Performance Management within the Portuguese Integrated Rural Fire Management System
Agency for Integrated Rural Fire Management

Fulbright Specialist Program Project P005334; 13 March to 13 April 2022
Discipline: Public Administration
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Project objective:
Understand the basic beliefs and attitudes toward critical wildland fire management topics to design a communication strategy and engagement initiatives with the main stakeholders to promote the change dynamic in implementing the Integrated Rural Fire Management System (SGIFR).

Project topics:
Topic 1) Specialization Principles: Rural fire management and Rural fire civil protection
Topic 2) Sustainable forest production and forest conservation

Target audience:
Main public agencies and other key stakeholders, with a special focus on the three pilot projects in the north, center, and south of the country.

Expected results:
1) Diagnosis of the main beliefs and attitudes regarding each topic and stakeholder mapping.
2) Develop a communication strategy and identify critical engagement initiatives.
3) Risk management analysis and mitigation initiatives prior to implementation and for further review after the pilot project's first implementation period.

Activity summary (14 March to 11 April):
Number of interview sessions: 35
Interview participants: 53
Interview locations: 19 specific locations, web- and phone-based interviews in Lisbon (4 locations), Lousã, Coimbra (4 locations), Chaves (3 locations), Vila Pouca de Aguiar, Vila Real (2 locations), Faro, Olhão/Faro, Portimão (2 locations), Silves, web-based (3) and phone (1) interviews. These locations correspond to the pilot project regions in the north (Chaves), center (Coimbra), and south (Faro).

Methodology used during the interviews:
The interviews were conducted at the participant's office or another mutually agreed upon location. At the request of the Agency for Integrated Rural Fire Management's (AGIF) Governing Board, the interviews used a "non-disclosure" format, where the participants are not

specifically identified in the final report. The interviews were generally conducted in English. If a participant had limited knowledge of English, a member of the AGIF assisted with the translation. Spanish was the common language for one interview.

As identified in the project objectives, the intent was to gain an understanding of the participant's beliefs, attitudes, and critical issues toward wildland fire management topics. Beliefs and attitudes are key components of the cognitive hierarchy model of human behavior. This theory attempts to explain the process from thought to action. In it, values, value orientations/patterns of basic beliefs, attitudes and norms, behavioral intentions, and behaviors are explained and linked. Values are few in number and are slow to change. They are central to beliefs and transcend situations. At the other end of the process, behaviors are numerous, faster to change, and specific to situations (Vaske and Donnelly, 1999). Citing previous, widely recognized research, the theoretical framework for beliefs and attitudes is summarized in US Forest Service General Technical Report PNW-GTR-788 (Allen et al., 2009). Two definitions of beliefs:

> *Judgements about what is true or false...they are judgements about what attributes are linked to a given object. Beliefs can also link actions to effects.*

> *Beliefs link an object to an attribute...beliefs represent the information one has about an object. It is the subjective probability of a relationship between the objective of the belief and some other object, value, concept, or attribute.*

> In turn, attributes can be defined as:
> *Tendencies to react favorably or unfavorably to a situation, individual, object or concept. They arise in part from a person's values and beliefs regarding the object.*

> *The learned predisposition to respond in a consistently favorable or unfavorable manner with respect to a given object...a function of one's own beliefs that the object has certain attributes and the evaluation of those attributes.*

There was no standard list of questions asked during the interviews. Rather, each session was a conversation with the participants. The following statements were used to frame and guide the conversation:

> *Effectiveness of an agency (AGIF or another)*

> *Likelihood that projects and activities will lead to certain outcomes*

> *Is there a recognized need for change?*

> *Ecosystems and how they function*

Perceived value of fire

If necessary, how will the various stakeholders be reorganized?

Level of cooperation on action programs

Perceived value of the action programs

In retrospect, what would you do differently in developing the integrated strategy?

In general, each of these points was not addressed during the conversations. Within the framework of the pilot project discussion, some participants touched on components of the SGIFR's process chain and enablers, as well as the National Action Program's (PNA, 2021) strategic guidelines of valuing the rural areas, active management of rural areas, change behaviors, and efficient risk management. Other discussions focused at length on a specific topic, such as funding or organizational responsibilities. As expected, critical issues varied based on the participant's organization and role within the integrated strategy.

Participants represented the AGIF staff and regional offices, Institute for Nature Conservation and Forests (ICNF), National Emergency and Civil Protection Agency (ANEPC), Republican National Guard (GNR), the Liga Dos Bombieros Portugueses (LBP), municipalities (including civil protection and volunteer firefighters), intermunicipal communities (CIM), regional development and coordination committees (CCDR), private forestry associations, a private forestry business association, a large commercial forestry business, a regional tourism office, an environmental science NGO, and AAAR Consultancy (academics and other subject matter experts).

Thematic discussion of the interviews:
Based on the "non-attribution" parameters of the project, this interview discussion uses a general thematic approach. A tool in qualitative research, a theme is an attribute, descriptor, element, or concept implicit to a topic that organizes a group of repeating ideas. Themes assist with answering research questions. The project structure allowed a simplified process of coding. This is the process of organizing interview notes and summaries to transform that content into higher-level insights as the development of themes (Vaismoradi et al., 2016). Interview content, in general, followed the pilot projects' focus on implementing the governance system, collaborative planning, and execution responsibility. Several themes emerged during the interviews:

Rural socio-economic development: A consistent theme throughout many interviews was the challenge of valuing rural spaces and taking care of the countryside. Success in implementing the National Plan for Integrated Rural Fire Management (PNGIFR, 2020) is dependent on some

measure of rural development. Thirteen participants specifically addressed these topics. Valuing rural spaces and taking care of the countryside are two of four guidelines in the PNA. From various perspectives, stakeholders discussed the importance of rural socio-economic development, addressing the proven linkage between valuing a rural parcel and caring for it. A combination of the rural population's urban migration over the past several decades, an aging demographic in the country's interior, potential owner revenue negatively impacted by small parcel size, and lack of a viable rural economy left a social and economic void which, unless corrected, potentially impacts the successful implementation of the national strategy. At the same time, several participants stressed the economic potential in the rural areas or efforts underway to promote returning to the rural landscape and earning a living. The interviews highlighted the complexity of this situation.

Abandoned properties are problematic throughout the country. There are several causes. These include, but are not limited to, death of the residents, with no known survivors or successful notification of other family members; families now located in urban areas are not capable of, nor interested in, returning to rural locations; owners who unsuccessfully attempt to sell or donate the land; or owners who struggle with earning a viable income from the property and do not suffer significant monetary loss by abandoning it.

Property parcel size is another factor in the country's rural interior. In the north, the average parcel is approximately one hectare, while in the Algarve, it is one and a half hectares. Property inheritance contributes to this situation. Over several generations, parcels become successively smaller. This makes economic viability a challenge for many owners. For example, over 90% of the country's forests are privately owned. With parcels of limited size, collective, or aggregated, forest management in a specific location can be challenging when neighboring owners do not agree on management objectives, or they have different forest species growing on adjacent parcels. Small parcels also limit the viability of agricultural products due to no economy of scale.

One other discussion point within this theme is the recognition that living in a rural area is not easy for many people. It is difficult for an increasingly older demographic to maintain property. Chores such as clearing brush or thinning adjacent forest are, at times, no longer done. The cost of paying for this service, if it exists in certain areas, can be problematic. Other considerations that may prohibit people returning to rural areas include the availability of jobs with living wages, affordable property, accessible health care and education, and lack of other amenities. Several paraphrased statements, transcribed from interview notes, are included here and in subsequent sections:

The country must develop a strategy for rural development

People need a reason to live in, and manage, rural landscapes

Connection is lost with the rural lifestyle...there is a loss of traditional knowledge of rural landscape management...the rural lifestyle activities lost value, such as care for the forests, land management, rural economy.

4

Many rural areas are depressed; property scale makes it difficult to aggregate... unknown owners and abandoned property

Tough to live in the mountains; tourism brings in revenue

Can see both sides of the coin-agriculture and timber in the same area

There are economic opportunities...pastureland, quarries, renewable energy, sustainable forests

Tourism is possible due to biodiversity and cultural value, natural and rural tourism

Scale, value, active management...there are opportunities at landscape scale... develop confidence for the private owner

There are opportunities for private owners to invest...create confidence for investment...this is a long-term process, part of the regional planning process

Note: Per the American Psychological Association (APA) Style Guide, 7th Edition (2019), all sources are paraphrased, not directly quoted, to fit the context of the report.

Funding (including the pilot projects): Participants discussed lack of pilot project funding as an impediment to successful completion of identified tasks. While some stated there was no available funding for task completion, others observed that partial funding was available, funding was provided after the project began, or they completed pilot project tasks using alternative funds. Inferred by some participants was the concern that there was limited, if any, funding for implementation of the PNA and corresponding agendas at regional, sub-regional, and municipal levels.

One participant explained the significant role that European Union (EU) funding has in Portugal. Per this member of a CIM staff, EU funds account for over 90% of public investment in Portugal. These funds are allocated against approved "thematic boxes." In some cases, PNA funding requirements may not neatly match funding criteria. Current use of EU funding in Portugal includes economic support, social and education issues, and environmental management and natural resource sustainability. This employee also suggested that, in relation to the SGIFR, AGIF can replicate the role of the Portuguese agency responsible for EU fund distribution. His perspective was that AGIF can determine who gets what amount and when, based on funding sources and national priorities.

Another participant suggested reviewing the potential for a "funding clearinghouse" dedicated to the SGIFR. This includes exploring what funding sources are available, such as agricultural, social, etc., for the SGIFR and PNA. These should be linked to an operational need.

Several participants were critical of the current "tender" system used for distributing public funds. They are seen as lacking flexibility and adaptability. Related statements:

> *No financial instruments...there are good plans and strategies, but if there is no funding, they will not happen*

> *Pilot projects not funded...good intentions that cannot be applied...need to "bring" the funds*

> *Financing-who provides and when? Some stakeholders are still waiting for funds after 1 year of the pilot*

> *Signals sent that financial support would be provided...expectation vs reality...decisions were made to support the projects, but with no funds*

> *Proposals developed and justified by technical merit and priority were not supported by a tender...by law, tenders must receive equal consideration...all are judged in the same way*

> *Public tenders do not correspond to the tasks of the pilot project. For example, in one pilot project task related to cutting and cleaning around communities, there are three necessary actions for fuel breaks, but funding is only available for one to two related to "Village Condominiums" (different program)*

> *Available funding is the only way to create and construct a program that is flexible... at risk with no funding*

> *New strategic plan is good, potential implementation problems...financing still not determined and could cause problems...uncertainty about how to obtain the resources*

Governance: This report incorporates the same definition of governance as the one used in the PNGIFR. That is, the multitude of actors and processes that lead to collectively binding decisions (Rennet al., 2011). Implementing the governance system is one of the pilot projects' focus areas.

Decree-Law (D.L.) 82/2021 (13 October 2021) established the Integrated Rural Fire Management System in mainland Portugal and defines its operating rules. Several participants stressed that with the implementation of D.L. 82/2021, rural fire management is undergoing a notable change from previous public administration practices. The law was enacted six months ago, and it is a period of significant adjustment and change. One critical component is the ability of the stakeholder community to demonstrate mental agility and adaptability in embracing the new system. One national-level participant observed that there is an inherent resistance to change and that the method of change matters. He added that the national

strategic plan was imposed, with not enough debate, and that comments were ignored. Finally, he stated that many entities disagree with the PNA and that it won't accomplish goals as currently structured.

There were differing perspectives on the integrated process. As one participant from a regional-level government agency observed, the new system promotes "action-level" planning meetings with all stakeholders within the region. He stated that this is a new way of working together. He further added that the new national plan, through the implementation of D.L. 82/2021, provides the mechanism for stakeholders to facilitate and coordinate. Without the national plan, there would be no connection. Certain participants identified the benefits of the new system and recognized how they can contribute. A member of a CIM staff observed how the pilot projects support the national plan's integrated vision. In the past, there was no forum for the CIM to be involved in this type of system. Now, the CIM can be serve an integral role. Per this participant, the CIM is the only entity that can promote and support the integrated plan within a specific region. It is the coordination guarantor, synchronizing across the pilot project's participating municipalities.

While D.L. 82/2021 spells out the scope of intervention for the various entities within the integrated system, there remains some doubt among certain participants as to whether the roles and responsibilities are clearly understood. For instance, one national-level participant observed that there was a perceived duplication of effort in fire suppression among certain organizations. This impacts available resources and potentially has a detrimental impact on the participant's organizational ability to carry out legally mandated responsibilities. Another municipal-level participant observed that while a national-level agency it works with has specific responsibilities identified by law, that agency will delegate task completion. While the agency may provide funding, the municipality is expected to do the work. Related statements:

The strategic national plan can achieve its goals

The original concept was that the strategic national plan would be built from the "ground up" ...actually, turned out to be "top down"

Not all municipalities are involved...some wanted to play-cannot...others did not want to participate and were mandated to do so

All stakeholders need to be involved in the pilot project...currently, too many tasks within a limited number of participants...too many in one organization...make it a smaller number of tasks with more participating stakeholders

Implementing the local guidance in D.L. 82/2021...transitioning from previous legal framework...in the midst of transformation

D.L. 82/2021 is the legal foundation for the SGIFR...cannot be implemented due to personnel shortfalls...stakeholders/entities should understand and be clear about roles and responsibilities

Municipalities need time to adjust and adapt to the new vision...need to modify the mentality of the people and institutions

Plan is well-developed for their organization...good methodology "bottom to top;" however, projects were identified and rigid...stakeholders could choose, but not change/modify based on their needs and local circumstances...not able to adjust during execution; problem with definitions...differing concepts of the same issue; this is a new process and system...there will be distinct levels of knowledge and experience; differing interpretations of the objective; each organization's "architecture" is different...specific for itself...hard to coordinate and cooperate; no common language; new plan requires adaptability...technical skills limit participation... "a new methodology requires change"

Perceptions of AGIF: Participants were encouraged to share their beliefs and attitudes toward AGIF. Several recognized that AGIF's establishment represented a new model for Portuguese government functions. Described as intentionally being "disruptive" by one respondent, it is understood that the requirement for change in rural fire management necessitated the breaking down of institutional silos. According to some respondents, it was not the fact that AGIF was established, but the methodology used.

Per Article 6 of D.L. 82/2021, AGIF is responsible for coordinating PNGIFR development, its implementation, monitoring and reviews, and the consolidation of regional plans; participating in the design and integration of public policies that have an impact on rural fire management; issuing opinions, with corrective measures, on national plans and legislative proposals with an impact on the SGIFR; monitoring and evaluating the SGIFR in all its processes; and coordinating the SGIFR at strategic level, ensuring alignment with the principles and coordination of the various operational guidelines. This is not an all-inclusive list and includes many implied tasks.

Acceptance of AGIF is based on the participants' perspectives on these responsibilities. Some saw the agency as being a part of the solution, with an ability to bring stakeholders together. One respondent observed that answering directly to the Prime Minister was a positive step. Another stated that the agency possesses the necessary tools to successfully perform. One observed that since land ownership is such a critical component of the rural socio-economic development issue, AGIF should have a role in the Ministry of Justice's initiative in this area. At the same time, another national-level participant recognized that AGIF was assisting with the new simplified and no-cost land registry program. In general, there were a variety of responses regarding the agency. Here are some examples:

Not an easy task due to the initiation of AGIF and past relationships...must navigate the role and actions in the new system...firefighters, municipalities...part of the solution... not a "controller," but a "facilitator" and "enabler"

AGIF has power with the Prime Minister...certain organizations do not like being held accountable...since AGIF reports to the Prime Minister, other organizations do not like AGIF having oversight of what they are doing

AGIF will have a significant role...adds "gas" to the process...can contribute to an improvement of relationships in pilot areas and at the regional level during the pilot process

AGIF can learn from mistakes...what worked and did not work...this will help it to become what it should be

Still a work in progress...can serve as a broker in the mechanism...a bridge among the ministries

It can serve as a lighthouse for the future of the integrated system...AGIF is important and plays a good role...review the academic resources and international professional standards and apply, appropriately, in Portugal

AGIF doing well with integrating the communications process ("Portugal Chama") ... agencies can use the same communication tools in their own platforms

Oversteps its bounds...should play the role of a facilitator within the governmental system...serve as an active voice within the government...facilitate government actions, such as funding...listen, propose tools and solutions, serve as a platform for the integrated system...bring entities closer to the vision

Communication and Collaborative Planning: When discussing the project's two topics, participants addressed the effectiveness of communication and level of stakeholder involvement in planning. One way to frame it is whether there was a multi-directional, iterative process in which stakeholders were engaged in conversations about challenges, opportunities, and results (Brown et al., 2021). Also, as stated in the PNGIFR (p. 67), "...efforts must be made to encourage inter-agency cooperation and trust, promote the sharing of data, knowledge, and experience..."

Existing, structural communication gaps are expected to be highlighted within and between organizations during the implementation of an innovative national-level system such as the SGIFR. This is true in most bureaucracies, regardless of the location. One participant added a local context by stating, "In Portugal, a vertical information gap is common." When it is not necessarily the norm for organizations to share information, communication gaps will occur at various implementation levels. Of note, several participants observed that even if there were gaps at the national or regional levels, there was effective communication and planning at the municipal level among various organizations. This can be attributed to the necessity of having

to collectively plan for, and respond to, wildfires and other incidents. One municipality represented discussed the meetings with homeowners and homeowner associations where ANEPC, municipal civil protection, GNR, and other municipal staff discuss phone notification, evacuation plans, and actions to protect homes from fire ("FireWise" program).

Numerous participants made observations about the inclusiveness and timeliness of the planning process. Described as "A little bit of a mess," one participant observed that the academic community, forestry associations, and business associations were not brought into the initial pilot project planning. The focus was on public entities and suppression. He did state that private entities and the academic communities were brought in later. Another public sector representative at the regional level observed that recommendations from the field were not included in the pilot project planning process. He also noted that his agency is working though challenges with internal and external communication. However, a CIM representative shared that they worked with the municipalities during the project identification process and that their recommendations were accepted at the district level. The following statements provide additional insight into this theme:

No specific guidance on a communication plan nor pilot project development

Not all stakeholders had knowledge of the integrated system

Pilots are a tool to develop a network...narrow in focus, they can identify strengths and weaknesses

Plans are not always realistic...national plan OK as a "Power Point" plan, not feasible/ compatible with the regional plan

Invited to participate only in the south...not invited by AGIF...invited by another stakeholder...not part of the process

Comms good with ICNF [Institute for Nature Conservation and Forests] ... recommendations are accepted...not directly connected to the pilot, through ICNF

Private associations not considered...landowners do not feel part of the pilot area... actions only within ICNF territory

No input in plan development; no inquiries on thoughts, beliefs, opinions; no input from individual tourism enterprise business owners

No participation in the development of task objectives...where did specific numbers come from? There is a lack of guidelines...results in some guessing and this impacts resulting methodologies: Technical review for plan task objectives...how were the criteria developed? Guidelines should be general...not specific

One positive aspect of the current plan is that all stakeholders are involved...interaction and coordination...meet partners prior to an incident/crisis

There is value in the strategic integrated plan...can develop relationships outside of the fire season...however, there is a severe lack of coordination between institutions...need to fill gaps...all players do not speak the same language

The strategic plan is ambitious; challenges and mobilizes entities and keeps them motivated...communications gap between the national level and implementors...gap between national and regional, sub-regional, and municipal levels

Other relevant discussion topics: In addition to the themes previously addressed, there are several other discussion topics worth noting. These may not have had the same level of thematic interest but were highlighted by certain project participants. One of these is a formal, standardized emergency management and firefighter career development program. Participants from ANEPC and the LBP both identified this requirement in separate conversations. Their organizations would benefit from a system that allows long-term professional progression with increasing levels of training/education and responsibility.

Their interest dovetails with AGIF's initiative in developing a rural fire management training and certification program. The intent of this program is to provide training for personnel in senior positions of responsibility. For example, individuals who possess a degree and/or are supervisors. Subjects include prescribed fire, suppression operations, and operational and management functions. Hosted by universities and polytechnic institutions, training modules will support certification in these subjects. The issuing authority will be the specific educational institution and the national-level SGIFR commission.

Some additional conversations dealt with forest and landscape management. Many participants identified as essential the link between valuing and caring for the landscape and healthy, resilient forests. One participant further identified the main concerns within ICNF being forest management, rural fires, and conservation. Effective communication is key among the organization's branches. Regarding the role of fire, the same individual noted that not all stakeholders realize the benefit of fire and prescribed fire (for example, fuel load reduction). However, a municipal participant specifically mentioned his support for the ICNF prescribed fire program, which promotes forest health and is linked to wildlife habitat, honey production, and the growth of certain wildflowers. One member of a private forestry organization observed that while there has been no recent prescribed fire, it is accepted by the community and local shepherds like it for pasture "renovation." She further added that the national plan is viable, and its focus on prescribed fire is achievable, dependent on weather, fuels, etc. In the Algarve, one participant noted that there is no traditional use of fire. A CIM sub-element offered prescribed fire training to promote the practice within the community. Municipal forestry technicians participated to change political and public perspectives.

Regarding landscape cover, a regional development and coordination committee member discussed the necessity of restoring the landscape, including the removal of Acacia and other invasive species. Within this same context, a representative from a nonprofit that works with biodiversity, agriculture, and forests discussed his organization's efforts to identify a model to promote a diversity of species to be present in the landscape. This is a contributing factor to a more resilient forest cover. If short- and long-term income sources can be identified, this can potentially be an incentive for owners to care for and invest in the landscape. A wood industry participant observed that managed forest production areas can serve as fire "buffer" zones protecting other production or conservation areas.

Addressing the subject of conservation forests in the project's topics, several participants discussed ecosystem services. One suggested that forest value includes sustainable production of wood and other products, ecosystem services, and grazing. However, push back is occurring from the conservation sector. He indicated that there is a need to revise environmental education within the country to promote protecting biodiversity and ecosystems, as well as sustainable forest management. As a society, Portugal needs to change the message and mindset regarding sustainable forestry. The previously mentioned nonprofit participant observed that one land management concept is to simply leave the landscape as it is, for the medium to long term, thus promoting potential ecosystem service benefits. The challenge is that ecosystem services must be operationalized and that, except for carbon sequestration, there is limited success in payments for ecosystem services.

One final item is an on-going lessons learned initiative by AGIF. The PNGIFR identifies AGIF as the agency responsible for developing and coordinating the lessons learned process. The intent is to "...to identify weaknesses and introduce corrective measures in the system by implementing a lessons learned process, including using knowledge and research centres" (PNGIFR, p. 48). These lessons are applied to capabilities such as doctrine/policy, organization, training, resources, and leadership. An additional area of application, designated interoperability, is the ability of different organizations to operate jointly. While all application areas are important, this is a particularly critical component in an integrated management system.

Communication Strategy and Critical Engagement Initiatives:
This is a time of opportunity for AGIF to lead the discussion regarding SGIFR implementation. Five years after the 2017 wildland fires, certain elements within the political and public spheres are expressing concern about the length of time it is taking to implement the new system. This is reasonable, considering the destructiveness of the 2017 fires and recognition that fire conditions continue to create the potential for significant loss or damage. With the new SGIFR system in the middle of the pilot project process, effective communication strategies can reduce the uncertainty found during times of change. They can also ensure that AGIF and other SGIFR stakeholders speak with a common voice to frame the issue. For example, a GNR participant complimented AGIF for integrating the communication process as demonstrated by

the "Portugal Chama" messaging. He observed that other stakeholders can use the same communication tools on their own platforms.

The project's thematic results are synthesized to provide several topical areas to address with communication strategies and engagement initiatives. They can serve as the foundation for further efforts that can be modified or expanded, based on both the progress of the pilot projects and interaction with political leadership and the public. The following are recommended communication strategies:

Expectation management: This is a challenging time, with unprecedented change and growth within rural fire management. It is also one of opportunity to find solutions moving forward. The 2017 wildfires were a significant shaping event for Portugal, resulting in two independent technical commissions, policy and organizational changes, Council of Minister Resolutions, and a Decree Law. Organizations learned from, and adapted since, 2017. For all practical purposes, the timeline of significant actions is compressed. For example, the National Plan for Integrated Management of Rural Fires (RCM 45-A/2020, June 2020), the National Action Program (RCM 71-A/2021, May 2021), Decree Law 82-2021 (October 2021) and a new government are all less than two years old. The integrated system is being put into place.

Process implementation: The pilot projects are nearing the completion of their first of two implementation years (2021-2023). They are a learning tool to identify successes and weaknesses in the integrated system. The SGIFR stakeholders can promote them as such and identify successes or necessary adjustments.

The importance of the rural countryside: The challenge of rural socio-economic development requires a long-term, whole of government approach. There are no simplistic solutions to this structural problem. It requires vision and strategic planning to reverse decades of societal change. However, as the government identifies potential policies and programs, SGIFR stakeholders can embrace communication strategies that reinforce and articulate the relationship between valuing rural spaces and taking care of the countryside with successful implementation of the integrated system.

Public communication strategy: Continue and strengthen the "Portugal Chama" and "Reposa Chama" communication strategies.

Promoting interagency cooperation: Highlight the on-going activities at the regional and sub-regional levels that encourage interagency cooperation and trust; further the sharing of data, knowledge, and experience.

Several engagement initiatives are recommended:

Training and certification management: AGIF coordinates with ANEPC, LBP, and other stakeholders to craft an integrated training, certification, and professional development

program for emergency managers and firefighters. Various entities may be the proponent for different components, but they can build upon each other to meet individual and organizational needs over a career. This is one method which allows stakeholders to find common ground and achieve a collective "win" for the SGIFR community.

Strategy for rural development: AGIF proposes, at the level of the National Committee for Rural Fire Management, a re-examination of policies and programs directed at rural socio-economic development. Resolution of this issue is essential for the overall success of the SGIFR.

Demonstrate success: With SGIFR stakeholders, identify short-term successes within the PNGIFR. These can be used to demonstrate the integrated system's viability and potential, strengthen political and public support, and provide leverage for moving forward to complete more complicated, long-term objectives.

In-progress review: As the pilot projects approach the one-year mark, recommend AGIF lead a SGIFR review. This can include, but is not limited to, clarifying stakeholder roles and responsibilities at the regional and sub-regional levels, determining if there is a commonly understood terminology and appropriate level of interoperability, reviewing PNA and pilot project tasks and standards, and other actions, as necessary. This allows stakeholders to address concerns about task responsibilities and accomplishment, the necessity to make program adjustments or modifications, and identify human resource and funding gaps that threaten successful system implementation.

Funding issues: Per the PNGIFR, identify and facilitate alternative funding sources and opportunities for pilot project SGIFR stakeholders. In turn, these funding sources can be used to support completion of major processes/responsibilities identified in the PNGIFR.

Risk Management:
This summary previously addresses risks to the SGIFR and various mitigation measures. In summary, the most significant, based on the discussions with project participants, is the issue of rural socio-economic development. This is followed by the necessity to resolve funding issues for pilot projects and long-term completion of the NPIFRM's major processes/responsibilities. Other risks involve not resolving the current gaps within the governance and collaborative planning processes at the regional and sub-regional levels.

Conclusion:
The requirement for change in rural fire management necessitated a transformational process. One AGIF employee observed that "Change is hard!" That is probably an understatement when examining stakeholder perceptions regarding the SGIFR implementation and pilot projects. Participants were willing to share their thoughts and, in general, refreshingly candid. Most interview sessions ran longer than scheduled. As expected, the thematic discussions revealed a range of responses. A normal distribution of comments would include smaller numbers of

overtly positive and negative responses, with the majority falling into a blended range between the two. This is reflected in the thematic discussion statements. The AGIF field staff did an exceptional job of inviting a variety of stakeholders to participate and scheduling the interview sessions.

Regarding the two project topics, results didn't suggest any stakeholder lack of understanding about the separate specialization between rural fire management and rural fire civil protection. The conversations indicated that stakeholders understand organizational roles and responsibilities. Comments were generally focused internally about system implementation. In one instance where comments were directed at another organization, the focus was on execution. In this instance, one organization acknowledged responsibility but asked another to act on its behalf. In another example, one stakeholder observed a perceived duplication of effort in rural fire management. With several organizations having wildland fire suppression responsibilities, this perceived duplication limited resources that could be better allocated.

There were no comments that indicated a lack of understanding about sustainable forest production and conservation forestry. Participants discussed the challenges found in sustainable forestry at various scales within the country. Others discussed the potential role of ecosystem services. Observing that there is a possible conflict between the two, one participant suggested that changing educational models and societal norms to support sustainable forestry is necessary. The proposed in-progress review, discussed in the engagement initiatives section, allows AGIF to further assess understanding of the project's two topics and related specialization. There may be indicators, not identified in this project, that suggest a lack of clarity among stakeholders.

When addressing risk management, rural socio-economic development and funding are significant challenges that must be overcome. In addition, the regional and sub-regional level gaps in governance and collaborative planning also put implementation at risk. However, the observations about successful collaboration at the municipal/local level suggest that this is the foundation upon which to build system implementation.

This project provides the AGIF leadership, staff, and field teams with an opportunity to gain insight regarding how their stakeholder colleagues view the on-going process. In essence, it is an elicitation study to identify further areas to engage, question, explore, and find common ground. Responses that are critical simply identify an issue which can be resolved or modified. There are, no doubt, processes within AGIF that should be examined and, if necessary, improved. The integrated system addresses complex, systemic issues. When reviewing the findings, the collective AGIF team can use them to identify opportunities and, alongside other stakeholders, to be part of the solution.

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