

Strategic Transformation in Agriculture and Rural Space (STARS RAS)

Using Priority-setting and Theory of Change Methods for Developing Results-based Food and Bioeconomy Strategies in Croatia

Methodological Guidance Note for Stakeholder Consultations

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EUROPEAN AGRICULTURAL FUND FOR RURAL DEVELOPMENT:

EUROPE INVESTING IN RURAL AREAS

MEASURE TECHNICAL ASSISTANCE

**EUROPEAN MARITIME AND FISHERIES FUND
MEASURE VII.1. TECHNICAL ASSISTANCE**



1. Introduction

The purpose of this Guidance Note is to provide both practical and technical guidance on using priority-setting and theory of change methods for the development of results-based strategies for the food and bioeconomy in Croatia. This Note builds on the Food and Bioeconomy Policy Note prepared by the World Bank as part of the ongoing National Development Strategy (NDS) Reimbursable Advisory Services (RAS) engagement with the Ministry of Regional Development and EU Funds (MRDEUF) as well as the Diagnostic Report prepared by the World Bank in the context of the ongoing Strategic Transformation of Agriculture and Rural Space (STARS) RAS engagement with the Ministry of Agriculture. Reports produced under these World Bank engagements lay out the main macro-trends and issues, key challenges and opportunities, and drivers shaping the future of Croatia's food and bioeconomy. This Guidance Note seeks to outline a stepwise approach to translating the situation appraisal of Croatia's food and bioeconomy into a results-based strategy that is focused on addressing the critical challenges facing the food and bioeconomy in Croatia. To this end, the Guidance Note is organized as follows:

- Section 2, *Background*, explains the purpose of priority-setting and theory of change methods in the development of results-based strategies. It also lays out the guiding principles and the key steps in the development process.
- Section 3, *Using Priority-setting and Theory of Change Methods for Developing Results-Based Food and Bioeconomy Strategies*, highlights the principal lessons learned from global practices in applying priority-setting and theory of change methods. It then elaborates the key steps in using priority-setting and theory of change methods and tools for the development of a results-based strategy for Croatia's food and bioeconomy.
- Section 4, *Next Strategic Planning Stages and Formats*, briefly discusses how the priority-setting and theory of change approach will be translated into next steps.
- Section 5, *Resources*, includes a list of references for future use.

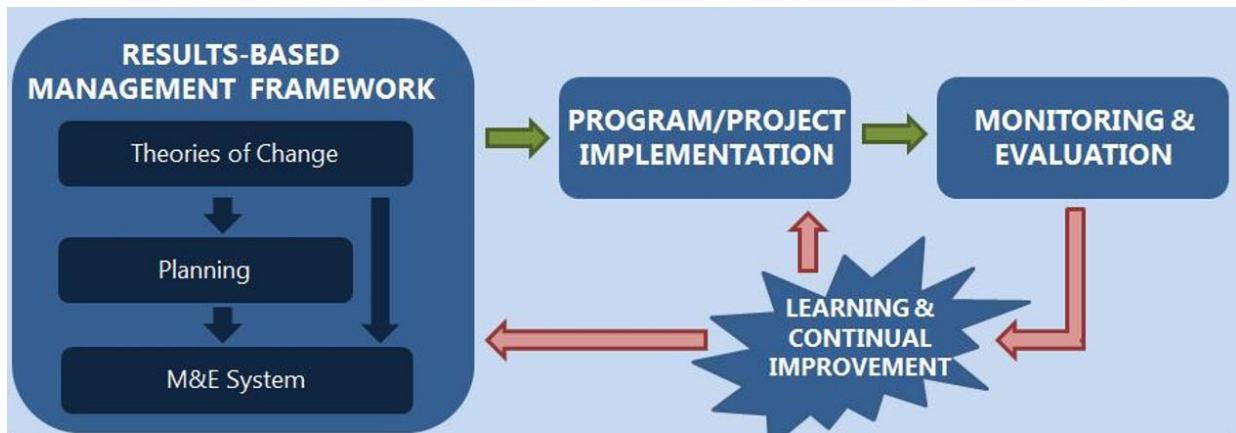
2. Background

2.1. What are Results-based Strategies?

Results-based strategies effectively gear both stakeholders and resources towards the achievement of desired development goals and results. In the context of results-based strategies, the assets, processes, products, and services of all stakeholders involved in and targeted by the strategy contribute either directly or indirectly to a set of development goals and results. Therefore, the success of results-based strategies generally depends on clearly defined roles and responsibilities for results and requires progress monitoring and evaluation, including regular reporting. In fact, results-based strategies fit into a broader “adaptive management” cycle in which a tight feedback loop between planning, implementation, monitoring, and evaluation supports a culture of learning and continual improvement that enables organizations to become progressively more effective and efficient at meeting its goals (see Figure 1). Overall, three features distinguish results-based strategies from conventional, implementation-focused strategies: (i) *Accountability* (including a focus on desired results versus rules or processes); (ii) *Ownership* (including a close alignment between stakeholder needs and interventions); and (iii) *Inclusiveness* (including an

emphasis on stakeholders defining desired results). These three features are embedded in results-based strategies throughout the adaptive management cycle.

Figure 1: Adaptive Management Cycle



Source: World Bank staff

2.2. Why Use Priority-setting and Theory of Change Methods for Developing Results-based Strategies?

We live in a resource constrained world. Priority-setting is important in enabling any entity – a private firm, a public institution, or a county – to achieve its strategic vision. That strategic vision is a manifestation of many things, principal among them the long-term goals that motivate that entity or organization. But not all desired goals and objectives can be achieved. Resources are inevitably limited. Tradeoffs and compromises among desired goals and objectives must be made. In a resource-constrained environment, the priority-setting process is thus critical in identifying interventions and investments – and the associated allocation of resources – that are expected to successfully address those future goals and objectives.

Criteria and assumptions guiding policy decisions should be explicit and transparent. In addition to resource constraints, priority-setting efforts are typically limited by other factors. The outcomes of priority-setting efforts are conditional on the *criteria* that constrain the selection of priority policies and interventions. It is thus important to explicitly identify the criteria that frame priority-setting efforts. In the public sector, public demands for transparency and accountability provide additional reasons for making these criteria explicit and transparent. Ultimately, it is the *impacts* of priority interventions in helping achieve long-term policy goals that are of paramount importance. Finally, operational and political realities invariably constrain the choices of priority interventions.

The EU policy environment for the food and bioeconomy is changing. In the case of Croatia’s food and bioeconomy – encompassing the country’s agriculture, food processing, fisheries and related input and output sectors – a successful priority-setting effort is important for two additional reasons. First, the 2018 legislative proposals for the EU’s Common Agricultural Policy (CAP) and European Maritime and Fisheries Fund (EMFF) beyond 2020 identify common policy objectives, operational goals and administrative features that will significantly influence EU

member states' decision-making. The overall goals of the future CAP and EMFF (in support of the implementation of the Common Fisheries Policy and Integrated Maritime Policy) are to simplify and modernize policy operations by “shifting the emphasis from compliance and rules towards results and performance.”¹ The new program delivery models seek to achieve their objectives by explicitly focusing on “strategic planning, broad policy interventions and common performance indicators.”² As shown in Table 1, three general CAP policy objectives and nine specific objectives have been identified,³ whereas three policy objectives (outlined in the Common Provisions Regulation (CPR) for the European Structural and Investment Funds⁴) and four priorities have been identified for the EMFF.⁵

These general and specific objectives and priorities, along with the operational goals outlined in EC documents, provide an overarching framework for establishing strategic priorities and targeting interventions at the country level. Common EU objectives, indicators and interventions substantially define the backdrop for EU Member State identification of needs, tailoring of interventions, and implementing and assessing progress toward targeted goals. While EU Member States will have greater flexibility in meeting the common objectives, those objectives are clearly identified and a system of checks and balances with common performance indicators will be established to ensure that both producers, operations, and Member States meet their obligations. The performance of these activities and investments will be monitored and evaluated on the basis of a standardized set of indicators that is linked both to the programming requirements of the CAP and EMFF as well as the performance monitoring framework governing the national development strategy (NDS) (see below). The ultimate success of these performance monitoring and evaluation efforts will depend in large part on the identification of specific activities and investments that are clearly linked to prioritized policy goals and objectives on the one hand, and associated M&E indicators on the other. Successful priority-setting is critical to this entire process.

Croatia's long-term strategic directions are adjusting in response to the changing EU policy environment. Croatia is engaged in a comprehensive process of long-term national strategic planning through the current elaboration of its Horizon 2030 National Development Strategy

¹ European Commission, *EU Budget: The CAP After 2020*, https://ec.europa.eu/commission/sites/beta-political/files/budget-may2018-modernising-cap_en.pdf

² European Commission, *Commission Staff Working Document: Impact Assessment, Part 1*, https://ec.europa.eu/commission/sites/beta-political/files/budget-may2018-cap-swd-part1_en.pdf

³ The most recent elaboration of these objectives is in: Council of the European Union, Proposal for a Regulation of the European Parliament and of the Council establishing rules on support for strategic plans to be drawn up by Member States under the Common agricultural policy (CAP Strategic Plans), Interinstitutional File 2018/0216(COD), 1 March, 2019.

⁴ European Commission, Proposal for a Regulation of the European Parliament and the Council laying down common provisions on the European Regional Development Fund, the European Social Fund Plus, the Cohesion Fund, and the European Maritime and Fisheries Fund and financial rules for those and for the Asylum and Migration Fund, the Internal Security Fund and the Border Management and Visa Instrument, 29 May, 2018. https://ec.europa.eu/commission/sites/beta-political/files/budget-may2018-common-provisions_en.pdf

⁵ European Commission, Proposal for a Regulation of the European Parliament and the Council on the European Maritime and Fisheries Fund and repealing Regulation (EU), 12 June, 2018, https://eur-lex.europa.eu/resource.html?uri=cellar:2e307ce2-6e87-11e8-9483-01aa75ed71a1.0001.02/DOC_1&format=PDF

(NDS). Promoting economic competitiveness, innovation, environmental sustainability, inclusion and citizen-orientation are key emerging national development directions under this strategic

Table 1. Proposed EU Policy Objectives

CAP		EMFF	
<i>Policy objectives</i>	<i>Specific objectives</i>	<i>Policy Objectives (CPR)</i>	<i>Priorities</i>
Foster a smart, resilient, and diversified agricultural sector ensuring food security	<ol style="list-style-type: none"> 1. Support viable farm income, resilience and food security 2. Enhance market orientation and competitiveness; more focus on research, technology and digitalization 3. Improve farmers' position in value chains 	A smarter Europe by promoting innovative and smart economic transformation	<ol style="list-style-type: none"> 1. Contributing to food security in the Union through competitive and sustainable aquaculture and markets;
Bolster environmental care and climate action and contribute to the environmental- and climate-related objectives of the Union	<ol style="list-style-type: none"> 4. Contribute to climate change mitigation & adaptation, and sustainable energy 5. Foster sustainable and efficient management of natural resources: water, soil, air, etc. 6. Protect biodiversity, enhance ecosystem services, preserve habitats and landscapes 	A greener, low-carbon Europe by promoting clean and fair energy transition, green and blue investment, the circular economy, climate adaptation and risk prevention and management	<ol style="list-style-type: none"> 2. Fostering sustainable fisheries and the conservation of marine biological resources 3. Strengthening international ocean governance and enabling safe, secure, clean and sustainably managed seas and oceans.
Strengthen the socio-economic fabric of rural areas	<ol style="list-style-type: none"> 7. Attract and sustain young farmers and facilitate rural business development 8. Promote employment, growth, social inclusion, and local development in rural areas, including bioeconomy and sustainable forestry 9. Improve response of EU agriculture to societal demands: safe & nutritious food, sustainable food production, limit food waste, animal welfare 	A Europe closer to citizens by fostering the sustainable and integrated development of urban, rural and coastal areas and local initiatives	<ol style="list-style-type: none"> 4. Enabling the growth of a sustainable blue economy and fostering prosperous coastal communities;

planning effort. In addition, priority-setting, in part based on stakeholder input at the national and sector level, has been a key component of the process. In the context of the food and bioeconomy, planning efforts are focused on outlining a targeted set of activities and investments that can help achieve the overall goal of “accelerating the structural transformation of Croatia’s agri-food sector.”⁶ These activities and investments may include measures to increase chronically low productivity of the agricultural sector, strengthen the enabling environment for agri-food businesses, support the currently fragmented agricultural knowledge and innovation system (AKIS), and engage in policy reforms in line with new CAP and EMFF programming requirements.

Explicit evaluation criteria and intervention logics help establish a framework for learning and adaptive management both within and between strategic programming cycles. By defining evaluation criteria, mapping the causes of a development problem, making explicit assumptions on how the proposed strategy is expected to deliver desired development goals and results, and assessing these assumptions against available evidence, priority-setting and theory of change methods help ensure that priority interventions are underpinned by a sound logic. By doing so, they also enable the adaptive management of program interventions if selected solutions are not working or if anticipated risks materialize. New learning generated by monitoring and evaluating programs in line with the underlying theory of change help refine assumptions and guide decisions on how a strategy or response option should be adapted to deliver desired results.

A clear theory of change enables improved communication regarding strategic plans and programs. A ‘theory of change’ explains, on the basis of a stated mission and situation appraisal, how activities are believed to deliver a series of results that contribute to achieving long-term development goals. It can be developed for any level of intervention – an event, a project, a program, a policy, a strategy or an organization. A theory of change diagram or short text that clearly articulates a program’s goals and strategy for making necessary changes happen, can help program management authorities better communicate the program to beneficiaries and other stakeholders. By emphasizing impact pathways, a theory of change can also help counterbalance discussions focused solely on resources, activities, and outputs.

2.3. How to develop results-based strategies using priority-setting and theory of change methods?

2.3.1. Guiding Principles

Although the priority-setting and theory of change methods proposed below focus specifically on Croatia’s agriculture, food and fisheries sectors, it is important to recognize that most successful methods, regardless of the specific context, share a number of common features. It is useful to review some of these guiding principles that, with appropriate modification and fine-tuning, generally apply. The discussion related to priority-setting processes draws largely from three areas in which these processes have received especially significant attention among practitioners and in the academic literature: agricultural research, health care provision, and environmental quality

⁶ World Bank, *Agriculture, Fisheries, and Food Processing in Croatia’s Food and Bioeconomy* - DRAFT Policy Note, January, 2019.

management, including responses to climate change.⁷ The discussion related to theory of change methods mainly draws from the field of Project Management, Monitoring and Evaluation.⁸ The guiding principles are largely generalizable.

Clearly identify goals and objectives. Measuring eventual success in terms of the investments and activities that emerge from priority-setting and theory of change development efforts depends on identifying the *specific goals and objectives* those interventions are designed to address. It is important, then, from the outset, to explicitly identify desired goals and objectives. In the case of Croatia's food and bioeconomy, the general and specific objectives and priorities of the CAP and EMFF have already been identified (see Table 1). In the case of the CAP, the European Commission has also identified three cross-cutting objectives pertaining to modernization and simplification of the CAP: 1) further improve sustainable development for farming, food and rural areas; 2) promote modernisation by fostering knowledge, innovation and digitalisation in the agricultural sector and rural areas; and 3) address simplification and policy performance. All of these goals are broad ones and entail balancing and tradeoffs.

Base priority-setting and theory of change on situation appraisal and analysis of available evidence. As noted above, the identification of critical challenges and possible response options (policy changes, programs, investments, etc.), as well as the criteria on which those response options are evaluated, must be based on a comprehensive appraisal of the circumstances which characterize a given area or sector and the goal of addressing them. Similarly, a *theory of change*, which explains through a cause and effect chain how a given response option is expected to achieve specific development goals and results, must provide a causal analysis based on available evidence. Situation appraisal (sometimes called a SWOT – Strengths, Weaknesses, Opportunities, Threats – Analysis) can involve any number of macro- and sector-level trends and issues, depending on the context. In terms of Croatia's food and bioeconomy, this can include assessment of:

⁷ Useful references include the following: in agriculture, J.M. Alston, G.W. Norton, and P.G. Pardey, *Science under Scarcity: Principles and Practice for Agricultural Research Evaluation and Priority Setting*. Cornell University Press, 1995; P.K. Thornton, et al., "A Framework for Priority-Setting in Climate Smart Agriculture Research," *Agricultural Systems* 167, 161-175, 2018. <https://www.sciencedirect.com/science/article/pii/S0308521X18301288>; In health care: M.P.M. Jansen, R. Baltussen, and K. Børø, "Stakeholder Participation for Legitimate Priority Setting: A Checklist," *International Journal of Health Policy and Management*, 2018. 973-976, http://www.ijhpm.com/article_3514_3ad2240d1138a5a9b4f979e3e003a4ee.pdf; F. Terwindt, D. Rajan, and A. Soucat, "Priority-setting for national health policies, strategies and plans." Ch. 4 in G. Schmets, D. Rajan, and S. Kadandale, eds. *Strategizing National Health in the 21st Century: A Handbook*. Geneva: World Health Organization, 2016, <http://apps.who.int/iris/bitstream/handle/10665/250221/9789241549745-chapter4-eng.pdf;jsessionid=A2D4875DCC1FCC2B1C2AFD441C3EC0E9?sequence=36>; M.L. Specchia, et. al., *How to choose health technologies to be assessed by HTA? A review of criteria for priority setting, 2015* http://www.epiprev.it/materiali/2015/EP2015_I4S1_039.pdf; In environmental management: W.J. Sutherland, et al., "Methods for collaboratively identifying research priorities and emerging issues in science and policy," *Methods in Ecology and Evolution*, 2: 238247, 2011. http://www.cpsg.org/sites/cbsg.org/files/2013_AM/Sutherland%20et%20al.%202011.pdf

⁸ Useful references include the following: W. Allen, "Theory of change for planning and evaluation," Learning for Sustainability webpage, www.learningforsustainability.net/evaluation/theoryofchange.php; BetterEvaluation, "Develop Programme Theory/Logic Model," BetterEvaluation webpage, http://www.betterevaluation.org/plan/define/develop_logic_model; I. Vogel, "Review of the use of 'Theory of change' in international development," Review Report, U.K. Department for International Development, London, 2012, see http://www.theoryofchange.org/wpcontent/uploads/toco_library/pdf/DFID_ToC_Review_VogelV7.pdf

- Status and trends in Croatia’s rural sector: economic growth, poverty, employment, demography, etc.
- Policy environment, including CAP, CFP/IMP, and Cohesion Policy
- Trends in consumer food demands
- Trends in agricultural and fisheries production
- Trends in agri-food industry firm production, markets and marketing, strategic behavior
- Developments in international trade and competitiveness
- Environmental and climate change constraints and trends
- Trends and composition of public spending and resources for agriculture, food and fisheries
- Trends in technology, including digital technologies
- Knowledge, innovation and research systems: capacity, constraints, potential
- Capital and credit markets and associated issues: private and public sources of financing, access, risk and risk management, insurance

A comprehensive and realistic situation appraisal should provide the groundwork for an *evidence-based* priority-setting and theory of change development process, starting with the identification of the main strategic challenges to be addressed by the future strategy. Moreover, an evidence-based approach can help stakeholders systematically think through the many root causes of development problems, and how they influence each other, when determining which one a program should address as a priority to maximize its contribution to achieving development goals and results.

Make priority-setting criteria and assumptions explicit. Addressing the multiple objectives identified under the CAP and EMFF inevitably involves tradeoffs and compromises in establishing priorities. For this reason, as alternative measures – policy reforms, sector interventions, public investments, etc. – are considered, the *criteria* by which they are assessed should be made explicit. Explicit identification of assessment criteria and assumptions about how response options are expected to achieve desired development goals and results encourages transparency, accountability and public discussion. This also increases the likelihood that the costs and expected benefits of policy choices can be made clear *ex ante*, so that not only the benefits but the potential costs and disadvantages of potential interventions are understood from the outset. This reduces the likelihood of unintended consequences. Priority-setting criteria can be both *objective* (for example, likely contribution to GDP and employment) and *subjective* (political aspects, social concerns).

Perhaps most importantly, explicitly identifying decision criteria and assumptions is necessary for a careful assessment and evaluation of possible response options. In this regard, the different objectives identified under the CAP and EMFF *themselves* define criteria by which different policy measures and investments can be assessed *ex ante*. For example, to what extent is a particular member intervention under the CAP likely to increase farm income and support resilience, enhance competitiveness and market orientation, and improve farmers’ position in value chains? To what extent will this measure contribute to climate change mitigation and adaptation, foster a sustainable and efficient management of resources, and preserve nature and landscape? And so forth. Other

more specific decision criteria – often specific manifestations of broader objectives – may also be used for priority-setting.⁹ Depending on the context, the following criteria may be included:

- Identifying consumer demands, and producer and firm needs
- Strategic positioning of the sector or area in international markets
- Technical feasibility and effectiveness (organizational, implementation, etc.)
- Benefits and likely impact pathway(s) of response option, including time horizon and distribution of impacts on key actors, risks and obstacles encountered
- Cost, cost-effectiveness, and efficiency
- Comparative advantages of public vs private sector vs partnership roles and responsibilities
- Innovation potential (e.g., potential to be a “game-changer”)
- Social criteria: social-cultural acceptability, equity, fairness

A recent article summarizes the importance of decision-making on the basis of explicit criteria and transparency:¹⁰

“In an explicit process it is clear who made which decisions, the criteria used, whether the criteria used were met, what evidence was considered and whether the evidence was adequately assessed, whether appropriate values were employed, who was consulted, whether those giving advice had significant conflicts of interest and how the various trade-offs were made.”

Ensure stakeholder participation. The participation of stakeholders is an important part of successful priority-setting and theory of change development. Stakeholder participation enables the incorporation of the skills, experiences, knowledge and viewpoints of many different people in the process. The inclusion of stakeholders in priority-setting has many advantages – so many, in fact, that it is broadly considered as a required element of public sector priority-setting. Similarly, while a theory of change must be driven by sound evidence and analyses, consultation with key stakeholders is key to deepening understanding of what works and what does not in different contexts. Perhaps most importantly, stakeholder participation is seen as a means to assure that public programs or interventions are effective in attaining their intended goals, and efficient in the use of resources that are employed. Since many public sector interventions entail assumptions about human responses and behavior – whether to adopt a technology, make a purchase, or make an investment, for example – stakeholder input is widely employed to gauge the likely impacts of those interventions. Additionally, stakeholder participation is widely viewed as a means to improve the quality and coverage of program outcomes; disseminate information about public interventions and programs; mobilize stakeholder and community participation in such programs; and ultimately, help facilitate the qualities that are important for the sustainability

⁹ Priority-setting criteria need not be many, or complicated. A commonly used set of criteria in the health care sector, for example, consists of just three: 1) benefits, 2) resources, and 3) severity (Norwegian Ministry of Health and Care Services, *Principles for Priority Setting in Health Care*, 2017. <https://www.regjeringen.no/contentassets/439a420e01914a18b21f351143ccc6af/en-gb/pdfs/stm201520160034000engpdfs.pdf>

¹⁰ K. Chalkidou, A. Glassman, R. Marten, J. Vega, Y. Teerawattananon, N. Tritasavit, et al., “Priority-setting for achieving universal health coverage,” *Bulletin of the World Health Organization* 2016;94(6):462–75 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4890204/>

of public interventions: assuring public trust and legitimacy, accountability, and transparency. There are many different approaches to incorporating stakeholder participation in results-based strategy development (for example, Participatory Impact Pathway Analysis) and participatory approaches can be built into many of the specific priority-setting and theory of change development methods.

Adjust a theory of change in light of changing circumstances as well as monitoring and evaluation outcomes. A theory of change, which articulates an institution, program, or project's belief about how it brings about desired long-term impacts through its support strategies, is most useful when it is approached as a "living" theory that is continually updated and improved. Program management authorities could help expand knowledge of what is working and what is not by broadly communicating their theories of change and updating them as new information and learning is generated through monitoring and evaluation activities. This would help authorities to learn from each other, finetune their approach, and deepen their impact.

2.3.2. Key Steps

The proposed approach recommends six (6) sequenced steps to using priority-setting and theory of change methods for developing results-based food and bioeconomy strategies. Figure 2 lays out the sequenced steps, which are further elaborated in Section 3.2. below, after a brief review of global practices. The steps include:

- 1) *Identify Critical Challenges* that incorporate the situation appraisal (SWOT), stakeholder visions, needs and priorities, and capacities for influencing change.
- 2) *Identify and Score Evaluation Criteria* that guide the prioritization of proposed response options.
- 3) *Identify and Discuss Alternative Response Options* and solutions that address the critical challenges identified (in Step 1), that tackle the root causes of development challenges outlined in the situation appraisal (SWOT), and that contribute to long-term goals and objectives.
- 4) *Prioritize Proposed Response Options* in line with the evaluation criteria established (in Step 2).
- 5) *Articulate Impact Pathways, Assumptions, and Risks* that represent the theory of how prioritized solutions contribute to long-term goals and objectives and what factors may influence future success.
- 6) *Establish national food and bioeconomy priorities, incorporating input from stakeholder consultation outcomes*

Throughout the process, it is necessary to validate the different steps against available evidence and the perspectives of stakeholders.

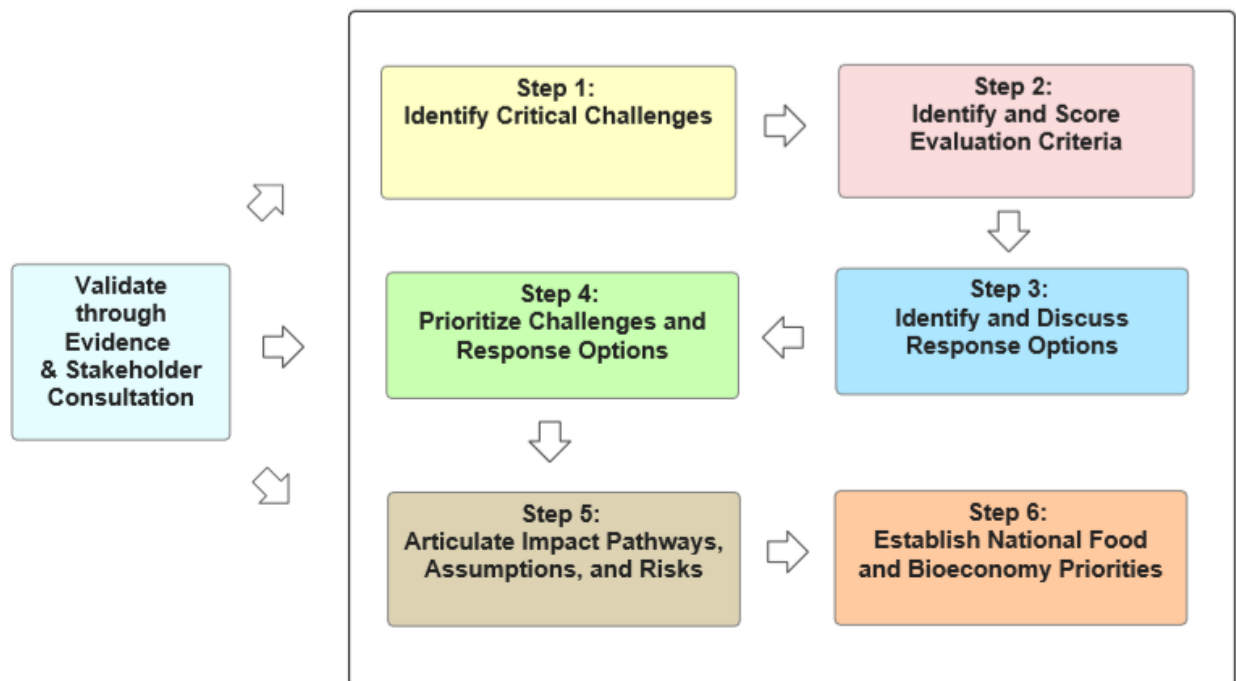
3. Using Priority-setting and Theory of Change Methods for Developing Results-Based Food and Bioeconomy Strategies

3.1. Lessons Learned from Global Practices

3.1.1. Priority-setting

The use of any priority-setting methodology should follow a comprehensive appraisal and evidence-based situation analysis. The situation appraisal can contain many elements, often summarized in the “SWOT” elements noted above, and including analysis of historical data and the relevant academic and practitioner literature, developing a sector profile, mapping (of policies, governance, financial support and expenditures, partnerships, etc.), and an assessment of current sector performance.

Figure 2: Step-wise approach to using priority-setting and theory of change methods for developing results-based food and bioeconomy strategies



Source: World Bank Staff

The use of specific methodologies is only part of the priority-setting process.¹¹ Many priority-setting efforts employ multiple methods in the evaluation of alternative investments and interventions, ranging from the simplest (consultation, expert judgement, etc.) to the most complex (multi-sector econometric modeling). *The outputs from these methods – any methods – should be used as only one tool in priority-setting.* It can be tempting to use the results of quantitative priority-setting methods, in particular, in a mechanistic fashion in developing priorities as they typically provide numerical results and explicit rankings of alternatives. While this quantitative information can be useful, these tools should best be viewed as instruments that facilitate, but do not themselves determine, the priority-setting process.

There are many specific approaches and methodologies that can be employed in priority-setting. As noted above, for the purposes here, priority-setting methodologies that have been employed in three areas – agriculture and agricultural research, health care delivery, and environmental management, including climate smart agriculture – are particularly relevant.¹² Following below is a brief summary of alternative priority-setting methodologies that have been widely used in many countries and contexts, and that are widely available (some more than others). They include relatively simple, mostly qualitative methods or approaches, methods of moderate complexity, and more complex quantitative methods, some of which entail the use of massive data bases and great analytical complexity. These are summarized in more or less increasing order of complexity:

- **Stakeholder Consultation** – Although how this is accomplished may vary in specific applications, stakeholder consultation should be part of any priority-setting process, as emphasized above. Consultations can consist of in-depth interviews and/or open-ended discussion with stakeholders and experts, in which they contribute their experiences, opinions, and viewpoints; community and stakeholder fora in which a wide variety of inputs can be solicited; and brainstorming exercises or meetings. A variety of more structured approaches can be used. Examples of these include: group interviews, either in structured or semi-structured formats; focus groups, where participants are selected on the basis of explicit criteria and some sort of group interaction generates insights that would otherwise not be available; and various types of consensus-building approaches, typically with small groups. Simple preference ranking and voting (often, multi-voting) exercises can be employed in small group settings, with aggregated preferences or rankings revealing group priorities.
- **Congruence Analysis** – This method has often been used, in combination with expert judgment and other methods, in the allocation of resources and program funding, for example, in areas such as agricultural research. Congruence analysis prioritizes resources for research funding, for example, on the basis of a given commodity's share of collective output value or productivity rankings. Applied to priority-setting, congruence models simply rank priorities on the basis of a single criterion. As this approach reflects the status quo, this is a highly conservative approach to resource allocation, though it is simple,

¹¹ Raitzer, D.A. and Norton, G.W. (eds.) 2009. *Prioritizing agricultural research for development: Experiences and lessons*. CABI Wallingford, UK.

¹² See abovementioned references, including those noted in footnote 5, for broader discussions of the priority-setting methods briefly mentioned here.

transparent and inexpensive. The approach is very problematic as a means of resource allocation as it ignores impacts at the margin, provides limited scope for stakeholder input, and does not account for expected changes over time.

- ***Delphi Technique*** – The Delphi technique (which incorporates many different variants, is a group consensus-building methodology that aggregates input of stakeholders (often that of “experts”) through an iterative series of questionnaires, summaries of results, and feedback to participants. Eventually the group eventually arrives at a consensus decision – in this case, of priority response options. Depending on how the Delphi approach is administered, it can have significant disadvantages as it is time-intensive, requires many successive inputs that participants may find tiresome, and the results are sensitive to the phrasing of the questionnaires, the results summaries, and the judgements of those administering the process.
- ***Scoring Methods*** – Scoring models are often used, particularly when there is the need to prioritize options that address multiple criteria or objectives. Many different variants of scoring methods have been used in different applications. Actors or participants in a stakeholder consultation or workshop, for example, may be asked to evaluate a set of response options by a set of explicit criteria, often in a “matrix ranking” format, with each option evaluated ranked according to each criterion. Scores for each option or activity can be added or mean scores derived to arrive at an aggregate ranking across all options. A more sophisticated version of the scoring method uses weights assigned to each criterion to reflect the relative importance of each criterion to stakeholders. The criterion weights can be pre-assigned or, preferably, determined by stakeholders. Weighted scores are then calculated for each option, reflecting the relative aggregate importance assigned to each option across all criteria by all stakeholders. This approach has many advantages: it is flexible in that it can be applied in many contexts; it is easy and inexpensive to administer; it allows for the participation of diverse stakeholders, both specialists and non-specialists; it does not require large, high-quality data; and it can incorporate qualitative considerations. This approach has disadvantages as well, in particular, that the results of a priority-setting exercise are dependent on the participants involved; another set of participants might identify different criteria weights, leading to different priority outcomes.
- ***Analytical Hierarchy Procedure*** – Like the multi-criteria scoring method, this priority-setting procedure incorporates decision criteria associated with each response option. It begins by generating a weight for each decision criterion according to the participant’s pairwise relative evaluations of the different criteria. Then, across each criterion, the procedure calculates a score for each response option depending on pairwise comparisons of the options for that criterion. Lastly, AHP combines the scores for the evaluation criteria with the scores for the response options to create a total weighted value for each option upon which the final priority ranking is based. This method has many of the same advantages and disadvantages as multi-criteria scoring, but with the additional, significant disadvantage that with a large number of evaluation criteria and response options, the number of comparisons that participants need to make becomes cumbersome and highly time-intensive.

- ***Economic Surplus Method*** – An ideal priority-setting approach would capture the net benefits (net of costs) of possible response options, discount those benefits to the present, evaluate the distributional effects of net benefits across different stakeholder groups, be capable of being used *ex ante* not just *ex post*, and be theoretically rigorous. Economic surplus models come the closest to this ideal. Based on basic welfare economics measures of benefit and costs, and underlying measures of consumer and producer surplus, this approach ideally can incorporate all of the abovementioned advantages. In application, however, economic surplus methods are characterized by many practical disadvantages. They are mostly applicable to areas of analysis that have highly developed, transparent markets, in which prices, quantities and costs are observable, measurable, and reported at all stages of the value chain. These conditions are frequently not the case. Economic surplus methods require large elaborate data sets, highly skilled analysts to execute the necessary complications, and adequate time and financial resources to dedicate to the effort. *Ex ante* analysis requires expert opinion to project and predict the likely market effects of different interventions. Finally, due to their complexity, economic surplus methods do not lend themselves to discussion by diverse stakeholders.
- ***Other Modelling Approaches*** – A variety of more complex analytical and modeling approaches can be used in the priority-setting process. The form and structure of these methods depending significantly on the context. For example, in setting priorities for “climate smart” agriculture, available models include¹³: at the micro level, dynamic multi-objective mathematical programming models to assess agricultural production technologies and practices in terms of their food security, climate adaptation and mitigation outcomes, and at the sector and macro level, global integrated partial equilibrium models, such as the IMPACT models of the International Food and Policy Research Institute and the GLOBIOM model of the International Institute for Applied System Analysis. These types of models are typically used in support of policy-level priority-setting efforts, rather than yielding priority rankings directly.

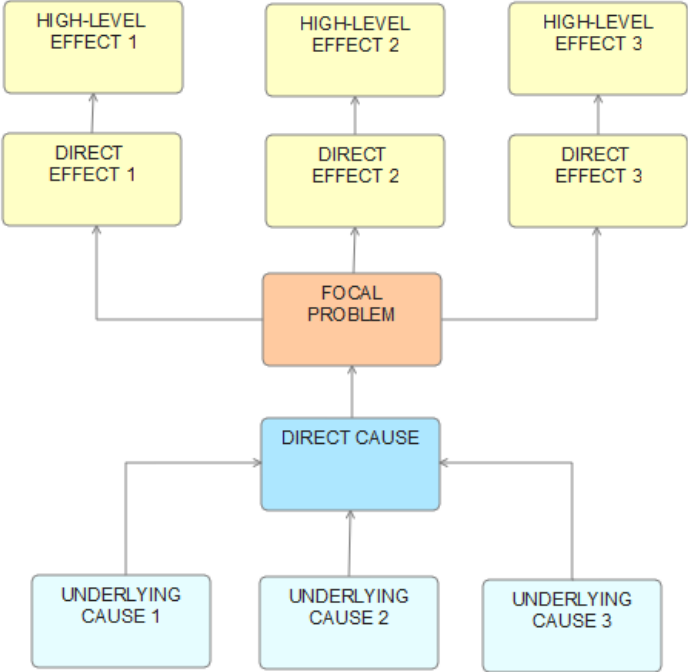
3.1.2 Theory of Change

Problem/Solution Trees are often used as a conceptual basis for exploring possible response options and impact pathways to addressing strategic development problems. The development of a Theory of Change must start with an analysis of the root causes of the development problems that pose strategic challenges to a given sector or area. A widely used tool to examine and map out the root causes of a development problem is a so-called *problem tree*. A problem tree provides a simplified, but robust version of reality, identifying not only the *focal problem* to be addressed, but also the *effects* of the problem, and the root *causes* that contribute to the current situation. Figure 3 provides a (simplified) example of a generic problem tree. A problem tree can encompass both economic, social, and environmental problems and can help identify interrelationships between them. The different branches of a problem tree represent specific intervention areas, which are organized in pathways linking various levels of causes (immediate, underlying and structural) and which can show interlinkages. The cause and effect relationships can be represented in graphic form through arrows and lines demonstrating

¹³ CGIAR, *Foresight and Priority-setting*, Research Program and Climate Change, Agriculture and Food Security, 2018. <https://ccafs.cgiar.org/foresight-and-priority-setting-0#.XEXH8TaWyUk>

relationships horizontally in addition to vertically. Subsequently, the problem tree can be used to develop a so-called *solution tree*. A solution tree helps identify expected solutions for each level of causality of the problem tree, while maintaining the integrity of the logical flow to achieve desired effects. The solution tree does *not* need to be an exact mirror of the problem tree. Instead, the problem tree must be used to ensure that the root causes of the development problem are addressed in the proposed solutions/response options.

Figure 3: Generic Problem Tree



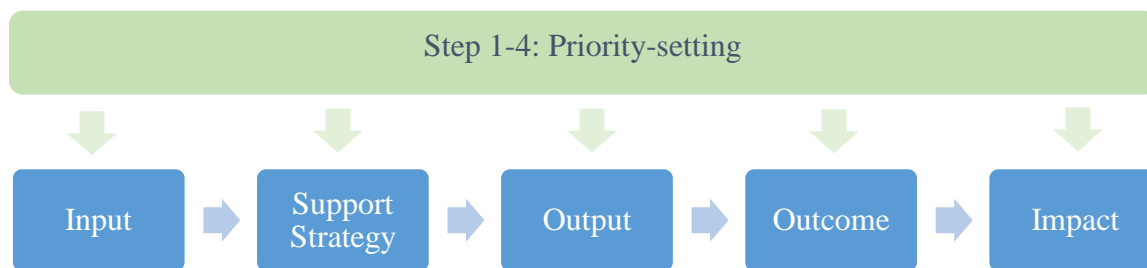
Source: World Bank Staff

There are different ways to present the theory of change underlying a proposed solution by using the solution tree as a conceptual basis. A “logic model” is one of the principal tools used to visually represent the theory of change underlying the impact pathway of solutions proposed as part of the priority-setting process (Step 1 – 4). The logic model (or log frame) is an analytical tool used to plan, monitor and evaluate interventions. It derives its name from the logical linkages set out by the planner to connect an intervention’s means with its ends. The logic model also allows strategic planners and stakeholders to establish and make explicit the related key assumptions underpinning the theory of how change happens and major risks that may affect it. This includes identifying why proposed solutions are the key drivers of change in a given context, which actors are being targeted, what indicators are used to monitor and evaluate results, and the factors that may influence success. There are a number of variations of logic models that are used in the development sector. Some identify goals and objectives, others identify Results and Outcomes. Similarly, there is no consensus on the number of levels in a logic model. Some organizations

subscribe to a four-level model, others have five. Nevertheless, they are all intended to serve the same underlying objectives, serving as: (i) a systematic tool for organizing the intervention’s pathway, including identifying relationships between resources, activities, and results; (ii) a visual way of presenting and sharing the intervention logic; (iii) a tool to identify and assess risks inherent in the proposed design; and (iv) a tool for measuring progress through indicators and means of verification. While there are many versions of logic models, a generic model in the form of a so-called “Results Chain” (see Figure 4) would subscribe to a five-level model that includes the following elements:

- **Inputs:** Resources mobilized by an institution, program, or project to support activities in furtherance of desired long-term impacts. Examples of inputs include financial, human, technical, material, and time resources, and partners.
- **Support Strategies:** A coordinated set of activities through which inputs (financial, human, technical, material and time resources) are mobilized to produce desired results
- **Outputs:** An immediate, direct result of the activities implemented under a support strategy. Outputs comprise the products, goods, and services delivered by an institution, program, or project, as well as the actors reached
- **Outcomes:** Intermediate results flowing from the immediate output of a support strategy that is expected to lead to the desired impact. Outcomes may include changes in actors’ awareness, knowledge, skills, motivation, behavior (e.g. use of technology, management strategies, etc.), and policies
- **Impacts:** Long-term environmental and/or socio-economic changes achieved under the support strategy

Figure 4: Example of a Theory of Change presented in a Results Chain



A theory of change can be used during implementation to identify which indicators must be monitored. A theory of change also provides a logical foundation for identifying and defining indicators that form the basis of a program or project’s performance monitoring framework and implementation arrangements. In an impact evaluation, a theory of change is useful for identifying the data that need to be collected and how they should be analyzed. It can also provide a foundation for reporting. In order to be considered a “good” indicator, a monitoring and evaluation indicator should be.

- *Thematically appropriate:* should measure important results that we intend to influence through our interventions per our theory of change.

- *Relevant and useful*: should provide critical information for informing internal decision-making (e.g., strategic planning and adaptive management) and communication of “headline” results to key stakeholders and partners.
- *Technically sound*: should be clearly defined and measured using data that we will be able to collect in a standardized, accurate, and externally credible manner.
- *Sensitive*: should respond in a timely fashion to changes that are likely to result from activities undertaken.
- *Affordable*: can be monitored cost-effectively within the context of regular audit, reporting, and/or program activities.

3.2. Proposed Approach for Stakeholder-Based Priority-setting and Theory of Change Development

The approach proposed here follows the step-wise approach described below and in Figure 2. The priority-setting approach is based on multi-criteria scoring approaches developed previously in the literature, as reviewed briefly above.¹⁴ This approach has the advantage of lying at a mid-level of complexity among the available alternatives. While ideally a more complex quantitative approach such as an economic surplus model could be employed, this is not possible here given the breadth of problems and issues that are involved in Croatia’s food and bioeconomy, the fact that many of these issues are not quantifiable or able to be incorporated in econometric and other economic models, and widespread data limitations. The six steps are as follows:

1. Identify Critical Challenges
2. Score evaluation criteria
3. Identify and discuss alternative response options
4. Priority-setting of proposed response options
5. Articulate Impact Pathways, Assumptions, and Risks
6. Establish national food and bioeconomy priorities, incorporating inputs from stakeholder consultation outcomes

A brief description of each step follows below:

Step 1. Identify Critical Challenges

As noted previously, all successful priority-setting and theory of change methods are grounded in a comprehensive and realistic assessment of the broad set of goals and objectives, macro and sector trends, issues, and drivers, appraisal of past performance, and challenges and opportunities faced by a given organization, sector, or area. The first step in developing a results-based strategy involves selecting the selected *critical challenges* emerging from the situation appraisal that must

¹⁴ For example, see alternative versions of multi-criteria scoring models in: Alston, Norton, and Pardey, 1995; W. Janssen and A. Kissi, “Planning and Priority Setting for Regional Research: A Practical Approach to Combine Natural Resource Management and Productivity Concerns,” *Research Management Guidelines No. 4*, International Service for National Agricultural Research, The Hague, 1997. D. Verner, D.R. Lee. M. Ashwill and R. Wilby, *Increasing Resilience to Climate Change in the Agricultural Sector of the Middle East*, World Bank, 2013. D.R. Lee, S. Edmeades, E. De Nys, A. McDonald, and W. Janssen, Developing Local Adaptation Strategies for Climate Change in Agriculture: A Priority-Setting Approach with Application to Latin America,” *Global Environmental Change* 29(2014): 78-91.

be addressed in the medium term in order to achieve the long-term goals and objectives. This process considers current challenges and possible future opportunities, the priorities of the government and stakeholders concerned, and the capacity of all actors in the area or sector targeted by the strategy. The selection of critical challenges establishes the *strategic agenda* for the programming cycle. For example, possible critical challenges emerging from the situation appraisal conducted by the World Bank under the NDS and STARS RAS may include:

- How can Croatia increase private capital investment in the food and bioeconomy?
- How can Croatia promote increased (digital) technology adoption, innovation, and entrepreneurship in the food and bioeconomy?
- How can the Croatia food and bioeconomy adapt to and mitigate climate change risks?
- How can Croatia help commercially-oriented smallholders seize growth opportunities in high value market segments?
- How can Croatia best diversify its rural economy?
- How can Croatia improve the business environment for commercially-oriented smallholders and agribusiness SMEs?

Step 2. Identify and score evaluation criteria

After the identification of critical challenges, the criteria by which possible response options will subsequently be evaluated need to be identified and assessed (e.g., scored). The identification of the priority-setting criteria can be done in one of two ways. First, these criteria can be established by those conducting the priority-setting exercise. If so, this should be done with broad input from stakeholders and experts so that the criteria are valid, realistic, and reflect the entity's long-term goals and objectives. Alternatively, if time allows, priority-setting criteria can be established in a workshop or consultative setting.¹⁵ In the latter case, for logistical and timeliness reasons, the workshop needs to precede the priority-setting exercise by enough time to organize the latter efficiently. In the case of priority-setting for Croatia's food and agriculture sector, a set of implicit evaluation criteria has *already* been established by the proposed CAP common policy objectives (see Table 1). The nine specific objectives (subsets of the three policy objectives) essentially define nine criteria by which policy interventions, programs and investments administered under the CAP reforms may be assessed. Two of these address agricultural sector *economic criteria* (ensuring a fair income to farmers, increasing competitiveness), two address *food system performance criteria* (rebalancing power in the food chain, protecting food and health quality); three address *environmental criteria* (action on climate change, ensuring environmental care, and preserving landscapes and biodiversity), and two address *rural development criteria* (supporting generational renewal, creating vibrant rural areas). These or other assessment criteria can be used.

In the first active step (second overall step) of our food and agriculture stakeholder consultations, participants will be given a sheet listing all nine criteria, and will be asked to weight these criteria by distributing 100 points across the criteria: that is, each respondent will assign points such that the total of the points assigned to all criteria = 100. The response options will subsequently be

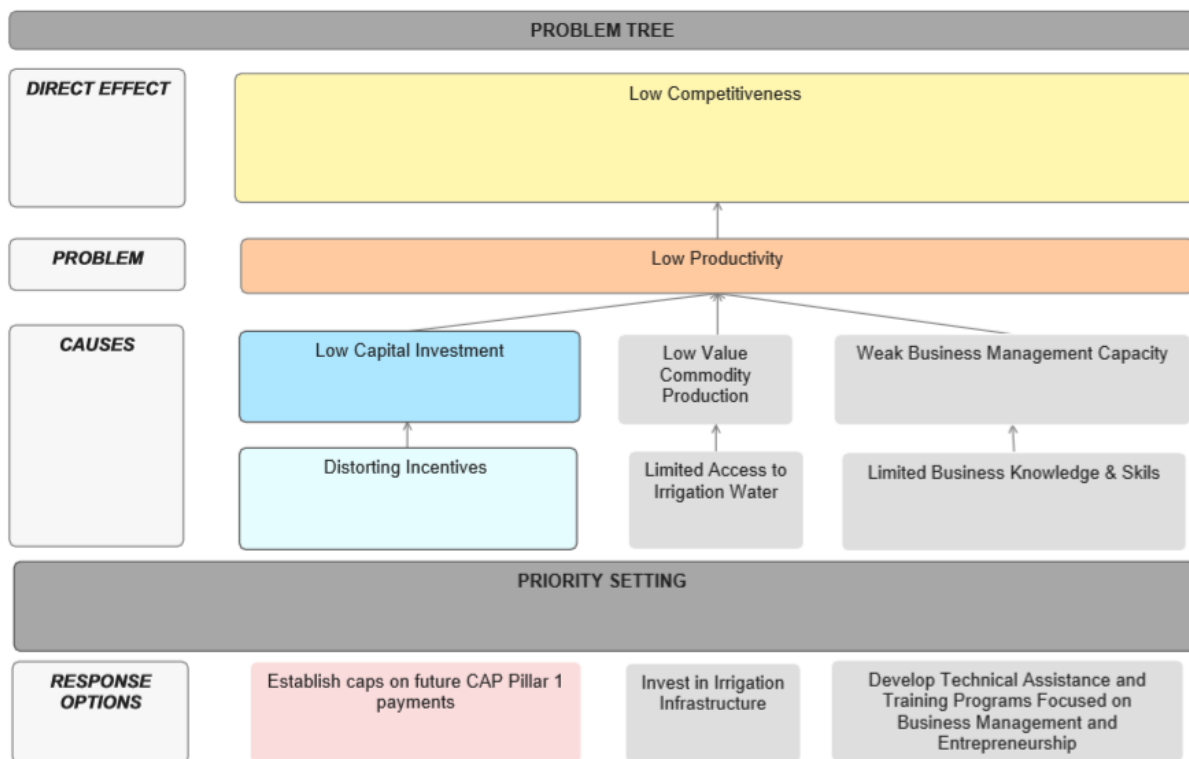
¹⁵ See, for example, applications in Werner, et al., 2013, and Lee, et al., 2014.

evaluated with respect to these criteria. An analogous procedure will be followed in the fisheries consultations.

Step 3. Identify and discuss alternative response options

In the third step of the prioritization process, a selected number of possible response options that address the critical challenges will be presented and discussed at the stakeholder consultations. These response options will be organized in a problem tree (see Figure 5 for an example), with their selection based on the preceding situation analysis and the conclusions derived therefrom, the outcomes of the February stakeholder consultations, consultation with other individual stakeholders, and discussions with Ministry officials. The process of elaborating the problem tree is completed (preferably via a participatory group process) using these instructions: (i) the *causes* which are directly causing the focal problem are placed below; (ii) the direct *effects* of the problem are put above. No more than three or four response options related to the root causes of the focal problem should be evaluated for each critical challenge. Again, possible response options are best identified by group consultative process, although they may be derived through the iterative process discussed above: situation analysis, individual and group stakeholder consultations, discussions with policymakers and private sector representatives, etc. Another alternative for identifying viable response options is to use an online survey instrument (for example, SurveyMonkey) to survey stakeholders for their input. However it is done, each response option identified for evaluation in the subsequent step (Step 5) should be general and flexible enough to incorporate more specific elements that arise in later discussions, but should be specific enough to

Figure 5: Identifying Response Options to a Critical Challenge using a Problem Tree



Source: World Bank Staff

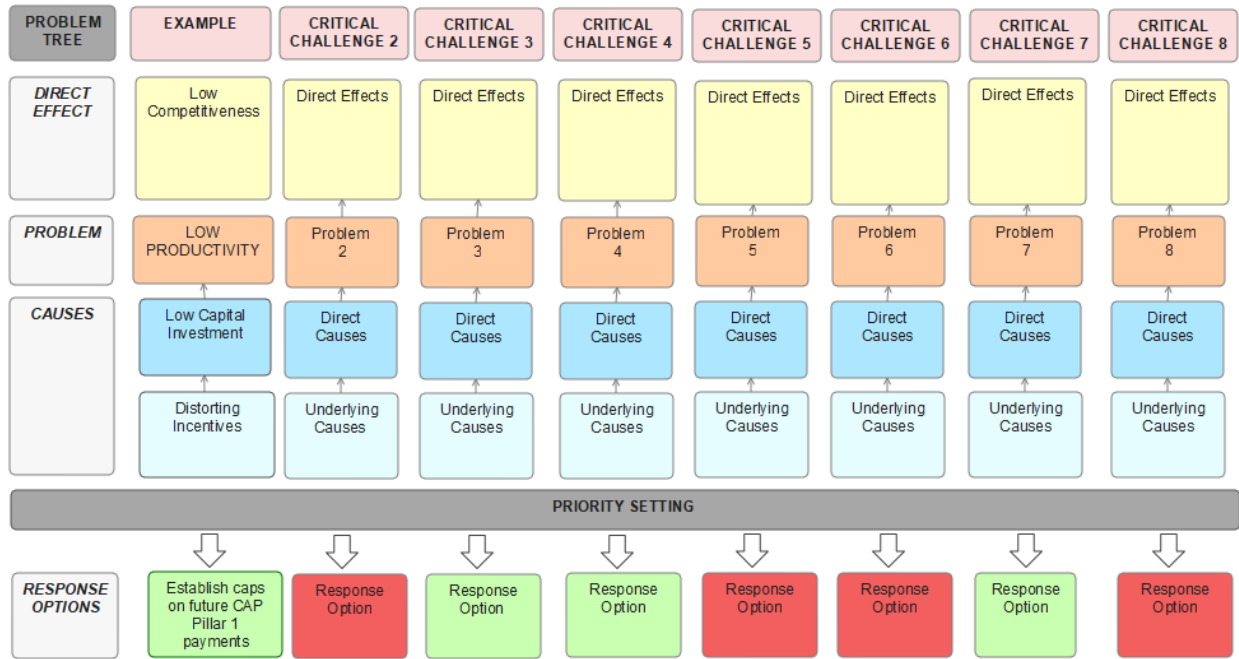
clearly indicate priority directions for potential policy interventions or public investment. For example, possible response options might include the following (these are just examples, not a full list, but can revise as needed):

- Increase technical support for strategic alliances in the agri-food sector
- Develop technical assistance and training programs focused on business management and entrepreneurship
- Establish caps on future CAP Pillar 1 payments
- Strengthen certification, origin labelling and appellation programs
- Promote adoption of conservation agriculture practices through applied research, Farm Advisory Services, etc.
- Establish new funding and administrative mechanisms to support applied agricultural research in Croatia
- Create a national commission to streamline administrative practices
- Create a regional center of agricultural education and training
- Invest in building irrigation infrastructure
- Develop a credit guarantee instrument

Step 4. Priority-setting of proposed response options

As indicated in Figure 5, only selected potential response options can, as a practical matter, be evaluated and prioritized in a single stakeholder-based prioritization exercise. Step 4 of the priority-setting process involves evaluation of the potential response options in Step 3 with respect to each of the individual criteria identified and scored in Step 2. Each participant in the stakeholder consultation is given a matrix which lists each response option on one axis and all the evaluation criteria on the other axis. Using a range of 0 to 10 (or 0 to 100), each participant is asked to rank each response option by the extent to which he/she believe it successfully addresses each criterion. After the stakeholder consultation, the organizers will weight the scores assigned by participants to each response option (for each criterion) by the criteria weights developed above in Step 3. The total average weighted scores for all response options across all participants are then tabulated and the resulting score normalized, typically to a maximum value of 100. The results of the scoring process can then be used as guidance in the next steps of the priority-setting process. In the example given in Figure 6 (column 2), it is assumed that the response options in green (setting caps on future CAP Pillar 1 payments) emerge from the stakeholder prioritization exercise as priority means to addressing focal development problems in Croatia.

Figure 6: Priority-Setting of Proposed Response Options Across Critical Challenges

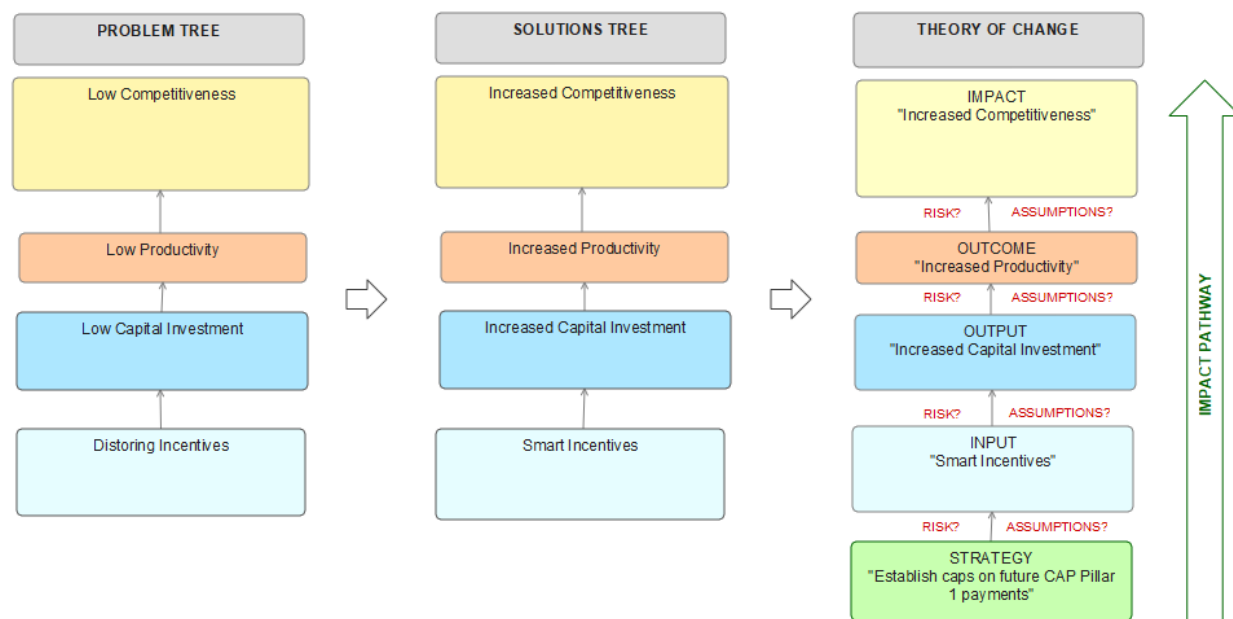


Source: World Bank Staff

Step 5. Articulate Impact Pathways, Assumptions, and Risks

As part of this step, the *impact pathway* of the prioritized intervention is specified by converting the relevant branch of the problem tree into a solution tree. The simplified solution tree presented in Figure 7 thus shows the main outcome (higher capital investment levels) that is necessary to achieve higher level impacts (increasing productivity and competitiveness). The solution tree also shows us that the outcomes are best achieved by a specific output (smart incentives). It is important that the *assumptions* underpinning the proposed causal relationships between different results are assessed against available evidence. Assumptions to be considered include, for example, those about (i) causality (i.e. what leads to what, and how?); (ii) implementation (i.e. how interventions should be designed and targeted); and (iii) external factors (i.e. issues outside the program that can facilitate or hinder the expected change). Making assumptions explicit in this manner can help in the identification of risks given that assumptions and risks are often inversely related. Various types of potential risks should be considered, including economic, legal and regulatory, organizational, political, environmental, technical, and strategic risks.

Figure 7: Developing a Theory of Change by Converting a Problem Tree into a Solution Tree



Source: World Bank Staff

Step 6: Establishing National Priorities for Croatia’s Food and Bioeconomy, incorporating inputs from stakeholder consultation outcomes

As indicated above, the multi-criteria scoring process proposed to be used here in stakeholder consultations is *only one tool* in the development of a final set of priority response options. As part of the final step, Ministry officials and collaborators responsible for determination and implementation of the final strategic plan and “roadmap” will use multiple other inputs and sources of information in the establishment of final priorities and their associated projects, investments, and changes in policies and implementation practices. In particular, concurrence with the common objectives of the CAP, the EMFF and the National Development Strategy (NDS) will be critical, as are other aspects related to EU funding allocations. Other criteria in the final determination of national priorities include: concurrence with national goals and objectives, the extent to which private sector investment can be leveraged, the identification of key partnerships and collaborations, specific implementation arrangements, and monitoring and evaluation indicators, milestones, and targets.

4. Applying the approach to the next strategic planning stages and formats

Final strategies resulting from priority-setting and theory of change approaches must be reflected in the design of future agriculture and fisheries strategies and results monitoring frameworks Final national priority interventions will have to be linked to relevant general, specific, and cross-cutting EU objectives and priorities under the future CAP and EMFF in line with the theory-of-change as part of the key steps outlined in Section 3.3. In addition, sector-specific results frameworks will have to be developed that include clearly defined (input, process, output, outcome/result, and impact) indicators, which will enable the monitoring and evaluation

of progress towards achieving the relevant general, specific, and cross-cutting EU objectives and priorities. Both common EU core as well as program-specific indicators that meet the criteria outlined in Section 3.1.2. (thematically appropriate, relevant and useful, technically sound, sensitive, affordable) should be considered for incorporation into the results frameworks. At the same time, alignment with the country-level strategic goals, specific objectives, priority measures, and indicators identified for the food and bioeconomy in the framework of the Horizon 2030 National Development Strategy (NDS) must be ensured.

Regular progress reporting and evaluation activities must be geared towards validating the theory of change underpinning sector strategies. Performance indicator data and other information generated by (annual) implementation reporting and (multi-annual) evaluation activities should provide greater insights as to whether the assumptions made in sector strategies' theory of change still hold or must be revised. By doing so, an adaptive management cycle as the one described in Section 2.1. is put in motion whereby food and bioeconomy strategies are continually refined to respond to changing circumstances and to achieve desired development goals and results using the best available evidence.

5. Resources

Useful references on the theory of change and priority-setting methods and applications include the following:

Theory of Change

Allen, W., “Theory of change for planning and evaluation,” Learning for Sustainability webpage (Annotated list of resources about developing and using a theory of change)
www.learningforsustainability.net/evaluation/theoryofchange.php

BetterEvaluation, “Develop Programme Theory/Logic Model,” BetterEvaluation webpage, (Includes links to resources and options for different ways of developing and representing theories of change.) http://www.betterevaluation.org/plan/define/develop_logic_model

Vogel, Isabel, ‘Review of the use of “Theory of change” in international Development’, Review Report, UK Department for International Development, London, 2012. See http://www.theoryofchange.org/wpcontent/uploads/toco_library/pdf/DFID_ToC_Review_Vogel_V7.pdf

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http://www.cpsg.org/sites/cbsg.org/files/2013_AM/Sutherland%20et%20al.%202011.pdf

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<http://apps.who.int/iris/bitstream/handle/10665/250221/9789241549745-chapter4-eng.pdf;jsessionid=A2D4875DCC1FCC2B1C2AFD441C3EC0E9?sequence=36>

Thornton, P.K., et al., “A Framework for Priority-Setting in Climate Smart Agriculture Research,” *Agricultural Systems* 167, 161-175, 2018.
<https://www.sciencedirect.com/science/article/pii/S0308521X18301288>;

Verner, D., D.R. Lee. M. Ashwill and R. Wilby, *Increasing Resilience to Climate Change in the Agricultural Sector of the Middle East*, World Bank, 2013.
<http://documents.worldbank.org/curated/en/115381468249300050/pdf/763670PUB0EPI0001300PUBDATE03021013.pdf>