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ASSESSMENT OF THE EFFECTIVENESS OF THE YOUTH ATHLETE DEVELOPMENT POLICY FOR AGES 12–15 IN INDONESIA IN THE 2023–2024 PERIOD

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Abstract
This study assesses the effectiveness of the Youth Athlete Development Policy for adolescents aged 12–15 in Indonesia during 2023–2024. The research focuses on: (1) evaluating the overall effectiveness of the policy, and (2) examining the performance of key components talent identification, training program quality, coaching competency, athlete monitoring and competition pathways. A mixed-methods approach was used, combining surveys of 240 respondents with interviews involving 20 key informants and document analysis. Quantitative data were analyzed using descriptive statistics and an effectiveness index, while qualitative data were examined through thematic analysis. Findings show that the policy is moderately effective (average score 68%). Strengths include higher policy awareness and improved access to basic training programs. However, significant weaknesses remain: inconsistent talent identification, uneven training quality, limited coaching competency, weak monitoring systems, and irregular competition pathways. These challenges reduce the policy's ability to fully support long-term athlete development. Overall, the policy provides a solid framework but requires improvement in standardization, coordination, coaching capacity, and competition structure to maximize youth athlete development outcomes.
Keywords: youth athlete development, policy effectiveness, talent identification, coaching competency.

1. BACKGROUND OF THE STUDY

The development of young athletes is a crucial component in strengthening a nation's long-term sports achievements. Many countries with strong performance in international competitions such as China, Japan, Australia, and South Korea demonstrate that systematic, early-age talent development programs serve as the foundation for creating high-performance athletes at the senior level. In Indonesia, the strategic importance of youth athlete development has been increasingly recognized, particularly for adolescents aged 12–15, who are in the golden period of physical, cognitive, and psychological growth. This age range represents a critical developmental window during which basic motor skills, sport-specific techniques, and competitive mindsets can be cultivated more effectively than at later ages. In response to these needs, the Indonesian government has implemented various policies and national initiatives aimed at enhancing talent identification, coaching quality, athlete monitoring, and competition pathways for young athletes. Programs such as *Pembinaan Olahraga Usia Dini*, *Sentra Pembinaan Olahraga*, *Desain Besar Olahraga Nasional (DBON)*, and regional sports development policies have been launched to identify promising athletes and provide structured training support. The 2023–2024 period marks an important phase of policy execution, especially after the COVID-19 pandemic, when many youth sports activities resumed and new policy mechanisms began to take shape.

Despite these efforts, concerns have emerged related to the effectiveness of such policies. Various challenges have been reported, including the uneven distribution of sports facilities, significant disparities in coaching competence between regions, inconsistent funding, lack of structured monitoring systems, and limited collaboration between schools, local governments, and sports organizations. These issues raise questions about whether current policies are meeting their intended objectives, especially for the crucial 12–15 age group. Several previous studies emphasize the importance of evaluating youth athlete development policies. For example, research on early talent development programs in Indonesia shows that athlete identification is still often based on subjective assessments rather than standardized metrics, leading to inconsistencies in the selection of potential young athletes. Studies on coaching effectiveness highlight that many youth coaches lack access to updated training methodologies, sports science, and long-term athlete development models, limiting the potential growth of young athletes. Furthermore, research on regional sports policies indicates that the success of athlete development varies significantly depending on local government support, availability of training facilities, and the presence of sustainable competition ecosystems.

International studies provide additional insights. Research from Australia and Canada demonstrates that structured long-term athlete development frameworks contribute significantly to athlete readiness, motivation, and long-term performance outcomes. Meanwhile, studies from China and Japan underscore the importance of early

specialization supported by a strong integration of schools, training centers, and national sports organizations a coordination model that Indonesia is still working to optimize. Existing Indonesian studies also reveal gaps that are relevant to this research. Findings from national sports evaluation reports indicate that although the DBON framework provides strategic direction, its implementation at the youth level remains inconsistent across provinces. Studies on athlete performance pathways show that many young athletes lack continuous competition exposure, which hinders their skill progression and psychological development. Furthermore, several evaluations of regional youth sports programs suggest that financial and logistical constraints often limit the sustainability of training activities.

Given these empirical findings, there is a clear need to conduct a comprehensive assessment of how effective the Youth Athlete Development Policy for ages 12–15 has been during the 2023–2024 period. This research is crucial to determine whether existing policies align with developmental needs, whether implementation mechanisms function as intended, and whether the outcomes reflect improvements in athlete readiness, performance indicators, coaching quality, and access to training resources.

This study also fills an important gap in the literature. While multiple researchers have focused on specific components of youth sports development such as coaching, facilities, or competition structure very few studies examine policy effectiveness holistically within a defined timeframe and age group. Therefore, this research offers significant practical and academic contributions. Policymakers can use the results to refine future youth sports development strategies, while scholars can gain deeper insights into policy evaluation within the context of national sports development.

In summary, the effectiveness of youth athlete development policies plays a strategic role in shaping the future of Indonesia's sports achievements. A rigorous assessment is necessary to understand the extent to which these policies have supported the development of young athletes aged 12–15, identified implementation challenges, and contributed to measurable developmental outcomes in the 2023–2024 period.

Based on the background described, the implementation of the Youth Athlete Development Policy for adolescents aged 12–15 in Indonesia during the 2023–2024 period still raises several critical questions related to its effectiveness. Although the government has launched various national and regional initiatives, gaps remain in the consistency of implementation, availability of resources, coaching quality, talent identification mechanisms, and athlete performance outcomes. Therefore, this research focuses on examining the extent to which the current policy has achieved its intended objectives and contributed to the development of young athletes. Accordingly, the research problems can be formulated as follows: 1) To assess the overall effectiveness of the Youth Athlete Development Policy for adolescents aged 12–15 in Indonesia during the 2023–2024 period and 2) To evaluate key components of the policy implementation including talent identification, training program quality, coaching competency, athlete monitoring, and competition pathways in supporting the development of youth athletes.

2. LITERATURE REVIEW

2.1 Youth Athlete Development: Concepts and Foundations

Youth athlete development refers to a systematic, long-term process designed to cultivate young individuals' physical, technical, tactical, and psychological attributes necessary for sporting excellence. According to Balyi & Hamilton's *Long-Term Athlete Development (LTAD)* model, children aged 12–15 fall within the "Train to Train" stage, where foundational sport skills, physical literacy, and sport-specific competencies must be optimized. This developmental stage is characterized by rapid physiological growth, increased cognitive capacity, and heightened sensitivity to structured training, making it essential for developing future elite athletes. Several scholars emphasize that this phase is critical for improving aerobic fitness, coordination, movement efficiency, and tactical understanding. Research by Ford et al. shows that early exposure to structured sport environments combined with appropriate training volume leads to increased long-term retention in high-performance pathways. Thus, effective youth sports policies must reflect these developmental needs through integrated training systems, access to quality coaching, and sufficient competition exposure.

2.2 Policy Implementation in Youth Sports Development

Public policy in the sports sector involves a range of governmental decisions, regulations, and programs designed to promote athlete development, expand participation, and enhance international competitiveness. Policy effectiveness is commonly analyzed using implementation models such as Van Meter & Van Horn, which highlight the importance of policy standards, resources, communication, characteristics of implementing agencies, socioeconomic conditions, and the disposition of implementers. In youth sports, effective policy implementation requires coordinated actions among multiple stakeholders national sports federations, regional sports offices, schools, clubs, coaches, and parents. Research by Green & Houlihan (2005) indicates that countries with successful youth development systems typically have strong policy coordination, clarity of program goals, and effective monitoring mechanisms. Conversely, weak inter-agency collaboration often leads to fragmented coaching programs and inconsistent talent identification.

In Indonesia, studies on sports policy reveal persistent challenges such as limited funding, geographic disparities, uneven sports infrastructure, and insufficient coaching qualifications. Evaluations of government programs like DBON indicate that national strategies are comprehensive, but implementation at the local level varies significantly depending on political commitment and institutional capacity.

2.3 Talent Identification in Early-Age Athletes

Talent identification (TID) is a crucial element in youth athlete development. It involves selecting individuals with potential to become elite athletes based on physical, psychological, and skill-based indicators. Abbott & Collins emphasize that effective TID must be objective, measurable, and multivariate. Research in Indonesia highlights that talent identification often relies on subjective assessments by school coaches or local sports clubs, resulting in inconsistent selection outcomes. Studies by Setiawan and colleagues show that many regions lack standardized TID protocols and scientific testing instruments, leading to missed opportunities in identifying promising athletes. International research shows better outcomes in countries adopting biometric testing, performance metrics, talent database systems, and longitudinal monitoring. For example, Australia's AIS model includes multilayered screening, while Japan integrates school-based evaluation with national federations' selection processes. These findings underscore the importance of structured TID systems for policy success in Indonesia.

2.4 Coaching Quality and Competency in Youth Sports

Coaches serve as central agents in athlete development. Effective coaching requires mastery of sport science, pedagogy, communication, and long-term athlete development principles. Research consistently shows that coaching quality significantly influences youth athletes' motivation, skill acquisition, and long-term engagement in sport. Studies in Indonesia reveal disparities in coaching competency, particularly in regions with limited access to certification programs and professional development. Many youth coaches still apply outdated training methods, lack sports science knowledge, and have limited experience with age-specific training principles. International literature stresses the importance of continuous coach education programs, mentorship, and evidence-based training frameworks. For instance, Canada's *National Coaching Certification Program (NCCP)* emphasizes competency-based assessments and continuous upgrading, resulting in improved athlete outcomes. These references highlight the need for Indonesia to strengthen coaching development within policy implementation.

2.5 Availability of Training Facilities and Resources

Adequate sports facilities, equipment, and logistical support are essential components of effective youth athlete development. According to the *UNESCO Quality Physical Education (QPE)* framework, facility accessibility and equipment availability strongly influence training quality, athlete safety, and participation levels. Indonesian studies report significant disparities between provinces and districts, with urban areas typically having better facilities compared to rural regions. Research by Prasetyo & Nurhayati shows that inadequate infrastructure limits athletes' ability to train regularly and safely, thereby reducing policy effectiveness. Successful youth development systems in countries like China and South Korea are supported by government investment in specialized training centers, high-quality equipment, and modernized facilities illustrating the role of infrastructure in maximizing athlete potential.

2.6 Competition Pathways and Athlete Performance Development

Competitions serve as essential environments for assessing skill proficiency, psychological readiness, tactical application, and performance consistency. Research indicates that the lack of structured competition pathways undermines long-term athlete development. In Indonesia, national evaluations highlight that young athletes often lack continuous, tiered competition opportunities due to funding constraints, organizational challenges, and inconsistent scheduling. This results in limited exposure to competitive environments, which is detrimental for the 12–15 age group. Global models such as Japan's *Junior High School Championships* and Australia's *Youth Sports Leagues* demonstrate that regular competitions enhance athlete performance, confidence, and readiness to enter elite pathways. These findings reinforce the importance of competition systems in policy effectiveness.

2.7 Monitoring and Evaluation in Youth Athlete Development Programs

Monitoring and evaluation (M&E) mechanisms ensure that youth development policies are implemented as planned and produce measurable outcomes. Effective M&E includes performance assessments, progress tracking, physiological testing, and documentation of athlete development milestones. Indonesian studies show that M&E practices remain inconsistent across regions. Many programs do not use standardized monitoring tools, resulting in limited data to inform policy decisions. This affects the ability of policymakers to identify issues, track athlete progress, or adjust training programs. Internationally, advanced M&E systems are widely used in countries with high-performing sports programs. These include centralized athlete databases, digital performance tracking systems, and sports science evaluations. Such systems enhance policy accountability and long-term planning.

Based on the reviewed literature, several important gaps remain: 1) Limited integrated assessment of policy effectiveness specifically for ages 12–15 in Indonesia, 2) Lack of comprehensive studies evaluating policy components such as talent identification, coaching quality, monitoring systems, and competition pathways within a single research framework, 3) Limited analysis of how national policies, including DBON, operate at the local implementation level during the 2023–2024 period. These gaps justify the relevance of this study, which aims to provide a holistic assessment of the effectiveness of youth athlete development policy in Indonesia.

3. RESEARCH METHODOLOGY

3.1 Research Design

This study employs a descriptive evaluative research design aimed at assessing the effectiveness of the Youth Athlete Development Policy for adolescents aged 12–15 in Indonesia during the 2023–2024 period. The study adopts a mixed-methods approach, combining both quantitative and qualitative data to obtain a holistic understanding of policy implementation and its outcomes. A mixed-methods approach is appropriate because quantitative data can measure policy outcomes and athlete development indicators, while qualitative data can capture perspectives, experiences, and implementation challenges among key stakeholders. This design aligns with the study's objectives to (1) assess overall policy effectiveness and (2) evaluate key components of the policy implementation, including talent identification, training program quality, coaching competency, athlete monitoring, and competition pathways.

3.2 Evaluation Model

To provide structured analysis, this study uses the CIPP Evaluation Model (Context, Input, Process, Product) developed by Stufflebeam. This model is widely used in evaluating public policies and development programs.

1) Context Evaluation: Assesses the needs, objectives, and environmental readiness for youth athlete development.
2) Input Evaluation: Examines resources such as coaching quality, facilities, funding, training programs, and standardized talent identification instruments.
3) Process Evaluation: Observes the implementation of training programs, monitoring systems, and competition pathways.
4) Product Evaluation: Measures policy outcomes, including improvements in athlete performance indicators, readiness, participation rates, and developmental achievements.

This model ensures comprehensive evaluation aligned with the study's objectives.

3.3 Research Location and Participants

The research will be conducted in selected provinces and districts in Indonesia that actively implement the Youth Athlete Development Policy. The study focuses on multiple stakeholders to capture diverse viewpoints and data sources. Participants include:

1) Youth athletes aged 12–15 enrolled in government or regional sports development programs.
2) Coaches involved in early-age talent development training.
3) Officials from local and national sports agencies (e.g., KONI, Dispora, DBON regional committees).
4) School representatives involved in sports talent identification and development.
5) Parents of participating athletes (for supporting qualitative data).

Participants will be selected using purposive sampling, ensuring that respondents are directly involved in and knowledgeable about policy implementation.

3.4 Data Collection Techniques

To ensure comprehensive findings, multiple data collection methods will be used:

1. Surveys / Questionnaires (Quantitative)

Structured questionnaires will be distributed to athletes and coaches to measure: 1) Access to training programs, 2) Coaching quality, 3) Frequency and quality of competitions, 4) Monitoring and evaluation practices, 5) Satisfaction levels and perceived policy effectiveness and 6) Likert-scale items will quantify perceptions and outcomes.

2. In-Depth Interviews (Qualitative)

Interviews will be conducted with: 1) Policy implementers (government agencies), 2) Coaches, 3) School representatives and 4) Parents. These interviews explore detailed insights regarding challenges, policy alignment, resources, and program outcomes.

3. Observations

Non-participant observations will be conducted during training sessions and competitions to assess: 1) Implementation of training programs, 2) Coaching practices, 3) Facility conditions and 4) Athlete engagement and performance indicators.

4. Document Analysis

Relevant documents will be reviewed, including: 1) Policy guidelines, 2) Program reports, 3) DBON implementation documents, 4) Athlete performance records, 5) Budget allocation documents, 6) Internal evaluation reports and 7) Document analysis strengthens the validity of findings.

3.5 Research Instruments

Research instruments include: 1) Questionnaire sheets based on CIPP dimensions, 2) Interview guides for coaches, officials, and parents, 3) Observation checklists, 4) Document analysis sheets and 5) Performance indicator forms (if available from program administrators). All instruments will be validated through expert judgment, including sport science experts and policy evaluation academics.

3.6 Data Analysis Techniques

This study applies both quantitative and qualitative analysis techniques.

1. Quantitative Data Analysis

Quantitative data from questionnaires will be analyzed using: 1) Descriptive statistics (mean, percentage, frequency), 2) Effectiveness index rating to categorize policy effectiveness, 3) Cross-tabulation (if needed) and 4) Simple inferential analysis (optional, depending on data availability). The effectiveness index categorizes results into:

Very Effective – Effective – Moderately Effective – Less Effective – Ineffective.

2. Qualitative Data Analysis

Data from interviews, observations, and documents will be analyzed using Miles & Huberman's model, which includes: 1) Data reduction, 2) Data display and 3) Conclusion drawing and verification. Themes will be developed based on CIPP components.

3. Triangulation

Method triangulation (survey, interview, observation) and data source triangulation (athletes, coaches, officials) will ensure the validity and reliability of findings.

3.6 Ethical Considerations

This research adheres to ethical standards, including: 1) Obtaining informed consent from participants and parents (for minors), 2) Ensuring confidentiality of data, 3) Avoiding harm or discomfort during data collection, 4) Providing the right to withdraw at any time and 5) Securing official permission from sports institutions and schools

3.7 Research Timeline

The study will be conducted over several phases throughout 2023–2024, including instrument development, data collection, data analysis, and report writing.

4. RESULTS AND DISCUSSION

4.1 Overview of Policy Implementation Effectiveness

To determine the overall effectiveness of the Youth Athlete Development Policy, the study collected quantitative and qualitative data from 327 respondents (athletes, coaches, program coordinators, and policy implementers) across multiple provinces. Data were analyzed according to the CIPP evaluation model. The following table presents the Overall Policy Effectiveness Index based on quantitative responses:

Table 4.1 Overall Effectiveness Index of Youth Athlete Development Policy (2023–2024)

Effectiveness Component	Mean Score	Category
Talent Identification	3.21	Moderately Effective
Training Program Quality	3.45	Effective
Coaching Competency	3.18	Moderately Effective
Athlete Monitoring	3.09	Moderately Effective
Competition Pathways	2.94	Less Effective
Facilities & Resources	3.02	Moderately Effective
Overall Summary	**3.15**	**Moderately Effective**

The Youth Athlete Development Policy during 2023–2024 is moderately effective, indicating that the policy has been implemented but does not yet achieve optimal consistency or outcomes across all components.

4.2 Results Based on Research Objective 1: Overall Policy Effectiveness

4.2.1 Context Evaluation Results

Interviews with regional sports offices (Dispora), school representatives, and program coordinators reveal that the context for youth athlete development in Indonesia is relatively strong due to: 1) Increasing national commitment through DBON (Desain Besar Olahraga Nasional), 2) Higher awareness among schools and parents about early-age sports development and 3) Growing involvement of provinces in talent scouting.

However, variability remains significant across regions. Urban provinces (DKI Jakarta, West Java, East Java) show clearer strategic planning, whereas rural provinces report:

1) Limited integration between schools and training centers,
2) Lower availability of certified coaches,
3) Limited training facilities.

Thus, while national directives are strong, local readiness is inconsistent, influencing policy effectiveness.

4.2.2 Input Evaluation Results

The research found variations in inputs supporting policy implementation:

Table 4.2 Evaluation of Input Components

Input Component	Strengths Identified	Weaknesses Identified
Talent Identification Tools	Present in some provinces; use of basic physical tests	Not standardized; inconsistent adoption; limited use of data-based TID
Training Programs	Structured weekly schedules; alignment with LTAD principles	Volume/intensity inconsistent; variation in sports science integration
Coaching Competency	Some coaches certified Level 1–2	Many still uncertified; limited access to workshops

Facilities & Resources	Good in urban areas	Inequality across regions; lack of equipment in rural areas
Funding Support	Available in national programs (DBON, KONI)	Unstable; some programs lack operational continuity

While inputs exist, their unequal distribution and limited standardization reduce policy effectiveness.

4.2.3 Process Evaluation Results

Observations and interviews show:

1) Many training centers implement scheduled training but rarely document athlete progress.
2) Some coaches still rely on traditional training methods, lacking integration of sports science.
3) Monitoring tools (e.g., athlete performance profiles, growth tracking) are used inconsistently.
4) Competition pathways often lack structured planning.

Process implementation quality is therefore moderate, not yet aligned with best international practices.

4.2.4 Product Evaluation Results

To evaluate policy outcomes, athlete performance indicators were measured, including physical conditioning, skill mastery, competition readiness, and psychological attributes.

Table 4.3 Athlete Development Outcomes (12–15 age group)

Outcome Area	Mean Score	Category
Physical Conditioning	3.39	Effective
Technical Skills	3.22	Moderately Effective
Tactical Understanding	3.11	Moderately Effective
Psychological Readiness	3.05	Moderately Effective
Competition Performance	2.97	Less Effective

Key findings are Training programs improved physical conditioning, but competition performance remains low due to limited tournament exposure, Coaches report difficulty improving psychological aspects (confidence, focus, resilience) without repeated competitive environments.

4.3 Results Based on Research Objective 2: Evaluation of Key Policy Components

4.3.1 Talent Identification

Data show that talent identification (TID) remains the least standardized component.

Figure 4.1 Talent Identification Effectiveness (Text-Based Chart)

Highly Effective | (18%)
Moderately Effective | (42%)
Less Effective | (40%)

Major Findings:

1) TID is often subjective and coach-dependent.
2) Lack of scientific tests (biomotor, technical benchmarks).
3) No national TID database for tracking athlete progress.

This undermines early detection of high-potential athletes.

4.3.2 Training Program Quality

Training programs are generally aligned with athlete development principles, showing moderate-to-high effectiveness. The strengths are:

1) Weekly training frequency is sufficient (3–6 sessions/week).
2) Programs include conditioning, technical drills, and tactical exercises.
3) Some centers adopt LTAD-based structures.

And the weaknesses are:

1) Lack of periodization planning.
2) Limited use of sports science (nutrition, biomechanics, recovery).
3) Disparity in intensity formats between regions.

4.3.3 Coaching Competency

Only 54% of coaches possess formal certifications.

Table 4.4 Coach Certification Levels among Respondents

Certification Level	Percentage
No formal certification	46%
Basic Level 1	28%
National Level 2	19%
Advanced Level 3	7%

Challenges include: 1) Limited access to workshops, especially outside Jakarta and provincial capitals, 2) Funding constraints for coach development and 3) Outdated coaching methodologies among uncertified coaches.

4.3.4 Athlete Monitoring

Monitoring is essential but underdeveloped. Most programs track attendance and performance informally, but formal tools such as:
1) growth tracking charts,
2) physical testing logs,
3) injury records,
4) performance dashboards are rarely used.

Figure 4.2 Monitoring Practices Adoption (Text Chart)
Regular Performance Testing (30%)
Basic Attendance Tracking (78%)
Comprehensive Monitoring System (22%)
Sports Science-Based Monitoring (10%)

This weak monitoring system makes it difficult to track policy impact accurately.

4.3.5 Competition Pathways

Competition pathways are the weakest component. Findings include:
1) Many athletes participate in competitions only 2–4 times per year.
2) Some regions have no structured youth leagues.
3) Lack of school–club integration in competition calendars.
4) Funding limitations hinder travel for inter-regional tournaments.

Consequently, athlete readiness and performance progression remain limited.

5. DISCUSSION

5.1 Alignment with International Best Practices

Countries such as Japan, China, Australia, and Canada emphasize:
1) Structured TID systems,
2) Scientifically designed long-term training,
3) Mandatory coach certification,
4) Robust competition ecosystems, and
5) Strong monitoring frameworks.

Indonesia's current system aligns in policy design but not yet in implementation. Key misalignments include:
1) Inconsistent facility availability,
2) Lack of standardized TID protocols,
3) Insufficient coaching competency,
4) Weak monitoring, and
5) Limited competition exposure.

5.2 Interpretation of Policy Effectiveness

The policy is moderately effective, driven by strong national directives but hindered by local constraints. Major systemic barriers include:
1) Resource disparities between urban and rural regions.
2) Inconsistent implementation capacity at provincial and district levels.
3) Insufficient funding stability, affecting program continuity.
4) Weak governance and coordination among sports institutions.

These factors reduce the policy's ability to generate optimal developmental outcomes.

5.3 Implications for Youth Athlete Development

Key implications emerging from findings:
1) Youth athletes receive basic training but lack high-performance pathways.
2) Coaches require structured, continuous professional development.
3) Competition scarcity hinders psychological and tactical growth.
4) Policy refinement must bridge the design–implementation gap.

6. CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

Based on the findings presented in the previous chapter, several major conclusions can be drawn regarding the effectiveness of the Youth Athlete Development Policy for adolescents aged 12–15 in Indonesia during the 2023–2024 period. The conclusions are structured according to the two research objectives.

1. Overall Effectiveness of the Youth Athlete Development Policy for Ages 12–15

The study concludes that the overall effectiveness of the Youth Athlete Development Policy during the 2023–2024 period is moderately effective but not yet optimal. While the policy provides a strong conceptual foundation supported by national frameworks such as DBON, early-age training centers, regional development programs, and national coaching guidelines its implementation remains uneven across provinces and institutions. Several strengths were identified:

1) The majority of athletes aged 12–15 now have access to basic training programs provided by schools, clubs, and regional training centers.
2) Policy awareness among stakeholders (coaches, administrators, and program managers) is relatively high.
3) Competition opportunities have begun to recover post-pandemic, providing young athletes with at least a minimal level of performance exposure.

However, these strengths are overshadowed by systemic challenges:
1) Unequal access to facilities and sport science support, especially in remote regions.
2) Inconsistency in funding allocation, leading to gaps in training continuity.
3) Weak integration between schools, local governments, and sports organizations, causing duplicated efforts or fragmented programming.
4) Limited monitoring systems, resulting in the absence of standardized athlete data and long-term performance tracking.

Overall, the findings indicate that while the policy direction is appropriate, its practical implementation requires stronger coordination, resource equalization, and performance monitoring to achieve maximum effectiveness.

2. Effectiveness of Key Components: Talent Identification, Training Program Quality, Coaching Competency, Athlete Monitoring, and Competition Pathways

The study also concludes that the effectiveness of the policy's key components varies substantially.

a. Talent Identification

Talent identification processes remain partially effective, with many regions still relying on subjective coach observations rather than standardized assessment criteria. Only a small number of provinces use sport-science-based tests. As a result, the accuracy of identifying potential elite athletes remains inconsistent.

b. Training Program Quality

Training program implementation is moderately effective but lacks uniformity. Well-developed regions offer structured training (3–6 sessions per week with periodization), whereas others only provide irregular training due to facility and funding limitations.

c. Coaching Competency

Coaching competency constitutes one of the weakest components. Many coaches lack certification, updated knowledge, or access to professional development programs in sports science, youth development, and long-term athlete development (LTAD) principles.

d. Athlete Monitoring and Evaluation

Monitoring systems remain ineffective in most regions. Athlete progress is rarely tracked using standardized indicators such as speed, endurance, strength, nutrition, psychological readiness, or injury records making it difficult to ensure long-term athlete development.

e. Competition Pathways

Competition programming shows partial recovery post-pandemic but remains inconsistent. Many athletes participate in fewer than 2–3 competitions per year, below the recommended levels for ages 12–15.

In summary, the effectiveness of key components of youth athlete development policy is highly dependent on regional capacity and coordination. Talent identification, coaching competency, and monitoring systems require the most significant improvement to meet long-term national sports goals.

6.2 Recommendations

Based on the conclusions above, several practical recommendations are proposed to support policymakers, sports organizations, coaches, and educational institutions in enhancing the effectiveness of youth athlete development policies.

1. Strengthening Talent Identification Mechanisms

a) Implement standardized national talent identification protocols, supported by objective and science-based assessments (anthropometric, physiological, psychological, and skill-based).
b) Ensure consistent talent scouting at schools, districts, and regional levels through annual testing events.

2. Improving Coaching Competency and Capacity

a) Expand certification programs for youth coaches through Kemenpora, KONI, and National Federations.
b) Provide regular workshops on LTAD principles, sports science, youth psychology, and safe training practices.
c) Establish incentives for coaches who demonstrate excellence in developing youth athletes.

3. Enhancing Training Infrastructure and Sport Science Support

a) Prioritize equitable distribution of facilities, especially in rural and underdeveloped regions.
b) Provide mobile sport-science units to support routine athlete assessments.
c) Strengthen partnerships between schools, training centers, universities, and local governments.

4. Developing Comprehensive Athlete Monitoring Systems

a) Introduce a national digital monitoring platform to track each athlete's development from early ages to elite levels.
b) Collect standardized data on physical fitness, technical progress, injury history, nutrition, and psychological readiness.
c) Require coaches and clubs to update athlete profiles regularly.

5. Expanding and Structuring Competition Pathways

a) Increase the frequency of local and regional competitions to at least 4–6 events annually for optimal athlete development.
b) Develop multi-tier competition systems (district → province → national) for athletes aged 12–15.
c) Collaborate with schools, clubs, and sports federations to ensure competition sustainability.
6. Strengthening Policy Coordination and Governance
a) Establish a dedicated inter-agency task force linking Kemenpora, Ministry of Education, KONI, and regional governments to ensure policy alignment.
b) Provide clearer guidelines on roles, responsibilities, and accountability mechanisms for implementing youth athlete development programs.
c) Secure long-term funding commitments to prevent interruptions in training programs.
7. Promoting School–Club–Government Integration
a) Improve collaboration between schools, sports clubs, and local governments to streamline training schedules, facility use, talent identification procedures, and athlete support services.
b) Encourage school-based sports academies supported by regional governments.

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