to the mountain pastures must be reported. In an ongoing World Bank project in Montenegro, agri-environmental

37 World Bank. 2024. Recipe for a livable planet. <https://openknowledge.worldbank.org/server/api/core/bitstreams/1386466e-caf7-4a9f-a96d-d20c1bfdef43/content>.

measures are applied for the purpose of sustainable land use, forest management, mitigation, and the achievement of Neutrality in Land Degradation (LDN) goals.

Another improvement area for the rural livelihood diversification effort is to address the absence of sustainable frameworks and incentives that facilitate networking and self-organization. Every country has tried the LEADER approach,³⁸ yet it is hard to sustain it. Although national agricultural budgets are funding networking or organizational activities, these are often politicized and implemented in an ad hoc manner. A clear, cohesive, long-term vision is needed for developing sustainable, grassroots organizations that can implement policies and inform policymaking.

<i>Development level by country</i>	<i>ALB</i>	<i>BiH</i>	<i>MKD</i>	<i>MNE</i>	<i>KOS</i>	<i>SRB</i>	<i>Priority</i>	<i>Complexity</i>
Improve access to internet and digital in rural areas								
Create more opportunities for non-farm green activities for rural area								
Support self-organization in the rural areas								
<i>*Scoring for development level by countries / priority level / complexity (implementation difficulties).</i>								
Low	Medium						High	
<i>Development level by countries / Priority level / Complexity (implementation difficulties).</i>								
<i>*Scoring was provided by technical consultant and adjusted in consultation with counterparts.</i>								

A unique facet of **Montenegro's** strategy is its focus on rural diversification, particularly through the establishment of numerous small processing facilities linked with tourism, operating under flexible food safety rules. This approach not only highlights the country's capacity to integrate with EU regulations but also showcases the potential for agricultural and tourism sectors to complement and enhance each other. As Montenegro continues to develop its agricultural policies, particularly in climate mitigation and adaptation, the private sector emerges as a critical player in supporting rural livelihood diversification, especially in the processing industry by providing non-farm job opportunities.

Serbia leads its efforts in sustainable development and livelihood diversification of rural areas by investing in digital infrastructures (broadband internet throughout the country) and in the state Institute for Digital Agriculture BIOSENSE, leading to the creation of many innovative companies involved in technological solutions for agriculture. Serbia's digital infrastructure was recognized as the cornerstone for agricultural innovation and integral to the fusion of agri-environmental data collection and analysis. This digital progress is also driving the creation of diversified non-farm employment opportunities—key to the sustainable growth of rural communities.

North Macedonia also has some tech companies involved in digital agriculture. **Bosnia and Herzegovina** and Montenegro BiH have potential in fostering interactions between agriculture and non-agricultural activities for rural development, such as mountainous livestock management combined with CSA solutions and food safety regulations based on flexibility rules linked with tourism. Thousands of food producers in **Albania** make their products on the farms, at home and in small establishments as part of the traditional cultural heritage. To sustain this kind of production and get the products safe to the consumers, a system of "simplified" food safety rules was introduced and called National Flexibility Measures. The measures are customized for small scale producers and family businesses—as against the hygiene measures designed for larger mainstream agrifood companies. By this measure, the diversity of high-quality food products, cultural heritage and livelihoods can be preserved while food safety and hygiene standards can also be

38 The acronym "LEADER" derives from the French phrase "Liaison Entre Actions de Développement de l'Économie Rurale" which means, "Links between activities for the development of rural economy".

met. **Kosovo's** rural communities are among the least developed in digital infrastructure and face a pronounced need for the creation of non-farm job opportunities.

R7. Knowledge transfer & agricultural knowledge and innovation system (AKIS)

In the Western Balkans, while organizational structures and capacities in extension services vary, all face the common challenge of digitalizing and making farm advisory services more inclusive and accessible, particularly for small and marginalized farmers. The private sector's role in delivering some farm advisory services is evolving, especially in Serbia and North Macedonia.

The WB6 countries need to emphasize strengthening the knowledge transfer and agricultural knowledge and innovation system (AKIS) with designated human and financial resources and materialize the AKIS to develop new business models that will facilitate efficiency gains associated with CSA practices.

1. Invest in agri-environmental data collection and monitoring of agri-environment indicators, FADN/FSDN in the EU as well as decision support tools (agroclimatic info, soil mapping and information, spatial zoning) with area/site-specific CSA options and empower smallholder farmers to access digital FAS.
2. Monitoring of designing and implementation of agri-env measures.
3. Facilitation of private delivery of some farm advisory service to make it more accessible to small farms and support human capital development on aspects related to the environment, climate, and finance and fund vocational training/workshops on entrepreneurial and business skills.
4. Digital and inclusive provision of farm advisory service and extension: Systematically develop digital channels for CSA promotion and establish CSA dissemination channels (farmers field schools, farmers to farmers, digital platform, etc.) to educate and train farmers on digital literacy, and guide and support them in assessing the digital channels for CSA knowledge, information on funding schemes and application processes.
5. Increase the capacity of agricultural education, research, extension, and farm advisory services, both generally and for adapting to climate change.

<i>Development level by country</i>	<i>ALB</i>	<i>BiH</i>	<i>MKD</i>	<i>MNE</i>	<i>KOS</i>	<i>SRB</i>	<i>Priority</i>	<i>Complexity</i>
Build capacity of agricultural education, research, and farm advisory services on greening								
Monitoring of designing and implementation of agri-env measures								
Digital and inclusive provision of farm advisory service and extension								
Facilitation of private delivery of some farm advisory service to make it more accessible to small farms								
Invest in data collection and monitoring of agri-env indicators, FADN/FSDN in the EU								
<i>*Scoring for development level by countries / priority level / complexity (implementation difficulties).</i>								
Low	Medium						High	
<i>Development level by countries / Priority level / Complexity (implementation difficulties).</i>								
<i>*Scoring was provided by technical consultant and adjusted in consultation with counterparts.</i>								

WB6 countries exhibit varied stages of development in agricultural research, extension, education, and advisory services with some countries developing more in such services and others grappling with challenges such as limited resources, the need for qualified professors, and the development of modern, innovative curricula.

Serbia is renowned for its robust agricultural research, education and extension system rooted in its Yugoslavian heritage, which boasts several institutions offering a diverse array of programs in agricultural sciences. With a robust foundation in agricultural education and extension services, Serbia is well-positioned to integrate agri-environmental aspects into these domains. Yet, there is a notable need to modernize these services to support the contemporary environmental agenda. Despite this advancement, Serbia is aware of the shortfall in comprehensive data collection and monitoring systems. Prioritizing soil health, nitrate levels, and greenhouse gas (GHG) emissions monitoring is pivotal for informed agricultural policymaking and adaptation, paving the way for the gradual implementation of EU-aligned systems such as the Farm Sustainability Data Network (FSDN).

Montenegro's journey towards sustainable agriculture includes significant progresses in digitalization, including making agricultural advisory services more inclusive and accessible, thereby benefiting small-scale and marginalized farmers. A combination of government and donor-funded projects are driving this digital and advisory transformation. Albania is grappling with the task of not only establishing but also modernizing the AKIS-like services to meet both domestic and European Union standards, indicating a need for the involvement of the private sector in agricultural extension and advisory services. BiH's agricultural advisory services also require modernization to better support the growing interest in sustainable practices. However, the presence of varying levels of development in these services across different administrative regions complicates the delivery of cohesive and comprehensive advice to farmers. Kosovo recognizes the transformative potential of digitalization in agricultural advisory services. Efforts are underway to ensure these services are inclusive, empowering small-scale and marginalized farmers through sustainable practices. Yet, the path to digital transformation and innovation relies heavily on continued government and international donor support. While initiatives are in place to involve the private sector in delivering farm advisory services, the importance of public investment and international aid in catalyzing the adoption of sustainable methods is evident.

Currently, there are no systematic environmental data collection tools or systems, which makes it hard to collect and monitor agri-environmental indicators in WB6. These indicators are often overlooked in policy design and implementation. Countries closer to the EU have been implementing the Farm Accountancy Data Network (FADN) for years and are now transitioning towards the Farm Sustainability Data Network (FSDN). Albania and BiH are in the early stages of implementing systems akin to the Farm Accountancy Data Network (FADN) that gathers economic and financial data from farms to inform and enhance agricultural policymaking. Serbia, Montenegro, and North Macedonia have made more considerable progress in establishing or even operating FADN-like systems, reflecting their deep reforms and progress towards the EU accession.

As the WB6 countries have a diverse set of agri-ecological zones and natural landscapes, which requires tailored solutions that would not work everywhere (Figure 5.1), it is important for each and every WB6 country to make the above-mentioned investments that enable CSA adoption, strengthen AKIS to help farmers choose suitable CSA technologies and practices, and enhance other public institutions critical for monitoring and verifying agri-environmental outcomes. Learn globally but implement locally is a precondition for successes at the country level in the WB6.

To effectively advance CSAs and enhance the sustainability of agrifood systems, active participation from the private sector is essential. This involvement extends beyond the provision of farm advisory services to encompass a broader commitment to environmental sustainability. Key strategies include:

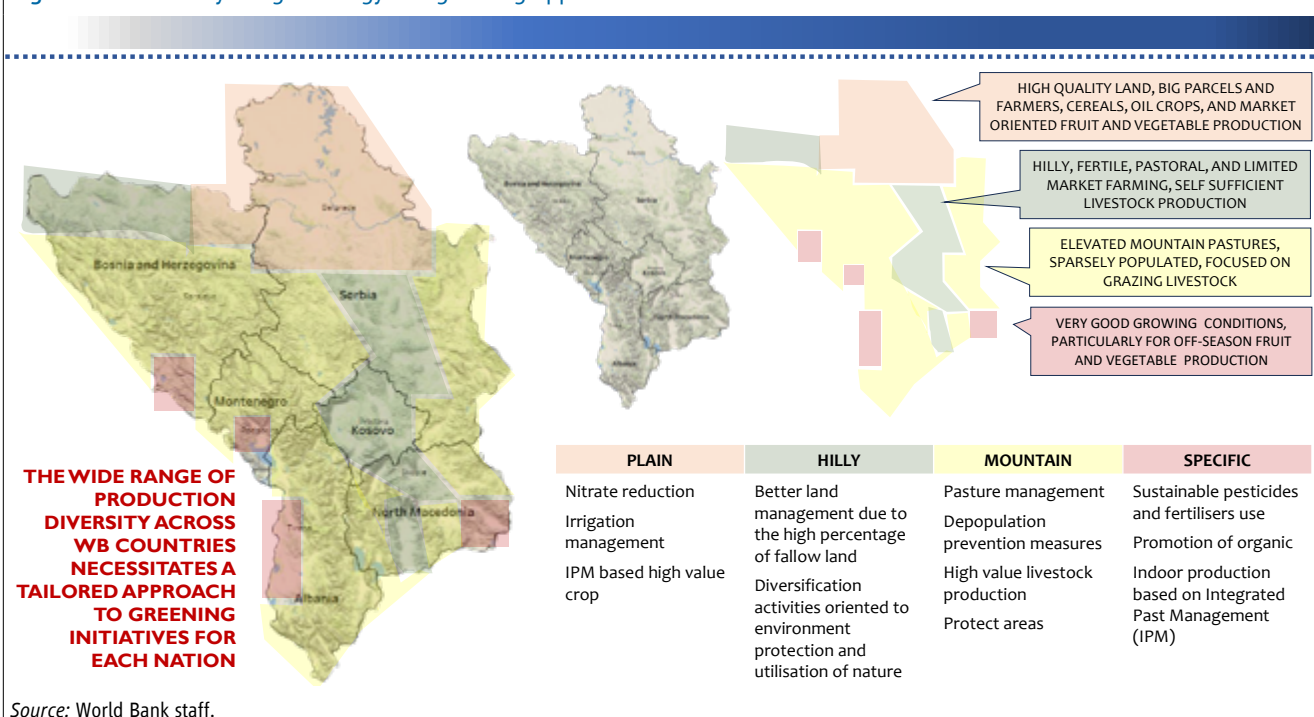
- » Encouraging private sector investment in innovative CSA-related business ventures, particularly in rural areas, with a focus on creating opportunities for women and youth. This includes investments in digital agriculture, infrastructure, agricultural services, and entrepreneurship, which serve as catalysts for scaling CSA initiatives. Additionally, efforts should be made to mitigate risks within value chains at strategic entry points for food system transformation.

- » Collaborating with the sustainable finance community to establish and promote sustainability standards, such as Environmental, Social, and Governance (ESG) criteria or agricultural carbon credit market readiness. This collaboration aims to expand climate finance opportunities within the agrifood sector and to develop and test risk-sharing mechanisms and financial instruments, while also drawing on existing capacities and expertise.
- » Providing incentives and regulatory measures to encourage the private sector to engage in behavior change communication to help generate consumer demand for sustainably produced, high-quality animal and plant-based proteins, as well as alternative protein sources, which are integral to healthy and nutritious diets.
- » Fostering innovation partnerships with private sector entities, farmer organizations, and academic institutions to explore and implement cutting-edge approaches for scaling CSA practices.

Lastly, aligning the dual structure of WB6 farms with two complementary pathways approaching the greening agenda is recommended. The two complementary pathways catering to small-medium and large farms towards CSAs offer quick wins in scaling up farm-level good practices. Both scenarios require incentives and capacity building for not only farmers but also institutions.

- » The first is at a smaller, affordable, and incremental scale and through farmer-to-farmer replication approach, small and medium sized farmers can adopt simple management systems such as planting cover crops, minimum/ no tillage, crop rotation, managing water resources and soil health, or land use planning with information. It requires lower investment (e.g., one-time grant support) and less institutional support as well as simple farm services outreach for CSA practices and technologies. Small private financing of green investments in agriculture can be explored as well, such as pay-as-you-grow consumer financing for smallholder farmers in solar water pumps for irrigation and good fertilizer practice.
- » The second pathway is through more complex structural practices and larger-scale efforts with government and private sector support, the uptake of good practices (such as innovative irrigation systems, importing supplemental feed, genetic improvements of dairy performance, payments for environmental services, insurance mechanisms) can be widely and swiftly promoted among large farmers.

Figure 5.1 Diversity of agri-ecology and greening opportunities in the WB6 countries



Source: World Bank staff.

