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El Sistema: Music for Sustainability Goals and Education

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Abstract

This study examines how El Sistema, a global social music education program active in over 60 countries, contributes to the United Nations Sustainable Development Goals (SDGs). The program is analyzed using Sheerens' CIPO (Context–Input–Process–Output) framework, which enables comprehensive evaluation of education from design and implementation to outcomes beyond simple result-focused assessment. The framework also accounts for political, social, and economic contexts, making it effective for understanding country-specific cases. Using this approach, this study analyzed how El Sistema has been localized across five representative case countries—Scotland, the United States, Sweden, Republic of Korea, and Japan. Data were collected through a narrative review integrating academic studies and credible non-academic sources, including government and organizational reports, program brochures, official websites, news articles, and multimedia materials. Findings indicate alignment with SDGs 1, 3, 4, 5, 8, 10, 11, 16, and 17. Country-specific strategies include community engagement in Scotland (SDG 17), partnerships in the United States (SDG 17), immigrant integration in Sweden (SDGs 11, 16), inclusive music education and cultural revitalization in the Republic of Korea (SDGs 11, 16, 17), and quality and healing education for disaster-affected and disabled children in Japan (SDG 11). These results suggest that El Sistema can serve as a sustainable model of social music education when supported by localized strategies, stable resources, multi-level governance, systematic evaluation, and proactive engagement with environmental initiatives.

Keywords: El Sistema; social music education; sustainable development goals

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1. Introduction

In the 21st century, humanity worldwide faces a multitude of social, economic, and environmental challenges, including poverty, social inequality, and the climate crisis. In response to these issues and to ensure that future generations can lead sustainable lives, the United Nations General Assembly established 17 Sustainable Development Goals (SDGs) in 2015. Within this context, culture, rooted in creativity and innovation, constitutes a vital resource that generates knowledge capital and supports diverse sectors of activity, thereby functioning as a fundamental enabler and driver of sustainable development [1]. Among cultural forms, music stands out as a channel of communication that transcends language [2], culture, and temporal and spatial boundaries, conveying emotions, intentions, and meanings. By resonating with the human spirit, it invigorates, heals, and links emotions to reinforce communal bonds [3]. Serving as a bridge between individuals, its inherent beauty and social messages hold the power to transform minds and hearts. Through these multifaceted capacities, music simultaneously engages emotion and intellect, thereby contributing to sustainable development (Figure 1).



Figure 1. Music for Sustainable Development Goals.

Music education serves as a crucial platform for Education for Sustainable Development (ESD) and the achievement of the Sustainable Development Goals (SDGs). It not only fosters musical abilities but also provides opportunities to learn virtues essential for building humanity and a positive life. Engaging in musical activities is effective in promoting personal growth aspects such as self-esteem, motivation, self-efficacy, and positive self-attitudes, as well as in developing social skills through the recognition of others' emotions [4]. Thus, the process of learning, expressing, and participating in music contributes to the development of socio-emotional competencies [5,6]. The various external effects of music education impact the cultivation of democratic citizenship and the realization of social justice, which are essential for implementing the SDGs [7,8].

The Seoul Agenda: Goals for the Development of Arts Education, announced at the 36th UNESCO General Conference in 2010, represents an official international consensus emphasizing the social responsibility and participation of arts education [9]. The conference outlined three core goals, thirteen strategies, and forty-six action items to be achieved. When applied to music education, these goals imply that it should "ensure that music education is accessible as a fundamental and sustainable component of a high-quality renewal of education" (Goal 1, p.3), "assure that music education activities and programs are of a high quality in conception and delivery" (Goal 2, p.5), and "apply music education principles and practices to contribute to resolving the social and cultural challenges facing today's world" (Goal 3, p.8). These objectives call for music education to go beyond mere artistic

learning and actively contribute to the realization of sustainability. Consequently, it plays a central role in cultivating individuals with the competencies necessary for achieving the SDGs, establishing music education as an increasingly vital area of arts education.

A prominent example of a music education program that has embodied the ideals of the SDGs is El Sistema, which originated in Venezuela and has since expanded to over 60 countries [10] (Figure 2). This program offers high-quality music education free of charge to children and youth who are marginalized or in challenging circumstances within various social, economic, and political structures worldwide. Over the past 50 years, El Sistema has been highlighted as a leading example of music education for social change.



Figure 2. Sistema Europe Youth Orchestra (SEYO) rehearsal with Gustavo Dudamel in Milan in 2025. © Marco Caselli Nirmal. Reproduced with permission from Sistema Europe.

Existing research related to El Sistema can largely be divided into two areas. The first area involves studies analyzing the impact on participants' personal musical and social skill development, which is the focus of most research in this field. Notably, Bolden, Corcoran, and Butler [11] conducted a systematic review of the literature on El Sistema and Sistema-inspired programs from 2010 to 2020. Their findings reported that these programs positively affect marginalized children's musical growth, academic achievement, cognitive development, and social–emotional development, and that these outcomes can be linked to broader social values.

The second area of research directly addresses the connection with the Sustainable Development Goals (SDGs), though studies in this direction are quite rare. Perdomo Echenique [12] suggested that El Sistema can contribute to achieving SDGs 1, 3, 4, 8, 11, and 16 through an integrative literature analysis and interviews with five Venezuelan teachers, students, institutional stakeholders, and alumni. This study has the advantage of combining a literature review with qualitative research, but its scope is limited because it focuses solely on the Venezuelan case, which represents the original model of El Sistema. Additionally, Knutsson [13] examined the connection with SDGs 3, 4, 5, 10, and 11 through the case of Swedish arts and music schools, focusing on a broader context of small-group instrumental teaching rather than specifically on El Sistema. Although the number of studies is limited, they provide a crucial starting point for exploratory discussions on the relationship between El Sistema and the SDGs.

El Sistema has now expanded to various countries worldwide, adapting and evolving to fit the social and cultural contexts of each nation. Consequently, the methods of operation and the ways it contributes to the SDGs vary across different contexts. Given that achieving the SDGs is a global challenge, it is essential to comprehensively and objectively review the operation and impact of El Sistema as practiced in diverse countries. This need is underscored by instances where political involvement and internal educational issues

within Venezuela's El Sistema have been criticized [14,15]. Therefore, it is crucial to compare and analyze different national cases to reassess the educational value of El Sistema.

Therefore, this study aims to elucidate the relationship between El Sistema and the SDGs and to examine advanced operational cases in various countries. In this way, the research seeks to explore directions for El Sistema music education to advance sustainable development. The objectives of this paper are as follows:

1. What is the relationship between El Sistema and the SDGs in terms of sustainable development outcomes?
2. What are the characteristics of exemplary El Sistema programs that promote sustainable development, and how do they implement the SDGs?
3. What future directions should El Sistema pursue as a global model for advancing the SDGs?

2. Materials and Methods

2.1. Research Subject

To select the countries for studying El Sistema operations, a review of both domestic and international publications related to El Sistema was conducted to identify a list of countries effectively implementing and managing the program. Subsequently, the following criteria were applied to finalize the selection of Scotland, the United States, Sweden, Republic of Korea, and Japan as the subjects of this research.

- Localization of the Original Model: Cases that have adapted and restructured the original Venezuelan program to fit the social, cultural, and educational systems of different countries.
- Sustained Operation Experience: Cases that have been continuously operated for at least 10 years, demonstrating institutional stability and program sustainability.
- Accessibility of Data: Cases that provide sufficient access to both academic and non-academic reliable sources.
- Cultural Representation: Cases that include countries representing diverse social and cultural contexts, such as the UK, North America, Europe, and Asia.
- International Influence: Cases that have high social and policy recognition both domestically and internationally, with confirmed global impact.
- Relevance to the SDGs: Cases that contribute not only to achieving SDG 4 on "Quality Education" but also to the attainment of other SDGs.

2.2. Data Collection and Exclusion Criteria

Research on El Sistema in different countries is often documented in reports produced by various institutions, based on statistical surveys and interviews. However, academic studies specifically examining the relationship between El Sistema and the SDGs remain scarce. This study seeks to enhance the comprehensiveness and depth of research by synthesizing cases from multiple countries, thereby increasing its scholarly contribution. To achieve this, data were collected from both academic sources and reliable non-academic materials, including official reports, news articles, and multimedia content. Academic data collection was completed by May 2025, followed by a secondary search for additional non-academic sources to ensure the study's accuracy and relevance with the most recent information.

2.2.1. Academic Materials

Primary academic materials, which are the first set of sources, focused on academic papers and professional books. For paper searches, Google Scholar, Web of Science, Taylor & Francis Online, and Korea Education and Research Information Service (RISS)

were utilized. The search included materials written in English, Korean, and Japanese, limited to languages accessible to our research team. The search strategy included combinations of the following keywords and Boolean operators.

- "El Sistema" AND ("SDG" or "Sustainability Development Goals")
- "El Sistema" AND "Sustainability"
- "El Sistema" AND "[Country Name]"
- "El Sistema" AND "Official Program Name"
- "El Sistema" AND "Music Education"
- "El Sistema" AND ("Orchestra" or "Choir")

2.2.2. Non-Academic Materials

To supplement the academic materials collected initially, reliable non-academic materials were reviewed as a secondary measure. These included the following:

Related to the SDGs: UN official SDG website and reports, as well as recorded panel discussions with an academic focus published online.

Related to El Sistema: Official websites of El Sistema programs in various countries, government and organizational reports, program brochures, official websites of national and regional centers and partner organizations, credible news articles (including news reports and interviews), and videos from official YouTube channels.

The exclusion criteria for data collection are as follows:

- Studies that focus on general music education not related to El Sistema.
- Studies that examine similar public music education programs outside the official El Sistema network.
- Studies that consist of personal blogs, private opinions, or unverified informal materials.
- Materials that lack empirical or descriptive evidence on program operations or policy analysis, or that are not directly relevant to the research objectives.

2.3. Analytical Framework

This study comprehensively examines how El Sistema is connected to the achievement of the SDGs from various perspectives, focusing on qualitative insights. To achieve this, a descriptive analysis method was adopted, and statistical comparisons or quantitative analysis methods were not used. The analysis procedure is as follows:

- Initial Screening: We conducted this to evaluate the initial suitability of studies based on their titles and abstracts.
- Full-text Review: We systematically extracted core information, including research objectives, methods, key findings, and SDG-related content.
- Thematic Mapping: We categorized data by country and by thematic aspects such as context of adoption, implementing organizations, funding structure, educational characteristics, and relevant SDGs.
- Supplementary Data Collection: We collected additional reliable non-academic materials, such as official agency documents, news articles, and videos, to supplement missing operational information. Data accuracy and reliability were enhanced through triangulation.
- Synthesis of Findings: Analyzed country-specific and thematic data to identify program characteristics, their linkage to SDG activities, and implications for program sustainability and enhancement of SDG practices.

2.4. Limitations of the Study

This study is based on a descriptive literature review of publicly available materials and does not include qualitative or quantitative data collected directly from program

sites. Furthermore, the analysis is limited to advanced programs in five countries, which constrains the ability to provide a comprehensive overview of all El Sistema initiatives worldwide. Nevertheless, this focused scope allows for in-depth analysis and underscores the need for future research to include a broader range of countries and diverse methodological approaches.

3. The Origins of El Sistema in Venezuela

Before examining the relationship between El Sistema and the SDGs, as well as the operational aspects of programs in different countries, it is essential to understand the fundamental principles of Venezuela's El Sistema, the archetype program that has influenced numerous countries.

José Antonio Abreu envisioned music as a vehicle for social change, creating the El Sistema music education model to pursue holistic development and social integration. In 1975, Venezuela was experiencing rapid urbanization and increasing economic dependence on oil resources, leading to urban poverty and social inequality. Abreu initiated this program to rescue children and adolescents from social exclusion and at-risk environments. Since 1979, with support from the Venezuelan government, El Sistema has expanded and operated as a structured and systematic national program. The core operational units of the program, known as "nucleos," are present across urban, rural, and low-income areas, with approximately 440 operating nationwide in Venezuela as of 2025 [16]. Each nucleo provides free orchestral and choral education to hundreds of children and adolescents, fostering not only individual musical growth but also a sense of community and social skills through regular practice and performances. El Sistema's music education has the following core principles [17]:

- Radical Inclusion
- Ensemble Learning
- Peer Learning
- Music as Passion and Expressivity
- Intensity
- High Musical Aspiration
- Family and Community Involvement

"Radical inclusion" is the most essential philosophical foundation of El Sistema. The program guarantees equal participation opportunities for all children and adolescents, regardless of economic background or musical talent. This principle departs from the traditional model of professional music education, which has historically focused on privileged classes or a select group of talented individuals. Instead, it centers those who are often marginalized within existing systems. Abreu emphasized that even a materially poor child can experience the joy of music and attain spiritual affluence through El Sistema education. [18] This philosophy rests on the premise that every human being possesses musical potential and that music is not a privilege reserved for a few, but a basic right to be enjoyed by all.

In practice, radical inclusion goes beyond standard inclusion, which may merely provide access or remove barriers. It actively embeds a philosophy of full acceptance and equal participation across the program, ensuring that all children—regardless of background, ability, or social circumstances—are fully and meaningfully included throughout the educational process. Children who have been socially marginalized are provided with sustained pleasurable experiences of community learning in music making, through which they internally cultivate a profound sense of self-worth, recognition of their intrinsic value, and a deep sense of belonging in the world, fostering lasting psychological and emotional growth [17]. By integrating inclusion as a guiding principle across all activities,

El Sistema creates a genuinely inclusive environment that supports both the musical and social development of every participant.

El Sistema's music education program emphasizes "group learning" centered around orchestras and choirs. Participants consistently engage in ensemble practice for 10 to 20 h each week. These sessions focus not only on developing musical skills but also on fostering interaction and cooperation as core community values. Within a trusting teacher–student relationship, participants cultivate both musical competence and personal character. Equally important is the practice of peer teaching, where children support one another by asking questions and sharing solutions, thereby fostering self-direction and social responsibility. For children from economically and emotionally unstable environments, the ensemble community provides harmony, belonging, and psychological stability.

Through such high-quality music education, participants refine their performance skills and regularly take part in concerts. These performances provide experiences of success and accomplishment, motivating children to set future aspirations. At the same time, concerts connect families and community members, thereby realizing El Sistema's vision of community-centered music education.

4. The Relationship Between El Sistema and the SDGs

Venezuela's El Sistema, with its philosophy of social change through music and innovative music education, has gained international resonance and has spread to approximately 60 countries. Each country applies and practices the El Sistema model in various ways, tailored to its own social and cultural context. This international reach provides a diverse backdrop to examine how the El Sistema model contributes to sustainable development, highlighting its potential impact across different sociocultural and educational settings.

El Sistema's educational methods and outcomes are closely linked with various individual goals of the Sustainable Development Goals (SDGs), making it a noteworthy model for realizing SDGs from the perspective of music education [12,13,19]. Using Sheerens' CIPO model, which analyzes educational systems [20], El Sistema's music education system was categorized into four stages: Context, Input, Process, and Output. The representative SDGs associated with each stage are shown in Figure 3. Although certain SDGs may relate to multiple stages, the figure highlights the SDG considered most representative for each stage. The final stage, Outcome, signifies the ultimate goal of the program. This framework encompasses the original program from Venezuela as well as case studies from Scotland, the United States, Sweden, Republic of Korea, and Japan, which are the focus of this study.

4.1. Context: Background of El Sistema Implementation in Each Country

Countries worldwide face social, economic, and political challenges that exacerbate regional and social inequalities, worsen living conditions, and contribute to social instability. Children and adolescents are particularly vulnerable to these issues. El Sistema has been introduced in various countries to support the development and well-being of children and adolescents in challenging environments, while also extending positive impacts to their families and communities.

4.2. Input: Resources and Conditions Supporting El Sistema

El Sistema's music education primarily targets all children and adolescents, with particular attention to those from economically disadvantaged backgrounds. This focus aligns with SDG 1, which aims to eradicate poverty; SDG 5, which seeks to eliminate gender-based discrimination; and SDG 10, which addresses various social inequalities, including disparities related to race, origin, family circumstances, and physical conditions, thereby promoting equitable inclusion.

From an Input perspective, the program relies on multiple critical resources and conditions. Relevant institutions and centers are established to deliver the program, stable financial resources are secured, and qualified educators are recruited to ensure effective instruction. To facilitate access and reduce participation barriers, tuition fees and instrument purchase costs are provided free of charge. These inputs create the structural and human resource foundation necessary for the successful operation of El Sistema and for achieving its social and educational objectives.

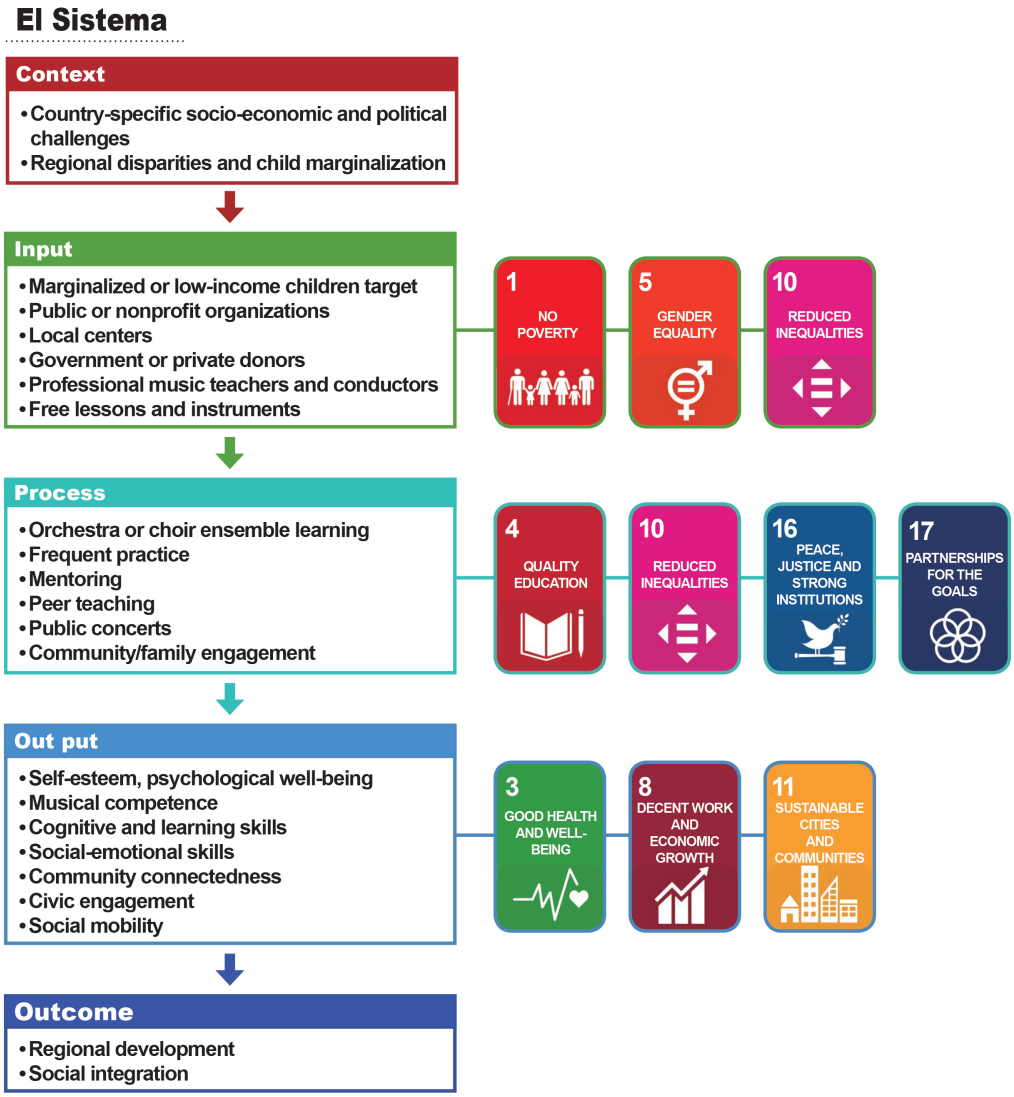


Figure 3. Relationship of El Sistema system and SDGs.

4.3. Process: Program Operation and Management

El Sistema's music education program is structured around a systematic curriculum, extensive ensemble practice, and regular performances, fulfilling the goal of quality education as outlined in SDG 4. Participant-centered instruction that aligns with SDG 10 is delivered by music directors and instructors with professional performance experience and expertise in child and adolescent development. The program ensures educational quality and fairness through institutionalized teacher training, external evaluations, and structured administrative management, aligning with SDG 16, which promotes peace, justice, and strong institutions.

Operational effectiveness is further enhanced through multi-layered collaboration. Domestically, local nucleos coordinate with public institutions and private companies to

share resources and funding. Internationally, overarching networks such as "El Sistema Europe" connect programs across countries, supporting educator development, promoting social inclusivity, securing partnerships, and conducting research and evaluation. Through these collaborative structures, encompassing both public and private sectors, El Sistema realizes a sustainable, cooperative, and symbiotic educational ecosystem, reflecting the principles of SDG 17.

4.4. Output: Educational Outcomes

The educational outcomes of the El Sistema program are particularly evident in two areas: SDG 3 (Good Health and Well-being) and SDG 11 (Sustainable Cities and Communities). Regarding SDG 3, Creech et al. [21] indicate that El Sistema positively influences individual health and well-being across four domains: Mind-Individual, Mind-Social, Body-Individual, and Body-Social (Figure 4). Specifically, in the Mind-Individual domain, music learning promotes cognitive development and self-identity formation, while in the Body-Individual domain, it enhances physical abilities and emotional regulation skills. These processes contribute to the mental health and well-being of children and adolescents, effectively supporting suicide prevention as well as the prevention and treatment of substance abuse.

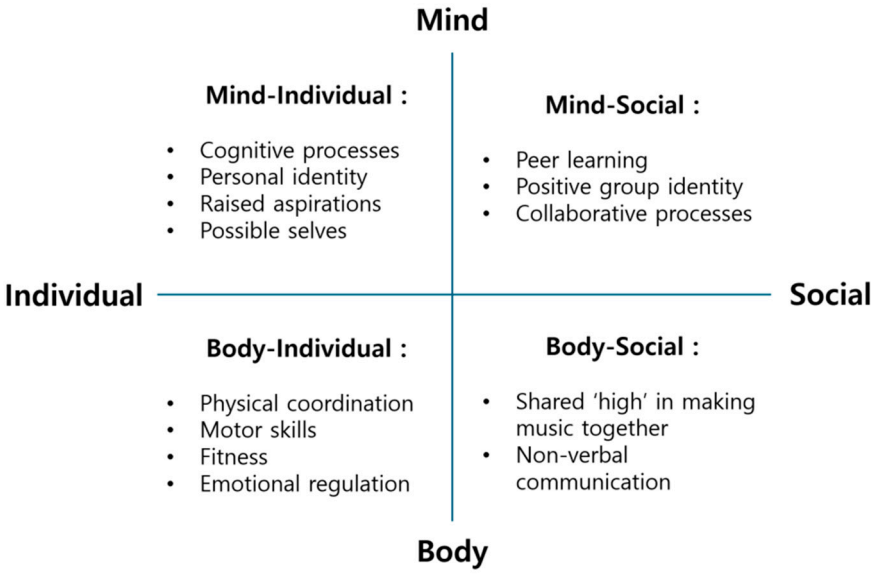


Figure 4. Health music(k)ing within Sistema contexts.

In relation to SDG 11, El Sistema supports the development of sustainable cities and communities by extending the social growth of participants to their families and local communities. Within the Mind-Social domain, social development is fostered through collaboration with peers, while the Body-Social domain emphasizes the sharing of enjoyment and the enhancement of non-verbal communication skills. These developments are crucial in strengthening the bonds between participating children and adolescents and their families and community members. As parents and communities engage with and support the children's education and performances, solidarity among residents is reinforced, enhancing social cohesion. This strengthened community fabric enables collective problem-solving and the mobilization of creative resources to overcome challenges.

Another significant achievement of El Sistema is its role in enhancing participants' prospects for social advancement in line with SDG 8. Through high-quality orchestral and choral education, the program identifies talented individuals early and provides systematic career support to help them develop into professional musicians. In several countries, it collaborates with local music colleges and conservatories to offer scholarships and admis-

sion opportunities to outstanding students and operates orchestra career development programs. Participants are also selected for advancement to higher-level orchestras and given various performance experiences. The success of El Sistema in discovering and nurturing musical talent is exemplified by world-renowned conductor Gustavo Dudamel and Edison Ruíz, the youngest member to join the Berlin Philharmonic, both of whom hail from Venezuela.

Even for those who do not pursue a career in music, participation in El Sistema significantly enhances employability. A 2022 study in the Raploch area of Scotland found that the employment rate of program participants after graduation was 1.4 times higher than that of non-participants, with only a negligible number not seeking employment [22]. The experiences gained through participation provide opportunities to develop qualities and competencies necessary for functioning effectively in society, thereby forming a foundation for sustainable economic activity.

4.5. Outcome: Final Goals and Aspirations

The ultimate goal of El Sistema is not merely to produce professional musicians. Rather, the program focuses on protecting and supporting children and adolescents in socioeconomically unstable environments, helping them grow into key contributors to a healthy society. Throughout the educational process, continuous support and sponsorship from families, community members, and various institutions and businesses surrounding the children strengthen a sense of solidarity within the community. This, in turn, provides a crucial foundation for enhancing community cohesion and social integration. Such a network of mutual cooperation and support enables the inclusive and sustainable social change that El Sistema seeks to achieve.

5. El Sistema in Five Countries: Local Adaptations and Contributions to the SDGs

El Sistema primarily addresses SDGs 1, 3, 4, 5, 8, 10, 11, 16, and 17 through the dimension of music education. However, the specific goals emphasized vary by country, as each nation has adapted and localized the Venezuelan model to fit its unique context and needs. Consequently, the input elements of education, as well as the content and methods of the process, differ according to these adaptations.

This study provides a detailed analysis of the patterns of SDG implementation in Scotland, the United States, Sweden, Republic of Korea, and Japan, where the implementation history spans 13 to 18 years and notable achievements have been observed. Table 1 illustrates the year of introduction of El Sistema in each country, the contextual background, and the specific ways in which the targeted SDGs are implemented.

Table 1. Overview of the Background and Operational Characteristics of El Sistema in Five Countries.

Country	Launch Year	Background (Context)	Target SDG (Output)	Target SDG Implementation (Process)
Scotland	2007	Child Poverty and Low Educational Achievement in Impoverished Areas	3, 10, 11	17: Active engagement of local communities and residents in program activities and decision making
United States	2007	Reduction in Music Education in Public Schools and Worsening Educational Inequality by Race and Economic Background	10, 11	17: Diverse partnerships with corporations, philanthropic organizations, and music-related organization

Table 1. *Cont.*

Country	Launch Year	Background (Context)	Target SDG (Output)	Target SDG Implementation (Process)
Sweden	2010	Increase in Refugee and Immigrant Populations, Issues of Social Exclusion and Integration	10, 11	16: Support for municipal arts and music school (Kulturskola), 11: Local Community participation and organization of large-scale music camps
Republic of Korea	2010	Cultural Gap Between Seoul Metropolitan Area and Non-Metropolitan Areas, Lack of Music Education Opportunities for Vulnerable Groups	10, 11	16: Institutional support guaranteed through national cultural policy, 17: National Hub-and-Spoke Model, 11: Revitalization of local cultural identity through public performances
Japan	2012	Disintegration of Local Communities and Emotional Anxiety Among Children After the 2011 Great East Japan Earthquake	3, 10, 11	11: Support for Children in Disaster-Affected Communities, 4: Inclusive choral education involving children with disabilities

SDG 3: Good Health and Well-Being, 4: Quality Education, SDG10: Reduced Inequalities, SDG11: Sustainable Cities and Communities, SDG 16: Peace, Justice, and Strong Institution, SDG17: Partnerships for the Goals.

5.1. El Sistema Scottland: Local Communities Driving Change Through Music

Sistema Scotland is a non-profit charitable organization established in 2007 to apply the philosophy and music education model of El Sistema to Scottish communities. The organization was founded under the leadership of Richard Holloway, the former Episcopal Bishop of Edinburgh and a social activist. In 2008, it launched its first program under the name "Big Noise" in the Raploch area of the city of Stirling [23].

Raploch was selected as the initial site for the Big Noise program due to its long-standing history of structural poverty spanning several centuries [24]. As a result of this long-standing poverty, the majority of its residents suffered from poor health, nearly half were unemployed, and children and adolescents faced severe challenges such as unstable family environments, lower school attendance and attainment, and exposure to violence and drugs. The Scottish Government aimed to address these issues by linking El Sistema's music education with urban regeneration and social integration policies. Sistema Scotland operates with governmental policy and financial support, supplemented by private donations [25]. The transformation of Raploch through music has been successful, leading to the expansion of the Big Noise program to other socio-economically disadvantaged areas, including Fallin in Stirling, Govanhill in Glasgow, Douglas in Dundee, Torry in Aberdeen, and Wester Hailes in Edinburgh. The goals of Big Noise are as follows:

To support children, young people, and families to realize their potential, improving lives and strengthening communities through music and nurturing relationships [26].

The Big Noise program exemplifies the spirit of SDG 4, which aims to enhance lifelong learning opportunities for all. This initiative encompasses activities for all ages, including nursery, in-school programs for primary education, after-school activities, and a community orchestra for adults [26]. By offering orchestral education throughout the life cycle, it ensures that anyone with the desire to participate can do so. Moreover, long-term involvement in El Sistema has demonstrated positive effects on emotional well-being, education and learning, social and life skills, and healthy behavior [27].

Another notable strength of the Big Noise program is its ability to foster sustainable communities by creating a care network involving the entire locality. The program's operation actively engages not only children and youth but also parents or guardians,

public school teachers, Big Noise staff, and delivery partners [27]. In supporting children's musical activities, community solidarity is strengthened. A society in which adults provide children with genuine, empathetic, proactive, and trustworthy interactions built over time fosters a sense of well-being and has a positive impact on children [28]. Such multi-layered collaboration exemplifies the practice of SDG 17 (Partnerships for the Goals) by maximizing program effectiveness and ensuring sustainability through active community participation in the educational process.

These musical communities have played a pivotal role in overcoming national crises. For instance, the 2021 Douglas Report highlights how El Sistema education continued in creative and flexible ways even when cities were locked down due to COVID-19. By offering participants online group lessons and opportunities to participate in and perform at virtual concerts, their musical development was sustained, and positive social relationships with local residents were maintained [26]. Such strengthening of unity and cooperation among community members through musical initiatives contributes to achieving SDG 11 (Sustainable Cities and Communities). It serves as a critical driver of urban resilience and sustainable development, particularly in times of crisis.

5.2. El Sistema USA: Diverse External Partnerships Sustaining Program Growth

Since the early 2000s, music education in U.S. public schools has experienced a marked decline. The 2002 No Child Left Behind Act (NCLB) required students from kindergarten through high school to achieve specific academic standards, primarily assessed through standardized testing [29]. Schools were evaluated based on overall performance, and if certain subgroups of students (e.g., low-income or students with disabilities) scored below the threshold, the entire institution was classified as underperforming. This high-stakes environment increasingly led to a test-centered curriculum, inadvertently exacerbating educational inequities. Simultaneously, following the global financial crisis of 2008, budget cuts and economic downturns further restricted arts education, disproportionately limiting access for low-income and marginalized students [30].

Although NCLB was repealed in 2015 and replaced by the Every Student Succeeds Act (ESSA), challenges persist. According to the Arts Education Data Project (AEDP), while 92% of public school students have access to music education, over 3.6 million students—about 8%—do not [31]. A 2024 report by the Learning Policy Institute also indicates that roughly 50% of U.S. states face shortages of qualified music teachers, particularly in areas with high populations of Black, Hispanic, and Native American students [32]. These conditions substantially reduce opportunities for students to develop essential skills such as creativity, critical thinking, and esthetic sensitivity, and deprive them of experiences supporting emotional well-being, mental health, and holistic development.

In this context, El Sistema offers a meaningful solution. In the United States, the movement began in 2001 with the Harmony Project in Los Angeles, providing music education to children from economically disadvantaged backgrounds. In 2007, Venezuelan conductor Gustavo Dudamel collaborated with the Los Angeles Philharmonic to establish Youth Orchestra Los Angeles (YOLA), formalizing these efforts [33]. Today, the initiative spans 35 states, reaching approximately 25,000 participants [34]. By providing high-quality music experiences to all children—regardless of background, ability, or social circumstances—El Sistema fosters creativity, empathy, a sense of belonging, and emotional fulfillment, while helping to bridge social and economic gaps through inclusive music education.

The LA Philharmonic has played a central role in spreading the philosophy of El Sistema in the United States. Their efforts go beyond mere performance; they have embraced various responsibilities as citizens, educators, and researchers within the community, striving to effect positive social change through music. In addition to offering free music lessons

to underserved children, they have built a collaborative framework engaging parents, public schools, volunteers, and partner organizations as supportive collaborators. Through these efforts, children have been able to build confidence and grow positively, while also experiencing a sense of warmth and belonging within their community [33].

A noteworthy aspect of El Sistema in the United States is the voluntary collaboration of external organizations, such as the LA Phil, to enhance the quality of El Sistema's educational programs. As of 2025, the central organization, El Sistema USA (ESUSA), has registered over 140 partner organizations as members. These partners include professional arts organizations, educational institutions, and local community groups, as well as active participation from companies and private foundations across various fields. El Sistema-based programs in the U.S. can continue to operate sustainably through active donations and support from these external partners, even without stable government funding. This structure represents a distinct advantage compared to other countries. Below is a list of support provided by major partner organizations within the United States [34,35]

- Professional development for teachers and administrators (hosting forums and workshops)
- Music education data and research (studying and evaluating program effectiveness)
- Student leadership and learning support (youth ambassador programs, scholarships at the Peabody Institute, and college entrance assistance)
- Provision of resources and tools (access to educational material libraries and job information)
- Provision of spaces such as educational and performance facilities
- Food supply

This multifaceted network of support forms a strong foundation that preserves the quality of regional El Sistema programs and promotes their sustainability and expansion. Furthermore, the success and development of El Sistema result in mutual benefits, such as the realization of social responsibility and enhanced brand value for partner organizations. According to a study by Nechyba [35], all institutions and corporate members maintaining partnerships with El Sistema USA do not place significant emphasis on external effects intended merely for community display, such as excessively focusing on high-level artistic performances to garner favorable reviews from audiences. Instead, they recognize and support El Sistema's core values of balanced budgeting, creativity and innovation, and student satisfaction. Additionally, they share El Sistema's goals and operating principles of ambition and achievement, multi-year sustainability, and social change.

The case of El Sistema in the United States serves as a prime example of how diverse entities can collaborate to enhance educational quality, illustrating another dimension of SDG 17, "Partnerships for the Goals." It is particularly impressive that not only music-related organizations but also companies and foundations not directly associated with music are actively discovering and providing resources necessary for the operation of El Sistema. As emphasized in SDG 17.16, programs can be more sustainable and positively impact more children and youth when multiple stakeholders share knowledge, expertise, technology, and financial resources in collaboration. This requires the attention and active participation of society as a whole.

5.3. El Sistema Sweden: Multi-Dimensional Strategies for Inclusive Immigrant Integration

After World War II, Sweden admitted European laborers until the 1960s to mitigate labor shortages, and subsequently received refugees from countries such as Chile, Iran, Iraq, and the former Yugoslavia. In 2015, approximately 160,000 Syrians applied for asylum, making Sweden the European country with the highest number of refugees per capita. As of 2023, foreign-born residents account for about 20% of Sweden's total population. Since

the 2000s, Sweden has gradually tightened its immigration policies while continuing to regard the integration of refugees and immigrants as a key national priority [36].

Education is a crucial area for social integration, and the arts, particularly music, have played an important role in this regard. In 1974, the Swedish government established the "Cultural Policy (Kulturpolitiken)," designating the arts as a key means to achieve equality and social integration [37]. In May 2009, a performance by the Gothenburg Symphony Orchestra, conducted by Gustavo Dudamel in Hammarkullen, became a significant moment that brought El Sistema into the spotlight in the music world. Following this, in 2010, the El Sistema Sweden program was officially launched through the collaboration between the Hammarkullen Community Music and Art School and the University of Gothenburg. In 2012, the El Sistema Sweden Foundation (Stiftelsen El Sistema) was established. As of 2025, this foundation has expanded to 25 regions across Sweden, providing high-quality music education to children and youth from diverse social and cultural backgrounds [38].

El Sistema education in Sweden is currently implemented in approximately 101 municipalities through local cultural schools (Kulturskolor), as well as in after-school programs within general schools and kindergartens. In Gothenburg, the program distinctively organizes a weekly community event called Vänstay, in addition to its regular instruction. During this event, families and friends are invited to participate, and once a month, members of the Gothenburg Symphony Orchestra join to provide inspiration and serve as role models. Vänstay has become a crucial mechanism for fostering social inclusion, helping participants from diverse cultural backgrounds to strengthen their sense of belonging within the broader society [39].

Among Swedish cities, Malmö has one of the highest proportions of refugees and immigrants, with approximately half of its population being either foreign-born or having at least one foreign-born parent [40]. In this context, Malmö implements El Sistema not only through cultural schools but also as part of the formal curriculum, providing music education to all children aged 6 to 7 in five designated primary schools [41].

While Malmö serves as a model for focusing support on refugees and labor immigrants, Gothenburg is often cited as a model of universal inclusion and international cooperation, addressing racial, socioeconomic, and educational disparities. Gothenburg annually hosts the large-scale music camp Side by Side, held for 4 to 5 days each June [42]. This program, centered around the Royal Gothenburg Philharmonic Orchestra, is supported through collaborations with Sistema Europe, Sistema Global, and UNHCR. Approximately 2000 children and youth aged 6 to 23, including refugees and participants from low-income backgrounds worldwide, take part in tiered orchestras and choirs. Through rehearsals, masterclasses, mentoring, and large-scale ensembles, they engage in mutual learning and cultural exchange. The program concludes with a final performance involving the national orchestra, symbolizing solidarity and inclusion while fostering social cohesion across diverse communities.

The efforts of Sweden's El Sistema to embrace immigrants are also reflected in its selection of educational repertoire. In addition to learning classical music together in a multicultural setting, the program incorporates crossover music that arranges the unique folk songs of various ethnic groups into popular music. Furthermore, lyrics embodying the spirit of El Sistema are included in popular songs, such as Coldplay's Fix You, encouraging reflection and exploration of true harmony and unity [43].

Sweden's El Sistema is making various efforts to achieve SDG 10 (Reduced Inequalities) through music education. Supported by cultural and educational policies, it provides educational opportunities regardless of race, ethnicity, origin, or religion, and institutionally secures educational time within public education in Malmö through cultural schools and after-school programs, thereby enhancing the stability and fairness of education. This

serves as an institutional measure to ensure educational opportunities for multicultural children and youth, implementing SDG 16. Additionally, Gothenburg's Vänstay strengthens partnerships where local residents collectively care for children, and the Side by Side camp contributes to creating sustainable cities, aligning with SDG 11. Furthermore, careful consideration is given to the selection of performance pieces that respect cultural diversity. In this way, Sweden's El Sistema integrates efforts towards SDG 16 and 17 through music education to advance towards an inclusive and sustainable society while working on SDG 10.

5.4. El Sistema Korea: Inclusive Music Education and Local Cultural Revitalization

Republic of Korea experienced Japanese colonial rule and the Korean War (1950–1953), which left it among the poorest countries in the world in the mid-20th century. However, beginning in the 1960s, the country underwent rapid economic growth unprecedented in world economic history. According to GDP rankings published by the World Bank, the Republic of Korea has consistently ranked among the top 15 economies globally since the 2000s [44].

However, alongside this rapid economic growth, regional imbalances have become increasingly significant. As service and high-tech industries have concentrated in the capital region and major cities, population migration has accelerated. By the end of 2023, the population of Seoul and the surrounding capital region exceeded 50.7% of the Republic of Korea's total population [45]. Small and medium-sized cities, as well as rural areas, face risks of depopulation and lack adequate educational, cultural, medical, and transportation infrastructure, resulting in substantial disparities compared to the capital region [46]. In particular, the shortage of cultural and artistic facilities and professionals has led to fewer opportunities for local residents to engage in cultural and artistic activities [47].

In response, the government has reinforced related policies, recognizing culture as a key driver of regional development, particularly given the Republic of Korea's global status as a cultural powerhouse. The Cultural Arts Education Support Act ensures every citizen's right to enjoy culture and the arts [48]. In 2009, under the leadership of the Korea Arts & Culture Education Service, the Republic of Korea studied Venezuela's El Sistema model. Based on this research, the Korean version of El Sistema, known as the "Orchestra of Dreams," was launched in 2010 in 8 regions and has since expanded to 54 centers, with over 2800 children and youth participating [49].

The government of the Republic of Korea advances SDG 16 by institutionalizing music education opportunities for vulnerable groups and providing comprehensive support for the operation of regional centers. In parallel, each region contributes to SDG 17 by fostering partnerships both within and among centers, promoting collaborative networks for sustainable implementation. The national government supplies financial resources and establishes the regional network infrastructure, while local authorities are responsible for day-to-day operations [50].

To establish new centers, the government initially covers all costs and gradually transfers operational responsibility to local governments, aiming for full self-reliance by the seventh year. Each center collaborates with local cultural foundations, orchestras, and music colleges to ensure integration within the local cultural ecosystem.

Educators are selected based on both professional expertise, in accordance with the standards of the "Orchestra of Dreams," and their understanding of the local context. Following recruitment, they participate in centrally organized seminars, workshops with international experts, and training sessions to learn the philosophy and pedagogical methods of El Sistema. This training is subsequently applied to the local programs, ensuring

that the educational approach remains consistent with the program's overarching goals while adapted to the local environment.

Regulations have been established for new members, institutionalizing the priority selection of children and youth from socially and culturally vulnerable families, who constitute at least 60% of participants. The term "socially and culturally vulnerable groups" encompasses children from families receiving legally defined minimum living support, single-parent families, grandparent-led families, multicultural families, families with disabilities, and families living in remote areas [51]. These selection criteria are applied uniformly across the country to ensure effective and practical inclusivity.

In this context, government agencies and local authorities across Korea collaborate to achieve SDG 11 (Sustainable Cities and Communities) through the Orchestra of Dreams. The program enhances its visibility and contributes to community development by providing children from socially and culturally vulnerable groups with opportunities to perform the pieces they have learned.

Every year, from May to June, a large-scale event called the "Dream Festival" is held at centers nationwide. During this period, participants engage in various performances, including local festivals, cultural events, outreach concerts, and exchange performances with neighboring regions. These activities also help restore social connections and support emotional recovery among local residents affected by the COVID-19 pandemic. Although some performances may occasionally reflect limited technical proficiency, the combination of community support and the dedicated guidance of educators creates culturally meaningful and moving experiences. This process not only benefits participants but also strengthens social cohesion and enhances the cultural resilience of local communities.

The efforts of the "Orchestra of Dreams" over the past 15 years have begun to yield tangible outcomes. A survey conducted from 2019 to 2020 on 195 participants across 15 centers nationwide indicated improvements not only in musical and personal development but also in social trust (by 4.5%), community participation behavior (by 6.6%), and awareness of social capital (by 11%) (Figure 5) [52] (Summary 10). These findings suggest that the program not only enhances the personal competencies of participating children and youth but also fosters a sense of civic responsibility and commitment to community engagement.

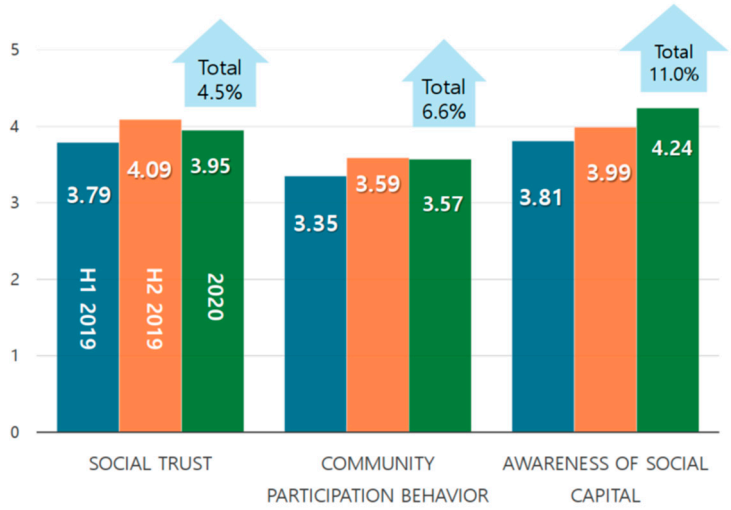


Figure 5. Changes in Social Outcomes among Orchestra of Dreams Participants (2019–2020).

5.5. El Sistema Japan: Supporting Healing and Musical Communication for Disaster-Affected and Disabled Children

On 11 March 2011, the Great East Japan Earthquake, the largest undersea earthquake ever recorded in East Asia, struck off the Pacific coast of the Tohoku region, Japan. The

seismic event triggered a massive tsunami and subsequently led to the Fukushima Daiichi Nuclear Power Plant accident. The International Atomic Energy Agency (IAEA) classified this nuclear incident as Level 7—the highest severity level—equivalent to the Chernobyl disaster. The earthquake and associated tsunami caused approximately 18,000 fatalities and displaced nearly 500,000 individuals [53].

In 2012, one year after the Great East Japan Earthquake, El Sistema Japan was established under the leadership of Kikukawa Yutaka, then Head of the UNICEF Japan Emergency Support Unit. The first center was opened in Soma City, Fukushima Prefecture, one of the areas most severely affected by the disaster, with the aim of helping children and youth who had lost their families and homes to recover emotionally through music and gradually foster their personal growth. To support its operation, funding came from a portion of the national disaster recovery budget as well as private donations, and music teachers and volunteers dedicated themselves to the care and guidance of the participants. Unlike conventional music education programs, El Sistema Japan prioritized social development over musical achievement [54].

Since its establishment, El Sistema's activities in Japan have progressively expanded to promote greater inclusion. In 2017, the White Hands Choir was founded, specifically targeting children and youth with disabilities. This choir is based on a program initiated in Venezuela in 1995 and is the only program officially recognized by the Venezuelan headquarters that serves individuals with disabilities. Erika Colon, a Venezuelan vocalist and founder of the international El Sistema network, El Sistema Connect, currently serves as the choir's music director. Beginning in 2020, the program was implemented as a joint project by the Tokyo Historical and Cultural Foundation and the Tokyo Metropolitan Theatre, initially in Tokyo, later extending to Kyoto, and further to Okinawa by 2022. Presently, the program involves approximately 100 participants, both with and without disabilities. Although the White Hands Choir has been active for less than a decade and remains relatively small, it is widely recognized as an innovative educational model in Japan [55].

Participants in the White Hands Choir are organized into two sections. The first is the signing section (Shuka hand singing), in which participants wear white gloves and use body movements to convey lyrics and emotions in synchrony with the music. The second is the vocal section, responsible for singing [55]. This choir is particularly significant as it demonstrates the potential for individuals with hearing impairments to engage with and express music. Participants communicate the lyrics and emotional content of songs visually, employing sign language and full-body movements.

The rehearsal process of the White Hands Choir is distinctive. Braille sheet music is provided for visually impaired participants, and all members, including those with hearing impairments, convey the meaning of lyrics through innovative bodily expressions. Rather than being taught predetermined sign language by instructors, participants engage in a collaborative and respectful environment, discussing the meaning of the lyrics and creatively developing physical expression [56]. This approach broadens the possibilities for musical expression, facilitating communication between individuals with and without disabilities. Through this participatory and respectful method, a new form of choral art emerges, unique to the participants.

As of 2025, entering its eighth year since establishment, the Japan White Hands Choir has emerged as a leading model for disability inclusion within the global El Sistema movement. Their 2021 performance at the Tokyo Metropolitan Theatre was documented and selected by the Japanese Ministry of Education, Culture, Sports, Science and Technology, and subsequently broadcast on NHK in 2022. In 2024, the choir received the grand prize among 77 recipients at the Zero Project Award in Vienna, an initiative based on the UN

Convention on the Rights of Persons with Disabilities [57]. This recognition acknowledged the choir's innovative and socially impactful model of inclusive music education. The performance of Beethoven's Symphony No. 9 at the closing ceremony, featuring both children with and without disabilities, garnered international attention for its emotional depth and authenticity.

El Sistema in Japan is an inclusive arts education model that provides music education opportunities to children and youth who are socially vulnerable due to disasters, disabilities, or other challenges, helping them reconnect with society through music. This approach contributes to the realization of SDG 4.5 (educational equity) and SDG 10.2 (enhancing social inclusion) by reducing inequalities in access to education and culture, while promoting emotional recovery and social integration. In particular, the White Hands Choir, in which children and youth with disabilities actively participate, exemplifies this philosophy by creating an environment where all participants, regardless of ability, can engage with and express themselves through music. This initiative not only demonstrates the potential of music to foster inclusion and mutual understanding but also embodies the exercise of cultural rights, supporting the restoration of creativity and self-esteem.

6. Discussion and Conclusions

The El Sistema music education system has the potential to contribute to multiple Sustainable Development Goals (SDGs), including SDG 1 (No Poverty), SDG 3 (Good Health and Well-Being), SDG 4 (Quality Education), SDG 5 (Gender Equality), SDG 8 (Decent Work and Economic Growth), SDG 10 (Reduced Inequalities), SDG 11 (Sustainable Cities and Communities), SDG 16 (Peace, Justice, and Strong Institutions), and SDG 17 (Partnerships for the Goals). While the specific objectives, operational strategies, and primarily targeted SDGs of El Sistema may vary depending on the social, political, and economic context of each country, its core mission—to foster positive change for marginalized children, their families, and communities—remains consistent.

El Sistema particularly benefits underrepresented minority students—such as immigrant children, children with disabilities, and students from socioeconomically vulnerable families—by providing meaningful opportunities for musical participation and social inclusion. Through systematic peer learning, orchestral ensemble practices, and public performances, the program actively supports these students in developing personal qualities, including self-esteem and musical potential, as well as social competencies such as discipline, cooperation, and a sense of belonging. Importantly, by engaging previously marginalized children alongside peers from ordinary family backgrounds within the local community, El Sistema fosters an inclusive learning environment that promotes mutual respect and intercultural exchange. Moreover, public performances serve as a bridge between participants and community members, helping to raise awareness and empathy toward socially marginalized groups, thereby extending the program's impact beyond the participants themselves.

This inclusive principle not only cultivates responsible and empathetic citizens through music, but also strengthens community cohesion, contributing to the broader goals of social inclusion and a sustainable society. Essentially, El Sistema contributes to the fundamental aim of a sustainable society—social integration—by cultivating responsible members of society through music and fostering collaboration across communities.

To ensure that El Sistema contributes to the long-term achievement of the SDGs, it is essential to secure both the stability and effectiveness of the program. Based on an analysis of cases from five countries, four key operational conditions are proposed to enhance its sustainability:

Firstly, a localization strategy that reflects the cultural context is essential. While El Sistema primarily emphasizes European classical music and Western orchestral instruments, attention must also be given from the perspective of multicultural music education. Multicultural music education emerged in the early 20th century in the United States within environments where children of immigrant families were educated together. Today, due to globalization and large-scale migration, it has become a key educational agenda in many countries worldwide [58]. If participants in multicultural societies study only classical music without considering their cultural backgrounds, it may weaken cultural diversity, reinforce separation between dominant and peripheral cultures, and indirectly contribute to issues of racial discrimination [59,60]. To embrace children and youth from diverse racial and cultural backgrounds, implementing culturally responsive education is crucial. This approach integrates the historical, cultural, and linguistic diversity of participants into educational materials, activities, and experiences [61]. For example, El Sistema in Sweden exemplifies a nuanced approach by valuing and incorporating participants' cultural backgrounds equally and by providing education in both folk and Western music, thereby strengthening students' cultural identity and pride [43].

In non-Western countries, it is important to systematically integrate traditional music into education rather than treating it as merely supplementary. Traditional music constitutes a crucial part of participants' cultural roots and identities. In the Republic of Korea, for example, music education projects targeting vulnerable groups have included traditional music and narrative-based traditional Korean performing arts, Pansori [62]. These initiatives have inspired various attempts to implement traditional-style El Sistema programs. By incorporating traditional music into El Sistema education, it is possible to strengthen the cultural pride of marginalized groups and achieve educational objectives such as the intergenerational transmission of cultural knowledge.

Secondly, stable financial resource is a key factor in ensuring the quality and sustainability of El Sistema education. The resources required for program operation are directly linked to all aspects of education. These include providing free education and instruments, securing educational and performance spaces, compensating professional teachers, conducting teacher training, purchasing class materials, and covering expenses such as snacks and transportation. If funding is unstable, fluctuations in educational quality may occur due to annual resource shortages, which in turn threaten the sustainability of the program.

El Sistema is a social program with public objectives, characterized as a partial public good. While it is theoretically open to all, in practice, children and youth from low-income and vulnerable groups are the primary beneficiaries. Due to these characteristics, El Sistema is typically managed by official organizations, often government bodies or non-profit NGOs. According to Besley and Ghatak [63], the operation of public goods requires at least minimal government policy and institutional guarantees, financial support and cooperation between government and private sectors, decentralization that reflects local needs and responsibilities, and, most importantly, the motivation of implementers to pursue common benefits. With such support in place, El Sistema can serve as an effective strategy for poverty alleviation and social integration.

Thirdly, a multi-level governance and partnership structure contributes to the efficient operation and stability of the program. If funding represents the input, then multi-level governance and partnerships represent the process, supporting the entire pathway from resources to educational activities and outcomes.

In policy and program operations, authority and responsibility are not concentrated in a single central government but are distributed across local, national, and global levels. Actors at each level cooperate and coordinate to achieve policy objectives [64]. This distributed structure is not merely about dividing authority; it also aims to enhance policy

efficiency and adaptability by sharing decision making processes, resource allocation, and implementation responsibilities across multiple levels.

El Sistema reflects this structure by operating through cooperation among various local organizations, such as cultural centers, schools, and community groups, at each regional hub. In countries where El Sistema is well-established, partnerships are formed not only with government support but also with private companies and foundations from multiple sectors. These partnerships play a crucial role in providing financial and material support, enhancing professionalism, and fostering innovation in music education.

At the global level, El Sistema Europe and El Sistema Global serve as connectors between countries. They facilitate the sharing of best practices and educational expertise accumulated within each country, enabling cooperation and learning on a global scale beyond regional boundaries. Consequently, in achieving the ultimate goals of addressing social issues through music and promoting global well-being, Sustainable Development Goal 17, "Partnerships for the Goals," acts as a key driver in maximizing El Sistema's impact.

Fourth, continuous and systematic evaluation of effectiveness and the promotion of academic research are necessary. Baker & Frega [15] noted that official reports on Venezuela's El Sistema primarily focus on describing participants' musical development and activities, providing relatively limited evidence regarding social outcomes. He suggested that this lack of research may be partly constrained by institutional and political factors. Such observations underscore the importance of operating El Sistema in a democratic and participatory manner, as this can facilitate objective and transparent assessment and reporting of the social effects of music education.

In countries where the El Sistema program is systematically and democratically operated, collaborations with universities and research institutions are established to conduct annual evaluations not only on musical growth but also on academic achievement, social development, and other aspects. These evaluations incorporate diverse perspectives from students, teachers, staff, and community members to identify strengths and areas for improvement. Such reports are crucial foundational documents for verifying the outcomes of investments in El Sistema.

Objective evaluations and academic research data serve as vital foundational resources for the sustained operation of El Sistema programs. By identifying the program's strengths and areas for improvement through such evaluations, a higher-quality learning environment can be provided to participants, thereby enhancing learning outcomes. At the same time, these efforts create opportunities to demonstrate the social value and impact of El Sistema externally, providing evidence for policymakers and sponsors to assess the effectiveness of financial investments and to secure necessary support.

The success of El Sistema is largely contingent upon political stability, financial resources, and the availability of support for music education, which makes its implementation relatively rare in low-income countries. Some countries, such as the Democratic Republic of the Congo, Uganda, Angola and Kenya, run the program, but many others do not. Nevertheless, the four key factors of success identified in this study can still be considered within the context of low-income countries. In politically stable countries with well-preserved cultural heritage, localization strategies can be particularly effective. By integrating and promoting traditional music, instruments, and dance, El Sistema can strengthen cultural identity, showcase cultural diversity on an international scale, and potentially generate local economic opportunities.

In politically or economically unstable environments, securing stable resources and establishing conditions conducive to program implementation represent significant challenges. To address these issues, it is essential to recognize local educational needs, develop contextually adapted operational models aligned with El Sistema's educational philosophy,

and communicate objective research evidence and program requirements to both domestic and international stakeholders. Furthermore, global partnerships and support from countries with established El Sistema programs can provide critical guidance, resources, and expertise to facilitate successful implementation in low-income contexts.

Building on the four conditions mentioned above, this study further suggests that El Sistema has the potential to contribute to environmental-related Sustainable Development Goals (SDGs), including 6 (Clean Water and Sanitation), 7 (Affordable and Clean Energy), 11 (Sustainable Cities and Communities), 12 (Responsible Consumption and Production), 13 (Climate Action), 14 (Life Below Water), and 15 (Life on Land). Addressing the climate crisis and preserving ecosystems are prerequisites for a sustainable society and critically important areas. By integrating environmental awareness and sustainability practices into its educational framework, El Sistema can foster a sense of responsibility towards the environment among participants and promote sustainable practices, thereby contributing to these environmental SDGs.

For example, by incorporating music and environmental themes into core educational activities, such as performing environmentally themed pieces, organizing concerts that include environmental talks or campaigns, and participating in community events focused on sustainability, students can learn to express the value of the environment through music. Through these performances, they can communicate their message to broader audiences, playing an active role in raising awareness about environmental issues and encouraging behavioral change.

From a pedagogical perspective, children and youth can engage directly in creative activities related to nature conservation. For instance, writing environmentally themed lyrics for existing songs can help internalize environmental awareness. Additionally, using soundscape composition—which incorporates natural sounds as elements of musical creation—can enhance environmental awareness and effectively convey messages [65,66]. These activities go beyond mere musical performance or appreciation, encouraging students to actively explore and think critically about environmental issues.

"Your Guide to Music and the SDGs" provides various practical examples related to the Music Ecosystem [3]. Applying these principles to El Sistema could include initiatives such as limiting the use of plastic water bottles, utilizing recycled paper, reusing teaching materials and stage props, using public transportation, conducting project performances focused on local ecosystem preservation and energy conservation, and linking performances with environmental volunteer activities. These practices not only enhance students' musical and environmental education but also foster a deeper understanding of and commitment to sustainability and ecological stewardship.

In conclusion, this study highlights how El Sistema can serve as a model for advancing the Sustainable Development Goals (SDGs) through music education. By providing inclusive, culturally responsive, and human-centered learning experiences, the program enables children—especially those from marginalized backgrounds—to develop creativity, self-esteem, and social competencies, while cultivating a profound sense of belonging. When El Sistema successfully implements culturally grounded localization strategies, secures stable financial resources, establishes multi-level governance and partnership structures, conducts continuous and systematic evaluations, and actively engages in environmental initiatives, it offers a peaceful and effective approach to achieving the SDGs. This comprehensive impact underscores the potential of music education not only as an artistic pursuit but as a transformative tool for social, educational, and environmental progress across diverse contexts.

Future research should more precisely consider the social, economic, and cultural contexts of each country. To this end, the effectiveness of El Sistema should be empirically

validated through comparative case studies or long-term longitudinal studies. Moreover, there is a need for analyses that examine changes in learners, community participation, and connections with cultural policies in a multi-layered manner, using mixed-method approaches that combine quantitative and qualitative data. Such follow-up research can provide objective evidence on how El Sistema, as a form of social music education, tangibly contributes to achieving the SDGs, offering practical insights for policymakers and educational practitioners across different countries.

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