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Learning from STDF Regional Pesticide Residue Data Generation Projects in Africa, Asia and Latin America

Findings of an External Evaluation by Stuart Slorach and Andrea Spear

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Three Regional STDF Projects

- **Africa:** Implemented by AU-IBAR with Ghana, Kenya, Senegal, Tanzania and Uganda
- **Asia**: Implemented by ASEAN Secretariat with Brunei Darussalam, Indonesia, Malaysia, Singapore, Philippines, Thailand , Viet Nam (plus Cambodia, Lao PDR, Myanmar as observers)
- **Latin America**: Implemented by IICA with Bolivia, Colombia, Costa Rica, Guatemala and Panama
- **Partners:** IR-4 (Rutgers University), USDA, government agencies, FAO/WHO JMPR, private sector (CropLife, Dow, Syngenta, Valent/Sumitomo), EPA, COLEACP, IDB
- **Timeframe**: 2012-2017
- **STDF contribution**: US$1,457,316 (total value: US$3,501,866)

Rationale

Problem:

- Major trade issues linked to pesticide Maximum Residue Levels (MRLs).
- Few Codex MRLs exist for ‘minor-use’ crops (i.e. crops of low pesticide usage on a global scale).
- Gaps in residue data in developing countries due to limited knowledge, and cost of generating data and registering new pesticides.
- Use of older pesticides – less effective and more likely to block trade.

STDF regional projects

- Pilot a regional collaborative model, based on ‘learning by doing’ and partnerships, to expand residue programmes and increase compliance with Codex standards.

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Objectives of the Projects

1. Facilitate market access
2. Expand lower-risk pesticide options
3. Improve technical capacity to generate, review and interpret pesticide residue data
4. Support national pesticide registration
5. Facilitate the development of new Codex MRLs

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Objective of the External Evaluation

This ex-post evaluation aimed to verify:

- the extent to which the projects achieved their objectives
- the effectiveness, impact and sustainability of the three projects
- their contribution to STDF's objectives

Overall achievements of the three projects

- 160+ scientists and government officers improved knowledge and skills on GAPs and GLPs
- 62 field trials in 16 countries, resulting in 10 studies (6 in ASEAN, 3 in Latin America, 1 in Africa)
- 10 new MRLs expected by 2022 (5 MRLs in 2018, 2 in 2019, 3 expected in 2020-22)
- New lower-risk pesticides registered in 7 ASEAN countries, 5 Latin American countries and Africa (2 countries, with one underway).
- Improved regional collaboration, with support to regional harmonisation efforts.

Were the project objectives met?

Objective	Outcome
1. Facilitate market access	Too early to measure
2. Expand lower-risk pesticide options	Yes
3. Improve capacity to generate, review and interpret pesticide residue data	Yes
4. Support national pesticide registration	Yes
5. Facilitate new Codex MRLs	Yes
6. Develop replicable model for joint pesticide residue projects	Yes and facilitated creation of new Minor-Use Foundation

Which Codex MRLs were established?

Study	Countries	Data submitted to JMPR	Status of Codex MRL
Spinetoram on lychee	Thailand	2017	Established in 2018
Spinetoram on mango	Thailand	2017	Established in 2018
Spinetoram on avocado	Colombia	2017	Established in 2018
Azoxystrobin plus difeno-conazole on dragon fruit	Indonesia, Viet Nam	2017	2 MRLs established in 2018
Pyriproxyfen on papaya	Brunei, Malaysia, Philippines	2017	Established in 2019
Pyriproxyfen on pineapple	Panama	2017	Established in 2019
Pyriproxyfen on mango	Malaysia, Singapore (lab analysis):	2017, re-submitted 2019	Expected in 2020
Pyriproxyfen on banana	Costa Rica, Guatemala	2017, revised label to be submitted in 2019/20	Expected in 2021
Sulfoxaflor on mango	Ghana, Kenya, Senegal, Tanzania, Uganda	2020	Expected in 2022
Spinetoram on banana	Bolivia	n.a.	n.a.

Impacts

- Registration of new lower-risk pesticide products for tropical produce
- Better understanding of process to set Codex MRLs
- Minor Use Foundation created to expand low-risk pesticides for tropical produce
- Stronger regional efforts to harmonise pesticide registration requirements and MRLs (e.g. EAC)
- More active and better-informed participation in Codex and regional priority-setting fora – expected to lead to improvements in market access, food safety and environmental protection

Key Findings

- Projects highly relevant to address SPS challenges affecting trade
- Clear value-added of STDF support – various partners could not have achieved results on their own.
- Key objectives were (or will be) largely met
- Training activities delivered on time and within budget – very much appreciated by participants
- Hypothesis proved: the collaborative, hands-on model piloted could deliver the desired results

Factors contributing to success

- Active participation, persistence and dedication of the project partners: *beyond the call of duty* of USDA and IR-4/ Rutgers University teams.
- Emergence of ‘champions’ in project teams
- Clear lines of communication, cooperation and collaboration among the many different actors

Challenges and areas for improvement

- Project design overly optimistic – more rigorous assessment of needs and risks at the design phase, and better follow-through, would have helped to prevent some challenges and avoid delays.
- Resources (time, budget) needed for field trials under-estimated.
- Laboratory analysis delayed due to equipment breakdowns, transfer of trained staff, problems with reagents, need to repeat analyses, etc.
- Lack of advanced analytical capacity in some countries required samples to be sent abroad for analysis – this worked well in Asia, but was a major challenge in Africa and Bolivia.
- Backlog in JMPR workload contributed to delays.
- Sustainability not addressed as a continuity objective.

Key lessons learned

- Project model is sound but should be better adapted to local context.
- Identifying and prioritising pesticide/crop combinations is difficult – many different interests need to be balanced.
- Effective collaboration depends on a very clear understanding of roles, responsibilities and mutual expectations.
- Ensure study teams have technical expertise, time, ability to replace members seamlessly and work effectively with other stakeholders.
- Private sector (growers, exporters, associations) should be more actively involved from the design stage.
- Actively nurture and support ‘Champions’ to drive change and sustainability.

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Selected Key Recommendations

1. Build on and re-use the project model, taking into account lessons learned.
2. Pay more attention to get and maintain high-level (public, private) support.
3. Consider how JMPR could give earlier feedback on data packages submitted.
4. Ensure more rigorous needs assessments, better risk management and contingency planning, and build in sustainability from the start.
5. Follow-up to further improve capacity development on MRLs and to address remaining gaps in laboratories.
6. Encourage stakeholders to submit corrected data packages to JMPR.
7. Consider how to expedite work by JMPR and CCPR (e.g. crop groupings).
8. Use the SPS Committee to request trading partners to justify why their MRLs are stricter than Codex, if the case.

Sustaining results: follow-up since 2017

- New pesticide data generation projects in Latin America (ongoing), Asia (at protocol stage) and Africa (under discussion).
- Two regional training centres for field and lab analysts being planned in Latin America.
- Minor-Use Foundation is fully functional non-profit organization.
- Labelling errors corrected (pyriproxyfen on mango and banana), labels re-submitted to JMPR and new Codex MRLs expected in 2020 and 2021.
- In Africa, partners continue to finalize outstanding work – expect to submit data (sulfoxafor on mango) to JMPR in 2020.

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For more information, see the external evaluation report on the STDF project webpages:

Africa MRL Project

ASEAN MRL Project

Latin America MRL Project