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Abstract: Being considered a driver of economic growth as well as social participation and inclusion, skill development and vocational education and training (VET) policies constitute possible solutions to present challenges and ongoing problems. Therefore, VET has been the distinct subject of attempts toward development and improvement over time. For more than two decades, VET reforms have been a specific focus of Indian educational governance. However, in the subcontinent, reform initiatives have only partially succeeded in terms of their successful and sustainable implementation. This paper investigates promoting and inhibiting factors for vocational education and training policy implementation in Indian skill ecosystems. Taking the example of bottom-up policy implementation in the form of the Mahatma Gandhi National Fellowship (MGNF) programme, factors that affect the VET policy initiative are identified, based on a combination of quantitative and qualitative methods. Through a comprehensive questionnaire administered to a sample of 63 graduates of the programme, their perceptions on key implementation challenges regarding the local policy context, stakeholder cooperation, and institutional as well as implementer capacity were identified. The findings point to areas of further focus for policymakers for the effective implementation of VET initiatives while at the same time adding theoretical contributions to understanding and evaluating VET initiatives.



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Keywords: India; policy implementation; skill development; TVET; VET; vocational education and training reform

1. Introduction

Developing and reforming vocational education and training (VET) continues to be a topic of major relevance globally in developed and emerging economies alike [1–3]. Being considered a central driver of economic growth as well as social participation and inclusion, skill development and VET policies are expected to constitute possible solutions to present challenges and ongoing problems. These range from economic development in a globalised world, new skill requirements created by technological advancements or sustainability goals, and the rise of artificial intelligence, to the omnipresent and central social development goal of fighting social disparity and poverty [1,4,5].

As implied, while VET reform is at the top of various national agendas worldwide, the topic is not a new one. Globally, VET has been subject to attempts at development, restructuring, and improvement for decades, driven by economic changes, societal impacts and developments in education, and educational governance in general [5–7]. Innovation and reform attempts in this regard have concerned the macro level of VET and skill development systems as well as the meso and micro levels of institutes and learning and teaching processes [1,2]. Thus, reform covers a wide spectrum ranging, e.g., from various decentralisation strategies [8,9] to conceptual underpinnings like competence-based VET [10], assessment practices, and the integration of VET in national and supranational

qualification frameworks [11,12] As such, VET improvement endeavours vary with regard to the existing structures and economic and societal needs and challenges, as well as global trends in education and VET.

Policy development has matured distinctively over time [13], and a number of disciplines investigate this topic from different perspectives [14,15]. Research contributes frequently to the content and design of policies in general education as well as VET [13,16]. However, it has shown that intended reforms still often do not meet inherent expectations, and the actual implementation of reform and innovation measures sometimes fails to different degrees [2,15]. Reasons for this may be found in problematic policy content and proceedings [2,17], and/or various other aspects that may impact effective implementation, and thus VET system improvement [5,17,18]. While prominent in reform discourse, in concrete implementation research, by now, education policy implementation mechanisms and proceedings have received varying levels of attention internationally, and are frequently considered to be underrepresented [19]. This is true specifically for VET reform [5,13]. This paper seeks to address the need for more research in the area of concrete VET reform implementation, taking the example of the implementation of a particular reform initiative in India, the Mahatma Gandhi National Fellowship (MGNF) programme.

India has intensively tried to upscale and improve its skill development and vocational education and training for the past 20 years. Still, significant challenges seem to prevail at different levels of the system [20,21]. While highly elaborated schemes and policy documents exist, these do often not surpass the level of development and/or release, staying mere “paper tigers”. In the highly diverse subcontinent, reforms and measures that are actually implemented face various challenges, some of them having been identified as the gap between planned reform and local conditions, and strongly hierarchical governance structures that may hinder the effective development of the skill ecosystem at certain levels [9,22,23].

The MGNF initiative investigated in this paper takes up these aspects in sending specifically trained personnel, referred to as “fellows”, to districts across states as part of a two-year postgraduate programme, in order to develop the skill ecosystem at the grassroots level (see below in detail). In the light of past initiatives with limited success and persistent challenges in VET improvement, within this study, drivers and barriers of successful policy implementation will be investigated from the implementers’ perspective, that of the fellows working at the sub-national level.

Drawing on general as well as VET implementation research, promoting and inhibiting factors and their specific characteristics in the Indian VET development and reform context will be explored in order to answer the question: which contextual conditions possibly impact policy implementation in the given programme context? The findings seek to contribute to understanding the specific conditions of Indian VET reform implementation.

The following section gives a brief overview of skill development in India, followed by theoretical considerations with regard to reform implementation research and the concrete underpinnings of this study. The Methodology Section provides information on the actual research design and methods. Subsequent to the presentation of the study results, these are discussed and contextualised in the Discussion Section. This paper closes with the Conclusion and Outlook Section.

2. Context: Skill Development in India

In the Indian education system, a general distinction is made between general education and academic education, and between vocational education and vocational training [20]. While VET does refer to formal programmes, in contrast, the notion of skill development frequently covers different aspects in the field, and frequently relates to non-formal and informal training, given the large informal labour market in the study area. In Indian public discourse as well as research, the notion of TVET (technical and vocational education and training) is also frequently used. According to the broad definition of UNESCO [23,24], TVET comprises “education, training and skills development relating

to a wide range of occupational fields, production, services and livelihoods” [24] (p.5). In practice, TVET is generally aligned with courses in technical fields only, specifically those that lead to diplomas at governmental polytechnics and private colleges [20,21].

Within this context, skill development is considered an umbrella term for any initiative or any form of training or institution. The majority of skill development structures and initiatives in India are administered by the Ministry of Skill Development (MSDE) and its sub authorities, the Directorate General of Training (DGT) and the National Skill Development Corporation (NSDC), a public–private partnership agency [20,25]. At the federal level, state authorities handle the day-to-day administration of institutions, according to national guidelines. The states are responsible for quality assurance, conducting tests, general administration, and the distribution of further teacher training [26,27].

One pillar of skill development constitutes formal vocational education and training delivered in Industrial Training Institutes (ITIs) and Polytechnic Colleges. Short-term courses are offered under different schemes and providers, including ITIs. General skill development schemes do also relate to, e.g., the upgrading of institutes, industry involvement, personnel development, and increasing access to different kinds of vocational education and training in the form of scholarships [26].

VET is associated with a low social status and is generally negatively stigmatized, specifically training in manual activities [23,28–30]. At the same time, the need for skilled workers who take positions at the medium level is expressed frequently [21]. Past and current initiatives to upscale and reform the Indian VET system, primarily driven by the Indian government and supported by international development cooperation [9], have a long history, starting after the attainment of independence [9,27]. Recent initiatives did intensively target employer engagement, which led to the establishment of the NSDC, and have been integrated in the recent National Skill Development Mission [26].

However, the research documents fundamental and long-standing problems regarding vocational education and training in India. Despite a large demographic dividend, India has been unable to match skill demands. Reasons have frequently been attributed to its disjointed and uncoordinated initiatives [31]. The quality of training and the employability of graduates is often criticised by employers [30,32], leading to individuals’ unemployment despite them having completed education within a field of prospective employment [33]. The fact that graduates are often not trained to match market demands and that course content is often outdated reflects the historically evolved supply orientation of formal vocational education and training, which, as a solely state-controlled system [33], had little to no involvement from the private sector and no efficient mechanisms for determining the demand for graduates, qualifications, or job profiles [9]. Lacunas, in terms of monitoring and tracking, the inclusion of soft skills, consistency in trainer standards, and a focus on placement, have also been pointed out [9,20].

Exclusive input-based educational governance and a lack of coordination between central and national control have been considered central challenges to the Indian skill development system, which lacks a long-term vision [34] and needs further inquiry into inclusivity [35]. Hierarchical structures, a distance between policies and local context conditions and needs [23], and a low decision-scope of personnel responsible for implementation [9] have been identified as possible challenges for reform initiatives in India.

Taking a different perspective, the MGNF programme, which is at the centre of this study, incorporates the principle of bottom-up development and improvement. The following section illustrates its fundamental objectives and policy structures.

Description of Research Object: Advancement of Skill Development in Indian Districts

The programme investigated within the context of this study, the Mahatma Gandhi National Fellowship (MGNF) programme, is a skill development initiative that takes the form of a two-year (academic) programme that provides practical experience focusing on concrete practical development activities that relate to the skill ecosystem in Indian districts. The fundamental idea behind this programme lies in the decentralisation of the formulation,

planning, and execution of skill development schemes. Young individuals work alongside district administration to strengthen district VET ecosystems, identifying gaps and working to address them. Practical work is combined with four theoretical modules, lasting 10 days of classroom sessions each, and additional mentorship to support the operational part of the programme in the district, which forms the largest share of the programme.

The scheme was offered the support of the Indian Institute of Management-Bangalore as an academic partner in 2020, representing the cooperation of the national and state governments regarding the practical work on site, resulting in a postgraduate certificate in public policy and management. The target group for the programme is mainly young graduates with a first degree, but with no limitations to one subject or area. The programme combines practical work in the wider scope of skill development with theoretical classroom sessions and ongoing mentorship during the operational phases. The participants, referred to as “fellows”, are assigned to districts, where they work within the District Skills Mission. The Skills Mission initiative was launched by the MSDE and set to initiate a shift from a mere top-down approach to the integration of bottom-up approaches in governance, with district administrations getting more responsibility [36,37] in the development and reform of skill development structures according to local demand and framing conditions. This policy was launched with the specific objective of strengthening and enhancing the functionality of skill development committees at the district level (DSC). The main purpose of such committees was to foster convergence and coordination among relevant development departments within district administrations, ensuring the effective planning, implementation, and monitoring of skill development programmes at the grassroots level. Fellows are expected to identify options and barriers as well as seek out policy support to develop potential for employment and their future livelihoods based on skill development in their district [37]. One of the focal objectives is the alignment of programme delivery between the central government and state governments. The idea is to place young (age 21–31) and trained individuals in public office to strengthen the skill ecosystem and initiate public problem solving in the skill development ecosystem [37]. It was found that fellows were frequently not native to the districts they were placed in, to enable an outside view and enhance innovation and the building of new ideas.

While these fellows themselves do not participate in VET programmes, they form a very integral part of the VET ecosystem as implementers and facilitators in the policy planning space. The programme, therefore, does not just create interest among youth in participating in VET facilitation, but also helps strengthen the mechanisms of VET programmes at the sub-national level through the bottom-up evaluation of needs, challenges, and gaps.

Within the pilot batch of fellows from 2020–2022 (first graduates after the two-year programme), six States in India were represented: Gujarat, Meghalaya, Karnataka, Rajasthan, Uttar Pradesh, and Uttarakhand. Seventy-five programme participants were placed in the DSCs of 75 districts across these states. The scheme has subsequently been extended to cover the entire country.

The policy promises to have the potential to “circumvent traditional barriers that span several boundaries—departmental boundaries within the state, state-market boundaries, and boundaries set up by workplace hierarchies in a public system” [37] (p. 1). However, some difficulties identified for past initiatives [20] hint at possibilities of challenges within the actual implementation context, too.

The need for such a study stems from the poor performance of VET programmes over the years, and discourse on the challenges to the effective implementation of such skill development programmes, as discussed in previous sections. The visible lacuna in this regard points toward the need for a more hands-on evaluation of such initiatives, which this paper seeks to derive through the perception-based analysis of the MGNF’s youth implementers.

These challenges, as well as potential enablers for implementation, will be more closely looked into in the following sections.

3. Theoretical Approaches to Implementation

Implementation processes are investigated in different research disciplines [38], with implementation science or implementation research [39] and policy implementation research being of major relevance in this field. In contrast to policy implementation and policy transfer research, which is founded in the social sciences, implementation science has its roots specifically in the healthcare sector. Both disciplines inform research on implementation in areas of education and other fields with regard to the existing approaches to processes of implementation. As such, findings from different disciplines will be referred to within the discussion of this study's results.

Fixsen et al. [39] define implementation as “a specific set of activities designed to put into practice an activity or programme of known dimensions” (p. 5). While different definitions for implementation and implementation research exist [40], across disciplines, implementation research is considered to address implementation fidelity, the level to which a policy is established in practice and the factors that impact actual implementation processes [5,14,39,41,42].

In policy implementation, Najam [40] distinguishes three generations of research [5,13]: these shift from (1) case studies to identify variables in the implementation process to (2) the debate around top-down or bottom-up approaches to implementation [43,44] as well as the first theoretical frameworks for implementation, before (3) focusing on the development of conceptual models and impact factors to establish an implementation theory that may be tested and operationalised [13,40].

While there is a larger body of literature on general policy implementation and policy implementation in general education [45], theory that relates to VET implementation is scarce, at least for some national contexts [10]. A framework that has been used across policy domains and which has been specified and applied to VET [5,13,46] is the 5C approach by Najam [40], which has been synthesized based on a review of policy implementation research. The framework identifies factors that may enable policy implementation [40], specifically at the implementer level, in consideration of implementer premises, policy content and objectives, and local/direct context conditions. The model has been applied and proven to be valid in VET contexts [13] and it resonates with other models for VET implementation [17,19]. Being comprehensive with regard to various factors and in view of its rather broad approach to defining them, which makes this approach generally eligible for adaptation, the 5C framework has been chosen as the theoretical underpinning and foundation for impact factor investigation in the current study. The studied factors, as defined by Najam [40], as well as their individual specifications for the purpose of this study will be established in the following section.

5C Model—Factors That May Impact Implementation

The model developed by Najam [40] consists of five dimensions that may impact implementation: content, context, commitment, capacity, and clients and coalitions. Content refers to the goals and objectives of a policy, the causal theory behind issues (the ways in which topics are analysed/assessed), and how perceived problems should be dealt with (methods). Context refers to the institutional setting of the policy, which directly impacts policy procedures and objectives. It includes key institutional players that may influence or are influenced by the policy, and interests and power relationships between and within relevant institutions and institutional characteristics, which are shaped by the larger social, economic, political, and legal setting. Commitment relates to policy implementers at different levels and targets commitment towards the goals, causal theory, and methods of a policy. Capacity refers to the administrative capacity of implementers and may address skill levels and knowledge, physical facilities, or resources. The dimension clients and coalitions incorporates alignment between target groups to whom the policy is delivered and the interplay between various actors (that are not part of the direct institutional context) [40] (pp. 35–57). The dimensions of the framework are further elaborated but, giving them a certain broadness allows for application across different policy areas [5]. Primarily based

on Najam [40], and under the consideration of Caves and Baumann [5] as well as Caves and Oswald-Egg [13], the framework has been specified in line with the assumed framework conditions in India, based on a review of Indian VET research. The main pillars of the model already map factors that have been identified as relevant in Indian local implementation contexts, and these have been specified in detail herein. The specific adaptations of this model include, e.g., the general attitude towards VET, as VET is of a general low standing in the Indian society [35], and the inclusion of cultural competencies in the capacity section, given the manifold diversity of the subcontinent that manifests in distinct and multi-level cultural differences.

The content dimension refers to strategies and concrete activities of the policy. The rationale behind fostering skill development is investigated, as well as whether actual activities relate to the policy programme and objectives. In the context dimension, the focus is on support and coordination between different actors in the involved institutions and also administrative structures that may hinder or enable cooperation. Clients and coalitions relates to different target groups of the policy, including their satisfaction, alignment, and also cooperation. The factors commitment and capacity have been specified with regard to the fellows as direct implementers of the policy at the grassroots level. Commitment relates to the general attitude towards VET and the interest, motivation/enjoyment, and effort of fellows. It also correlates with the decision-scope and agency, which are part of the capacity dimension. The capacity dimension further relates to knowledge, skills, resources, and social and personal abilities—including cultural competencies and cultural sensitivity as well as general competencies that are not necessarily related to skill development and VET.

4. Methodology

Taking an explorative research approach [47] (p. 104), this study seeks to identify specific factor characteristics that promote or hinder implementation within the given context of the MGNF programme as a case study. With the backdrop of the 5C model as a conceptual framework, this study combines an extensive quantitative questionnaire with further qualitative questions to understand the successes and challenges of India's MGNF programme as a VET policy initiative.

A comprehensive questionnaire was administered to a random sample of 63 graduates of the MGNF initiative following the completion of the first 2-year batch of the fellowship programme from Bangalore, Karnataka state of India, March 2022. The questionnaire was designed to understand the fellows' perceptions and key implementation challenges in the programme regarding the local policy context, stakeholder cooperation, and institutional as well as implementer capacity. The respondents were questioned anonymously with a comprehensive set of 66 quantitative questions relating to the five implementation drivers elaborated in the previous section. The answers were obtained by means of a 5-point Likert scale, and non-statements were possible. The statements and questions take positive as well as negative forms, and control questions were integrated. In order to establish a common understanding, basic terms were defined (e.g., VET, skill development, actors). The questions were mixed to create a coherent question flow, and not bundled in categories. The questionnaire was complemented with 12 qualitative questions to supplement the quantitative data. The questions themselves were based on tested scales as well as qualitative research questions of previous validated studies that matched 5C categories and research intentions within this context [13,48–53]. The analysis takes a descriptive perspective in line with the explorative character of this study. The qualitative questions were analysed by means of a qualitative content analysis [54].

The methodological choice to analyse challenges and enabling factors through the help of a questionnaire in this case stems from the need for a bottom-up perception-based understanding of policy challenges for the effective implementation of the investigation, as well as obligations of time and feasibility. Alternative approaches like document analyses or using statistics with a stronger focus on objective outputs were determined to not be sufficient, with regard to gleaning insights into the implementers' experiences on the

ground. Possible limitations of using a quantitative questionnaire were addressed by further qualitative questions.

5. Results

In the following section, a portion of the results of the quantitative questionnaire will be presented. Qualitative results will be included in the discussion to supplement the data illustrated below and provide further information on possible reasons for specific answer characteristics.

The analysis is based on 66 questions administered through a questionnaire which received 63 responses in total. The age of the respondents ranged between 23 and 31 (59 out of 63 responses). The largest numbers of respondents (20.3%) were aged 27 and 26 years (18.6%). Of 61 responses on the gender profile, 55.7% were male and 44.3% were female. The highest educational attainment/certifications of the respondents before entering the programme (based on 60 responses) were engineering courses, followed by having a Post Graduate Diploma in Rural Development and Management. Only 27.6% of the respondents (58 responses) had any educational/training experience in the skill development ecosystem before entering the programme, while only one-third of the respondents (59 responses) had any working experience in the skill development ecosystem before entering the programme, with the experience levels ranging between 2 and 3 years (20 responses, 80% had 2 years work experience in VET). However, 85% of the respondents (60 responses) had any general work experience, ranging from 0.5 to 6 years, with the maximum being 4–5 years (based on 51 responses).

The following results will be presented in line with the model dimensions [42] that were specified previously (see Figure 1).

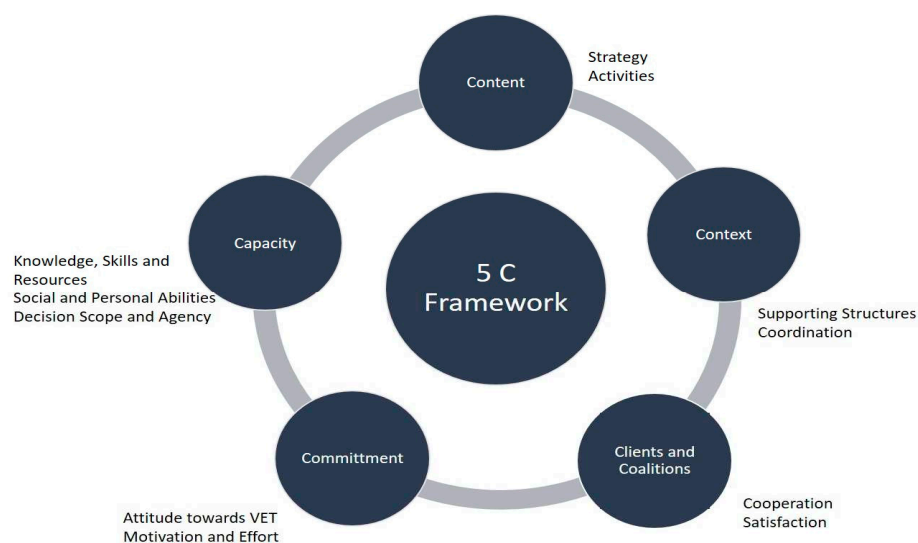


Figure 1. Specification of 5C framework for VET policy implementation in India. Author's own compilation.

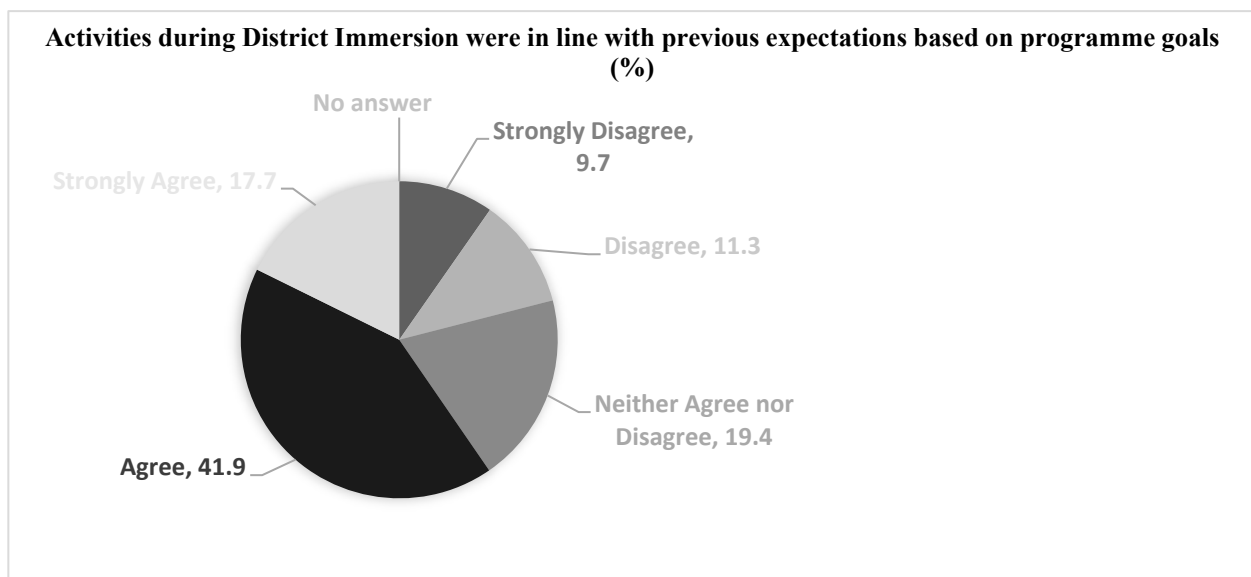
5.1. Content of Policy

The content dimension relates to concrete activities in the districts (Table 1), strategy in terms of consistency between programme goals and activities (Figure 2), and the causal theory behind skill development initiatives.

Out of the responses that were received, in the operational phase in districts, the fellows were able to undertake several important activities pertaining to skill development, the main activity being engaging with and establishing networks with different actors and bringing together actors in the skill development landscape. Of the 12 different activities reported, at least 50% of the fellows indicated having been involved in one or more of them, except in the case of administrative activities and the revision of existing measures, which around 42% of fellows were, nevertheless, able to take part in.

Table 1. Concrete activities during the operational phase in districts.

S. No.	Concrete Activities in District Immersion	Responses in Yes (%)
1	To engage with and establish networks to different actors (e.g., education and training institutions, employer (representatives), community committees (e.g., CBOs), govt. authorities, etc.)	82.3%
2	Understanding aspirations of young people in the district	77.4%
3	To bring together actors (e.g., employers, educational institutions, etc.) in the skill development landscape	80.6%
4	To develop new programmes	56.5%
5	To revise existing measures	41.9%
6	To initiate programmes/inventions	71%
7	Administrative work in the agency that the fellow was placed in (processing, controlling, etc.)	41.9%
8	Organisational activities (planning and realization of meetings, coordination of stakeholders, etc.)	62.9%
9	To support in improving the quality of skill training	59.7%
10	To improve the outreach of programmes in the district	59.7%
11	To mobilize trainees for the training programme	51.6%
12	To promote skill development/ upskilling	75.8%

**Figure 2.** Policy strategies.

With regard to strategy, the fellows were asked to share their perceptions and opinions on whether they thought that there was consistency between the programme goals and the district activities that they engaged in. Their responses on whether their activities during district immersion were in line with previous expectations based on the programme goals have been summarized below.

Overall, 59.6% of the fellows responded as having undertaken activities as part of district immersion that were in line with their prior expectations and in line with the programme goals. However, 19.4% of the respondents were neutral and 21% disagreed with the convergence of activities and expectations based on the set goals. Almost 10% of the respondents, in fact, strongly disagreed and felt that the district immersion activities were in fact not in conjunction with the envisaged programme goals.

Concerning the rationale behind skill development activities, the respondents' perspective was that the main purpose of skill development is unemployment reduction (54%), followed by fostering self-employment and entrepreneurship (41%), meeting employer demands for a more highly qualified workforce (41%), poverty reduction (28%), and the upskilling of non-skilled workers (28%). More than 60% of the fellows agreed that skill development activities within the programme would primarily target the poor/socioeconomically disadvantaged of their society.

5.2. Context

Context refers to supporting structures within the institutional framing of the policy and the coordination between different actors engaged in the policy's implementation.

The fellows, in general, agreed to the contextual support structures (Figure 3) being in place and supporting their working activities (53.3% in all). However, 25.8% (nearly one-fourth of the respondents) neither agreed nor disagreed about support structures being in place and helpful. In fact, one-fifth of the fellows actually responded as disagreeing (11.3% disagreeing strongly) that contextual support structures were in place or helpful in their working activities.

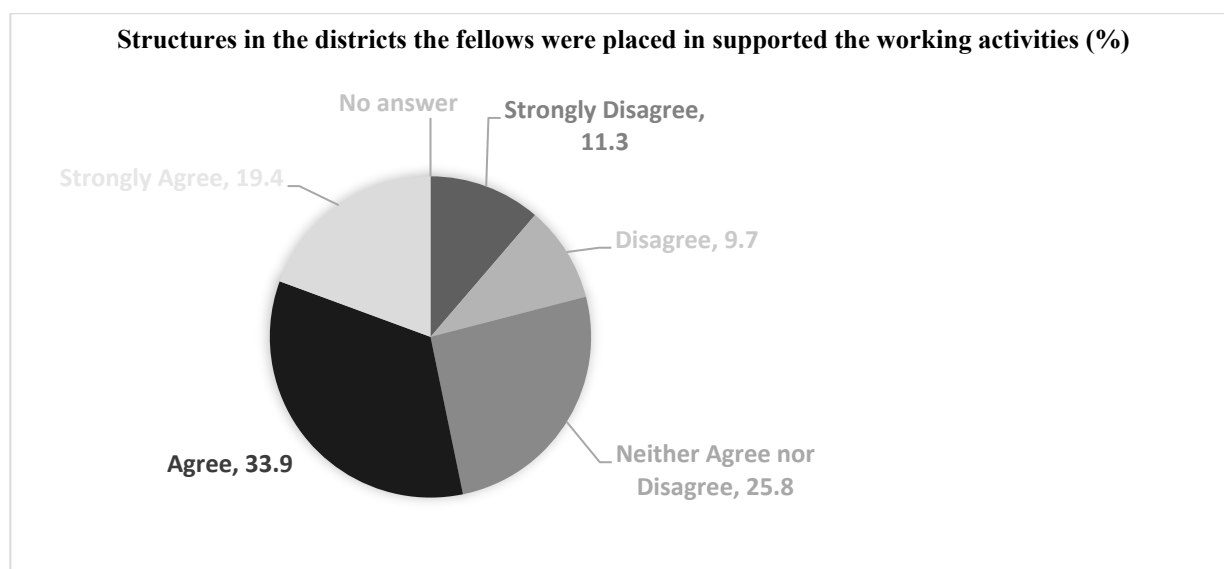


Figure 3. Supporting structures.

In addition, more than half of the fellows (52.5%) disagreed with their being any coordination of institutions and actors (Table 2) with regard to planned skill development activities, and 11.8% were neutral. Only 36.1% of the fellows in all thought that there was any coordination (only 3.3% strongly agreed). At the same time, 87.1% of the fellows agreed to there being opposing intentions/opinions wherein they had to negotiate between actors in the district skill development landscape. Furthermore, 88.7% of the fellows also responded to there being conflicting factors in the system and within the programme characteristics of the existing system.

5.3. Commitment

Commitment was assessed by indicators that referred to the respondent's attitude towards vocational education and training, and their interest, enjoyment, and effort related to the area of skill development and concrete working activities (Table 3).

Table 2. Coordination of contextual support structures.

Coordination Amongst Contextual Support Structures	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	No Answer	No. of Responses
Coordination of institutions and actors—The relevant actors in the district were coordinated with regard to planned skill development activities	19.7%	32.8%	11.8%	32.8%	3.3%	0%	61
Opposing intentions/ opinions of actors- Fellow experienced situations where they witnessed situations where fellows witnessed opposing opinions of different actors involved in the VET ecosystem, with the possibility of creating situations of implementation bottlenecks	0%	1.6%	8.1%	58.1%	29%	3.2%	62
Programme characteristics conflict with factors (e.g., hierarchical structures, lack of resources, administrative hurdles) in the existing system.	0%	4.8%	6.5%	40.3%	48.4%	0%	62

Table 3. Questions on commitment.

Commitment- <i>Interest, Enjoyment, Effort</i>	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	No Answer	No. of Responses
Positive Questions							
<i>Interest</i> —I know that I had a sufficient interest in vocational education and training to meet the demands of my work during district immersion	1.6%	9.7%	9.7%	40.3%	38.7%	0%	62
<i>Enjoyment</i> —I enjoyed working in the districts with the administration very much	1.6%	9.7%	25.8%	25.8%	37.1%	0%	62
<i>Enjoyment</i> —After 2 years of the MGNF program, I would like to continue working in the skill development/vocational education & training landscape	0%	14.5%	27.4%	29%	27.4%	1.6%	62
<i>Effort</i> —It was important for me to perform well in the district activities	0%	1.6%	3.2%	27.4%	67.7%	0%	62
Negative Questions							
<i>Enjoyment</i> —I will work further in the area of skill development, because there is no alternative for me available.	34.4%	36.1%	16.4%	3.3%	3.3%	6.6%	61

The responses of the fellows with regard to their attitudes towards vocational education and training show mixed responses. While 59.1% of the fellows felt (23% strongly agreed) that vocational education and training measures can represent a good alternative

to academic education (in relation to lifetime earnings) for people with practical talent, 13.1% were neutral and 24.6% did not think so. Further, when asked whether they feel that vocational education and training offers good career opportunities, 58.3% thought that it did and 20% were not sure, but 16.7% disagreed. However, as high as 93.4% of the fellows thought that extending the vocational education and training system is relevant for the economic and social future of India.

The perceptions of the fellows on students who come for vocational education and training were rather positive. Only 14.8% of the fellows felt that vocational education and training is for students who are rather low-performing in academic subjects; while 11.5% of the fellows neither agreed nor disagreed, the majority (68.8%) did not agree with this opinion. However, their opinions were divided on the issue of whether people trained in vocational streams are often illiterate; while 21.3% were neutral and 41% did not agree overall, 36.1% fellows still perceived it to be true.

In terms of interest, 79% of the fellows responded as having sufficient motivation and involvement in their vocational education and training to meet the demands of work during district immersion under the programme (sum of agree and strongly agree responses). While one-fourth of the respondents were neutral, around 63% enjoyed working in the districts with the administration very much. However, 11.3% of the fellows did not enjoy the process. Consequently, 56.4% of the fellows were ready to continue working in the skill development/vocational education and training landscape even after 2 years of the programme, but 27.4% were undecided and 14.5% did not wish to continue in this space after the programme. In fact, more than 70% of the fellows did not agree when asked if they would work further in this field due to an absence of alternatives; while 16.4% neither agreed nor disagreed, only 6.6% of the fellows thought so. More positive feedback was obtained in terms of interest and enjoyment in the area of skill development, as more than 95% of the fellows agreed (67.7% strongly agreed) that it was important for them to perform well in the district activities.

5.4. Capacity

The capacity dimension incorporates knowledge, skills, and resources. It further includes social abilities and space to make decisions and choices within the institutional structures within which the policy is implemented.

A total of 98.4% of the fellows agreed (almost 61% strongly agreed) that they gained profound knowledge about different institutions, and levels and measures of the Indian vocational education and training system. In particular, with regard to nuanced understanding within the skill development landscape, the fellows gave a positive response with respect to the knowledge and learnings that they had obtained. For instance, almost 89% of the respondents said that they received specific knowledge about industrial training institutes, 61.3% said that they received specific knowledge about vocational education in polytechnic colleges, and 90.3% said that they received specific knowledge about measures (schemes and courses) designed for informal sector workers.

The fellows were questioned with respect to their preparedness for their work within skill development missions in the districts (Figure 4).

Around one-fourth of the fellows strongly agreed that they were well-prepared for their duties and responsibilities under the MGNF programme, and 35.5% more agreed as well. However, 19.4% of the fellows neither agreed nor disagreed, and another 19.4% actually felt that they were not well-prepared for their duties and responsibilities when they went to work in the district. Furthermore, 48.4% of the fellows admitted that they would have needed additional preparation (Figure 5) to work efficiently during their district immersion under the MGNF programme. However, 32.3% felt that they needed no additional preparation. A total of 17.7% neither agreed nor disagreed. In sum, there were mixed responses, with some indication towards the need for more preparedness before the programme activities for effective working.

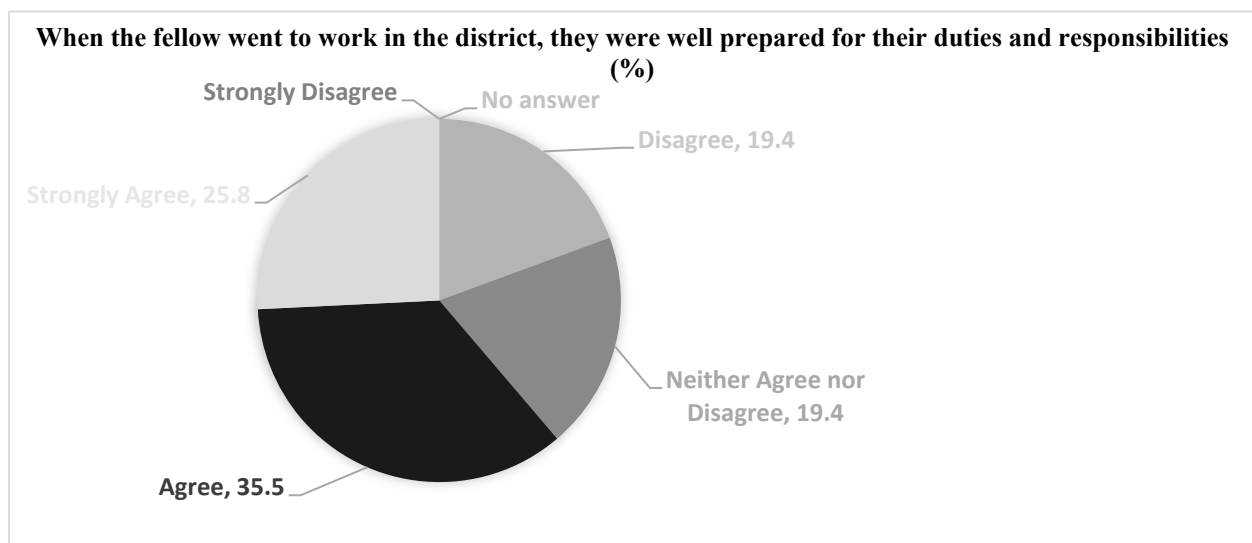


Figure 4. Preparedness for work.

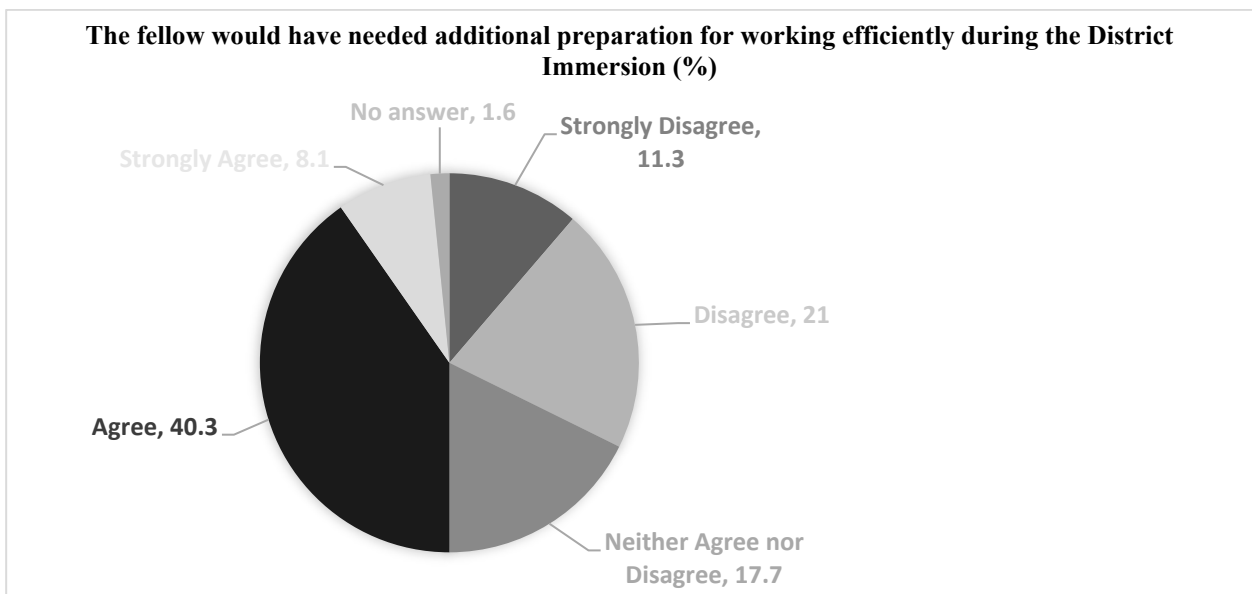


Figure 5. Need for additional work preparation.

Representing a positive stance towards the programme, overall, 70.9% of the fellows reported that they felt pretty competent and confident after working in their district for a while (Figure 6) (30.6% strongly agreed to this). However, 9.7% of the respondents did not feel that working in the district gave them competence. Further, in terms of the 2 years spent under the programme, overall, 79% of the fellows said that they had achieved further general competencies and skills, whether they were general or specific vocational skills. A total of 6.4% of the respondents did not feel so. With a few exceptions, the general response to competence developed within the programme is positive.

With regard to social abilities, next to teamwork, cultural competencies in terms of cultural sensitivity were investigated. The fellows reported, in general, being comfortable with the cultural as well as socio-economic differences that they were exposed to in the programme (Figure 7). A total of 24.2% strongly agreed and 37.1% agreed that they had a feeling of enjoyment towards differences between their culturally distinct counterparts and themselves in skill development activities. One-fifth of the respondents were neutral, but 6.4% did not feel comfortable with the cultural differences. Furthermore, 48.4% of

the fellows in total said that they did not get discouraged when interacting with people from different cultural or population groups, or people from different socio-economic backgrounds. However, 21% were neutral and 30.7% overall did feel discouraged.

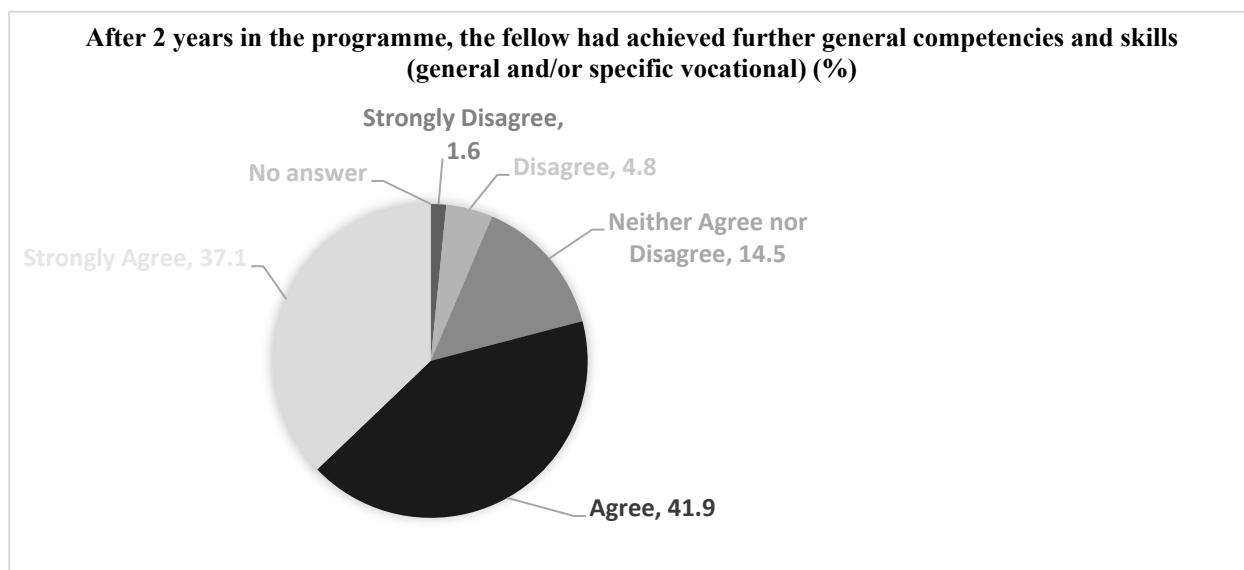


Figure 6. Increase in competencies and skills.

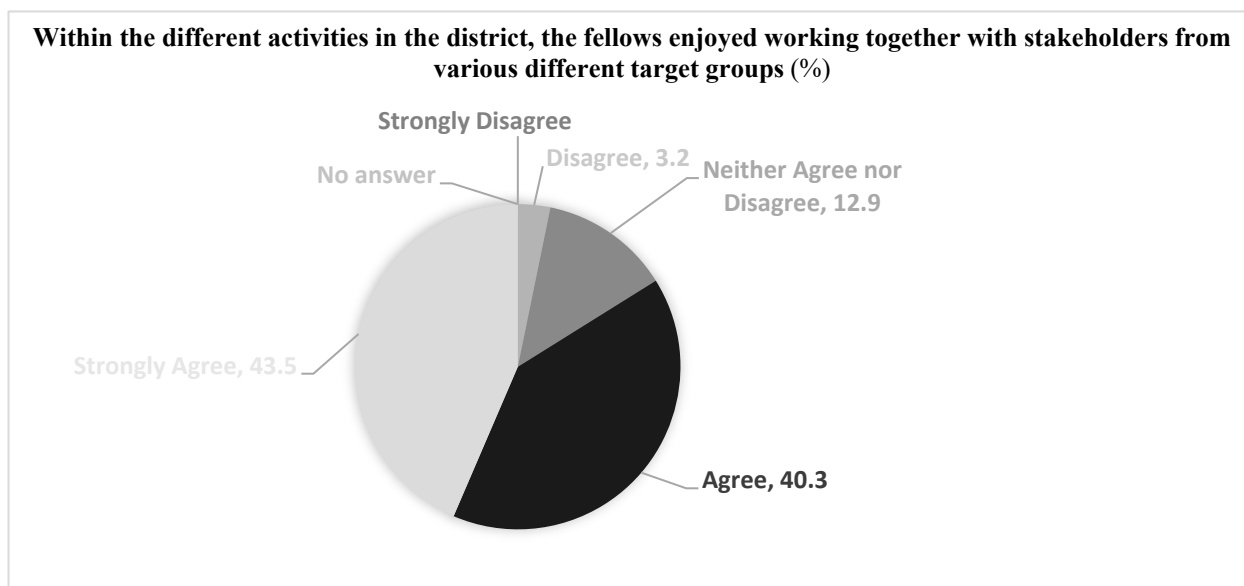


Figure 7. Cooperating with various target groups.

With respect to the freedom provided for the fellows to make decisions and use their experience in implementing activities as part of the skill development programme, the fellows generally agreed to having been given the freedom of decision-making (Table 4).

The fellows generally agreed to having been given the freedom of decision-making. Overall, 80.6% felt that they had some choice/freedom regarding the different activities they undertook in the district. Around 13% were neutral and 6.4% actually felt that they did not have enough freedom in the activities they had to perform in the districts. At the same time, 42.7% of the fellows in all said that the programme fostered commitment and ownership, because they had a sufficient decision scope in their activities. However, 34.5% did not think so, and 23% neither agreed nor disagreed. Furthermore, the fellows in general

felt like they had to do some of the activities in the district immersion, with little choice in the matter. The overall responses were therefore mixed in terms of the fellows being given the freedom to make decisions within their activities in their district.

Table 4. Decision scope and agency.

Decision-Scope and Agency	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	No Answer	No. of Responses
Positive Questions							
The fellow had some choice/freedom about the different activities they did in the district	1.6%	4.8%	12.9%	43.5%	37.1%	0%	62
The programme fostered commitment and ownership, because the fellow had sufficient decision scope in their activities	6.6%	27.9%	23%	27.9%	14.8%	0%	61
Negative Questions							
For some activities in the district immersion, the fellow felt like they had to do them	0%	0%	12.9%	53.2%	29%	4.8%	62

5.5. Clients and Coalitions

The final dimension investigated refers to the direct target group of the policy and the interplay of various actors that are external to the direct institutional policy context that may be affected by policy goals or engaging in collaborative activities.

The MGNF fellows were asked to record their engagement with different authorities/representatives/actors and organisations during their work in the districts (Table 5).

The fellows under the programme most frequently met with industrial training institutes (33.9%) and the Educational/Training Department at the local level (24.2%) on a weekly basis. There is some level of engagement with other target groups and institutions including community-based organizations, community committees, and sometimes polytechnic colleges, as well as skill development coalitions.

The alignment and also support of various target groups have been recorded. Of the 61 responses that were received, only 31.2% of the fellows felt that, overall, the different target groups were in alignment and had similar views as the programme itself in the district (Figure 8). However, 19.7% neither agreed nor disagreed and as many as 49.2% felt that the different target groups (e.g., educational institutions, trainees, parents, employers, employer associations, etc.) that they were involved with did not agree and had different views on skill development in the district.

While 39.3% of the fellows had received some level of support from some of their interactions (Figure 9), 14.8% were neutral and 42.6% in fact admitted to experiencing little support (organisational, administrative, by giving advice, etc.) for their activities by various actors from different areas as a result of their interactions. A lack of mutual support would defeat the purpose of the coalitions.

With regard to employer engagement, according to 49.2% of the fellows, employers were often reluctant to engage in skill development activities, while 36.1% were neutral in this regard. Only 13.1% of the fellows overall reported their employers to be interested in engaging with skill development activities.

Table 5. Stakeholder engagement.

S. No.	During the Fellows' Work in the District, They Engaged with	Never	Rarely	Sometimes	Often	On Weekly Basis	Number of Responses
1	Educational/ Training Department (local level)	1.6%	1.6%	25.8%	46.8%	24.2%	62
2	Educational/ Training Department (Federal government level, if present)	5%	16.7%	30%	28.3%	20%	60
3	Community Committee (e.g., CBOs)	8.1%	16.1%	40.3%	21%	14.5%	62
4	Employer Representative Committees	9.7%	24.2%	35.5%	25.8%	4.8%	62
5	Industrial Training Institutes	3.2%	14.5%	21%	27.4%	33.9%	62
6	Polytechnic Colleges	12.9%	24.2%	37.1%	16.1%	9.7%	62
7	Arts and Science Colleges	22.6%	37.1%	27.4%	11.3%	1.6%	62
8	Engineering Colleges	32.3%	35.5%	25.8%	3.2%	3.2%	62
9	Employers/ Companies	8.2%	8.2%	41%	32.8%	9.8%	61
10	National Skill Development Corporation	24.2%	30.6%	33.9%	6.5%	4.8%	62
11	Sector Skill Councils	14.5%	25.8%	43.5%	12.9%	3.2%	62
12	Federation of Indian Chambers of Commerce & Industry(FICCI)	67.2%	16.4%	11.5%	1.6%	3.3%	61
13	Community-based Organizations/ NGOs	0%	16.1%	32.3%	33.9%	17.7%	62
14	Confederation of Indian Industry (CII)	46.8%	24.2%	16.1%	6.5%	6.5%	62

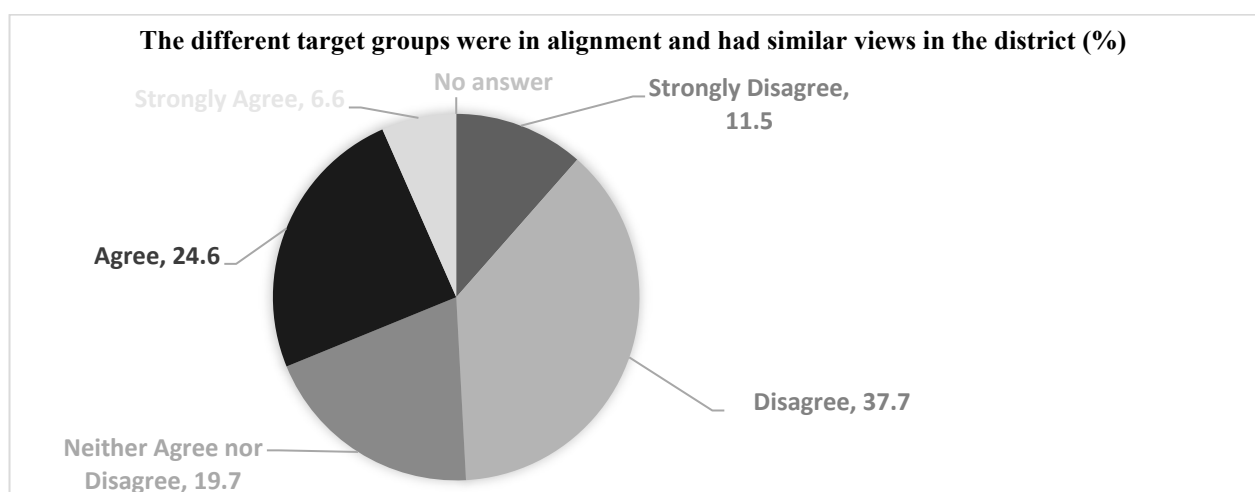


Figure 8. Stakeholder alignment.

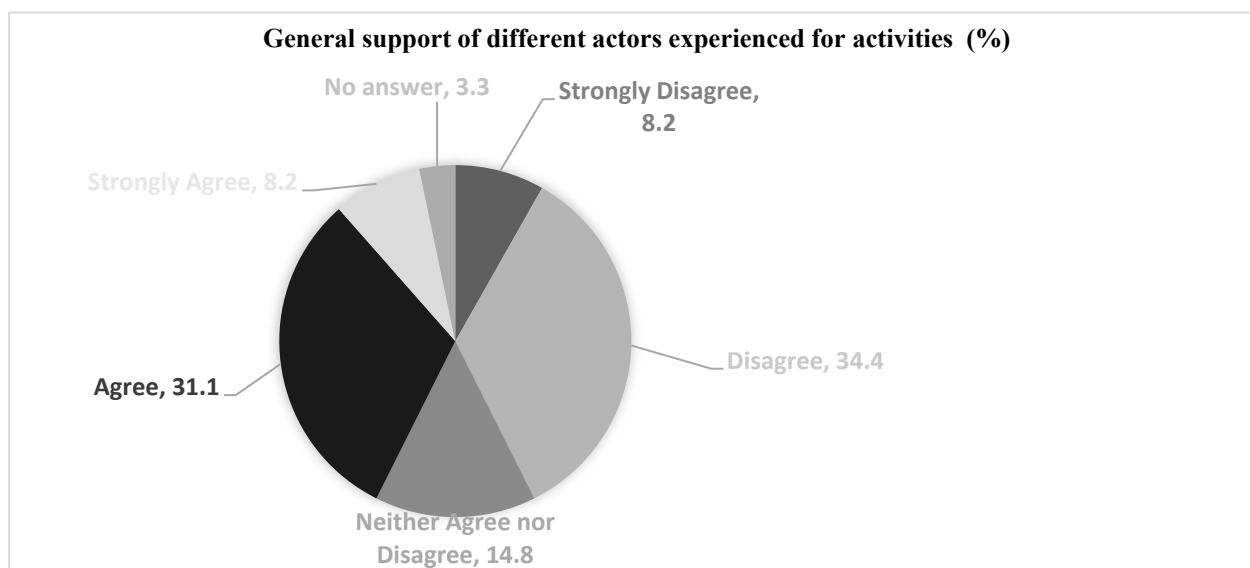


Figure 9. Support of actors in the district.

6. Discussion

The results of this study provide insights regarding the implementation factors for skill development policies in India and reveal challenging areas as well as potential implementation drivers.

The content dimension, targeting policy content, concrete activities, and strategies, has proven to be highly critical regarding policy implementation [39,46,55]. Within the current study, this dimension was shown rather positively, being a potential enabler of implementation. Most of the fellows were in favour of the content and aims of the programme and indicated that they were in line with the idea, as part of the policy, of decentralising skill-development activities [26,37]:

“The concept of decentralisation was a supporting factor for my activities”

“There is a huge disconnect between the existing trades and the aspirations of youth/ aspirants. Decentralisation could resolve it”.

The rationale behind skill development expressed by the respondents aligns with perspectives on skill development formulated within the investigated policy [41], as well as the majority opinion expressed by governmental institutions, putting employer demands for a qualified workforce, unemployment reduction, and, hence, poverty reduction, at the centre of skill development purposes [37]. This shows that taking the perspective of the programme philosophy and the fellows as implementers, with regard to the rationale behind skill development, there is policy consistency. The philosophy and theoretical programme content seem to align with experiences had by the fellows in the field.

Regarding the operationalisation of policy objectives in the district, the fellows engaged in a wide spectrum of activities which fundamentally resonate with the policy content, given its broad orientation that enables and fosters different activities depending on local demand. However, concrete implementation of the programme seems to have encountered hurdles: in terms of strategy, room for improvement was identified regarding activities in the district being in line with previous expectations based on the programme goals.

“The district administration were not clear of the policy and were unclear about our roles. We worked across departments and not just skilling”.

The content dimension highly relates to the system compatibility of a policy, which has been identified as a crucial factor for VET implementation in development cooperation [17]. Based on our results, for some districts, the programme has shown success with regard to its intended goals and concrete projects on site. However, regarding fellows who were

engaged in activities that were not in line with the formulated objectives, the programme fidelity [14,42], and role conflicts that resulted from lack of knowledge and clarity on policy content [56], the implementation seems to have suffered from the direct policy context of the administrative structures in which the fellows were placed. Common goals and purpose are considered fundamental to cooperative reform activities [57]. Thus, the dimension of context revealed some challenges for policy implementation and may be considered a barrier to successful implementation within this study context. Thus, while the fellows predominantly favoured the idea of decentralisation, which would involve higher autonomy [58] for districts, some fellows suggested strong administrative and policy-end introspection at the same time. Challenges were described in the form of hindering structures regarding the support of actual work activities:

“My mentor in the district changed thrice. The second one was very helpful while others were not very supportive”.

“Support differed from mentor to mentor (they frequently get transferred)”.

High personnel fluctuation has been shown to be harmful to effective cooperation in VET reform [59,60] and has been identified as problematic in the past within the Indian educational governance context [20]. In addition, the respondents’ answers revealed that the district administration did not always support policy implementation:

“The district administration was not very welcoming due to their hectic work schedules”.

“No support. I was in the district as an “Alien”

“Level of support was lukewarm at best. They did not stop me from pitching initiatives but also did not actively provide help/ support”.

Missing support structures for VET reform may have a number of origins. Some reasons for this may be assumed to be local system compatibility in terms of cultural, social, or economic framework conditions [17], differing opinions on goal attainment among actors who are supposed to cooperate [57], and, generally, the motivation of all actors involved [60,61]:

“There was no interest in taking up additional initiatives apart from regular work”.

Motivation does not only relate to organisations but individuals, who can greatly impact policy implementation [62]:

“District skill development officer not very interested”.

Within this context, the relevance of trust [60] and long-term building of relationships [57] became apparent:

“Support from government staff was not enough initially but later on we managed”.

The interrelatedness of dimensions relevant for policy implementation has become clear, as differences with regard to causal theory and policy philosophy [40] may result in missing support in the direct policy context:

“Skill development is not priority to district administration”

“There was a step-motherly treatment of skill development”.

Common goals have been shown to be of high relevance for enabling cooperation [57,59,60]. Alignment is a prerequisite for coordination, being a major pillar of cooperative activities in reform implementation [63,64]:

“My most unsuccessful activity was working on strengthening the District Skill Committee. Unless there is . . . a line department for skills, DSC will not achieve convergence. All members have their own roles and responsibilities, they receive mandates from individual directorates. So DSC doesn’t have decision making or financial authorities”

The fellows' responses with respect to coordination within the existing support system point towards a need to examine the roles and convergence of institutions and actors. Missing coordination, opposing intentions or opinions, and conflicting factors within the existing administrative system and programme characteristics seemed to be prominent hurdles during implementation:

"Delays in government paperwork were problematic".

"There was lack of support from administration for fear of owning a project and related fine".

The context dimension, targeting the direct institutional context of the institutions that the fellows were placed in [40], revealed several barriers to concrete reform implementation. Barriers were also identified to targeting the wider context in the form of different target groups and actors concerned by policy actions in the dimension of clients and coalitions.

Problems occurred with regard to the alignment of actors as well as support for the district work in skill development. The literature regarding VET reform implementation frequently addresses ongoing challenges in involving the private sector in VET systems and measures [65], an issue which has been specifically referred to in regard to many Asian countries [46]: "The effectiveness of vocational education and training (VET) depends on the quality of interactions between the actors from the education and employment system. . ." [46] (p. 524). For India, private sector involvement constitutes one of the main challenges of the skill development ecosystem [20,33,62]. Also, within this study context, employer engagement has also been identified as a major issue:

"Employers think skill development activities undertaken by the government are of poor quality, irrelevant to the market trends, incompetent etc. They think candidates often need to be re-trained by the employers".

"Indifferent due to lack of constitutional power on our part".

Companies engage in skill development if they benefit from such an engagement [66]. For India, employers frequently formulate a low appraisal of or resistance against formal VET, as the system is considered to be of low quality [62,67]. The latter quotation points at hurdles caused by a lack of agency on the policy implementer site, which impacts cooperative activities, again illustrating the interdependency of factors [5,40].

Basically, the fellows expressed a need for increased interactions with target groups and an increased need for support from these groups for an effective communication and result-oriented implementation, pointing towards the high relevance of alignment and cooperation between different actors involved in policy implementation [57,63].

"A challenge was conflict resolution between different actors".

Two of the main pillars of successful implementation activities are financial and human resources [10]. As part of the capacity dimension, the fellows' responses hint at problems with regard to funding and personnel (see also previous quotations), which constituted a clear implementation barrier:

"There were financial constraints to kick start new initiatives".

"DSC meetings. Departments were refusing to meet due to lack of availability of funds"

"Lack of financial funds and human resources in district".

The skill levels of the implementers are considered crucial to the effectiveness of programmes [68]. Knowledge transfer was rated positively by respondents; however, with regard to concrete district activities, nearly half of the respondents opted for additional work preparation, which is thus considered a relevant factor in terms of barriers to drivers of implementation. Needs for preparation were specifically formulated with regard to challenges described in previous paragraphs:

"Engaging and dealing with power dynamics in the government".

Intercultural competence has been shown as a factor of relevance regarding communication with and negotiation between actors [69]. It is addressed frequently in international development cooperation [70] and is also increasingly considered under notions of culture specificity and cultural sensitivity in implementation research [55]. Given the diversity in cultures and ethnicities in the subcontinent, intercultural competence has been shown to be of relevance within this study, and constitutes a barrier in some contexts:

“Cultural hindrances constituted hurdles”.

“Cultural conditions were challenging”.

Capacity, as well, relates to agency and the decision scope, which received mixed responses and are considered as inhibiting factors within this study context (see previous quotations). While the fellows basically expressed satisfaction with their own freedom of decision-making with regard to their activities, restrictions on the scope of their actions seem to have originated in a lack of power of the institution they were placed in and financial as well as human resources not being available to them. The decision scope has been related to fostering commitment and ownership [17,71], and, here as well, respondents expressed that there is room for improvement.

The implementer commitment at different levels has been identified as highly significant to reform implementation [5,17]. The results hint at challenges with regard to commitment to programme goals and procedures on the site of the administrative structures that fellows were placed in (see previous quotations). Taking the perspective of fellows as implementers, the results regarding motivation, interest, and enjoyment were positive and are considered a supporting factor in this context.

With regard to commitment to skill development measures and VET, in line with the general perception of society, the fellows' attitude towards VET may be described as mixed, reflecting the way that skill development is regarded in Indian society:

“Very poor system and considered much below the standards of traditional education systems”.

“People trained in vocational streams are often somewhat illiterate. Vocational education is an after-thought and most vocationally trained people barely get by”.

However, while the general opinion was that skill development in the past had not been effective and lucrative for participants, the fellows agree that it is essential for the future.

7. Conclusions and Outlook

The purpose of this study was to identify promoting and inhibiting factors for VET policy implementation in Indian skill ecosystems.

Main challenges were identified in the dimensions of context, clients and coalitions, and capacity. These take the form of a lack of support structures in the districts, hindering structures, missing coordination within district administration and with regard to different target groups of the policy, a lack of employer engagement, restrictions regarding decision scope and agency, financial and personnel resources, and work preparation for fellows as implementers, specifically with regard to concrete working challenges on site and intercultural competencies. The dimensions of content and commitment provided enabling factors for policy implementation, which show the importance of knowledge, general skills, and implementer commitment to policy implementation as well as policy goals. Different factors were demonstrated to be interrelated, accounting for the complexity of policy implementation [5,39].

Some limitations of this study should be noted. Although the questionnaire was completed anonymously, the fellows were questioned within the university and thus the programme setting, in the presence of programme managers, which may have led to bias, e.g., due to tendencies of social desirability [72]. While the questionnaire has been supplemented with qualitative questions to be answered in written form, qualitative interviews would have potentially contributed to explaining certain factor characteristics.

The study evaluated implementation factors from the perspective of the fellows only. In order to get a more comprehensive view on implementation, the research design may have included other actors and/or document analyses. Future research may include subsequent batches in order to substantiate these results and extend the research with regard to other actors and/or artifacts.

With regard to promoting and inhibiting factors, additional research is necessary, as the results of this study cannot directly be transferred to other country contexts. Innovation initiatives in Indian skill ecosystems encounter some specific framing conditions that impact and potentially complicate policy implementation, and which also differ significantly from those of other Asian countries. The subcontinent is complex in terms of its size, population, and religious and linguistic diversity. In addition, the states differ not only in their socio-economic characteristics, but also with regard to their governing structures in education [73]. While this study identified some specificities for VET reform in India, the results nevertheless relate to past research in differing geographical and structural regions. Specifically, the role of the direct context for VET policy implementation became apparent [17], and our findings may provide hints for policy makers in India with regard to policy features matching implementation conditions, the need for a thorough analysis of policy target contexts, and the need for support structures and the acceptance of stakeholders. From a theoretical perspective, our findings provide first insights into relevant implementation factors in the Indian context and build starting points for further investigation and validation of these results in the field.

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Data Availability Statement: The original contributions presented in the study are included in the article, further inquiries can be directed to the corresponding author.

Conflicts of Interest: The authors declare no conflict of interest.

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