

Review Article

## **A BRIEF ACCOUNT OF TWO DECADES OF FARMER FIELD SCHOOL IMPLEMENTATION IN NEPAL**

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### **ABSTRACT**

This paper presents an overview of two decades of Farmer Field School (FFS) implementation in Nepal. It encompasses a brief account of the achievements of FFS implementation, issues and challenges faced. The paper also highlights key recommendations that would guide future course of actions for implementing the FFS. Narrations in the paper are basically derived from review of literature. Enhancing farmer's capacity to adapt and adopt measures suitable to changing agro-ecological environment for producing a healthy crop is fundamental to FFS imparting sustainability and economic viability to crop production system. Beginning from rice, the FFS approach of developing and disseminating adaptive technology is increasingly applied in other sectors of agriculture including livestock and cross-cutting sectors such as health, nutrition and food security as FFS embraces a holistic approach encompassing social, economic and environmental dimensions. The findings and empirical evidences gathered from FFS implementation unequivocally show that the FFS has led to an overall increase in knowledge, skills and decision making capacity of small holder farmers to better manage their production activities. The studies revealed that application of ecosystem – based management practices bring positive changes in the short and medium terms. FFS has boosted self-confidence among women and visibly contributed to improving intra-household relationship between men and women, with women's increased role in decision making regarding production and income.

**Key words:** *Field School, IPM, sustainability, FAO, AFSP*

### **INTRODUCTION**

Sustainable agriculture and rural development are center to Sustainable Development Goals (SDGs) to be achieved by 2030 A.D. The SDGs are the blueprint to achieve a better and more sustainable future for all declared by the United Nations. A key to achieve this agenda will be an approach that empowers rural people to act as change agents. The Farmer Field

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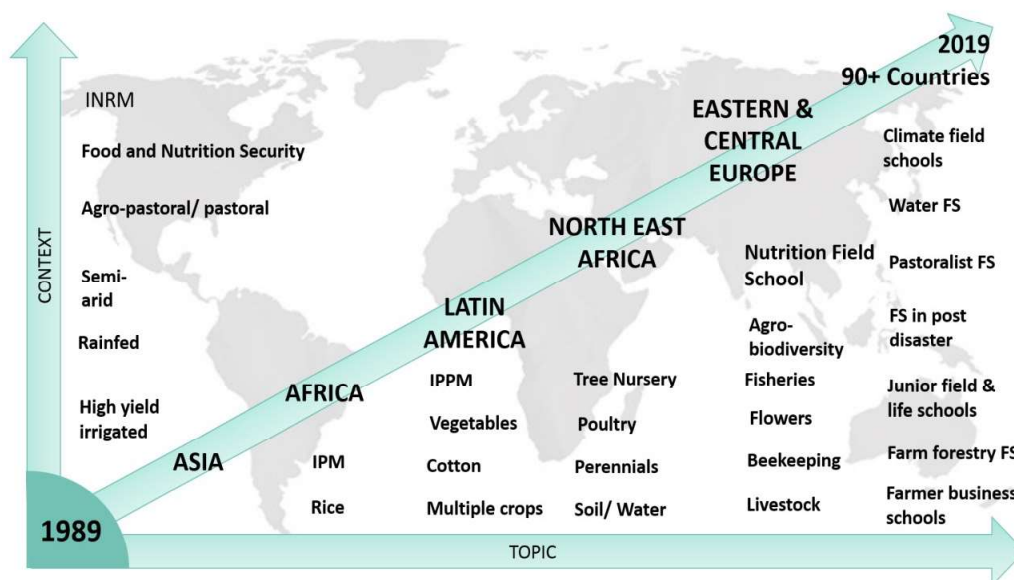
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School (FFS), being holistically human development-centered, is considered as one of the best approaches for farmer’s empowerment including women empowerment, and there by contributing to overall rural development. FFS was first developed to mitigate the negative effects of chemicals and pesticide use on human health and environment in Southeast-Asian rice production systems, but later it was widely applied and adapted to other crops (cotton, vegetables, fruits etc) and also to various other sub-sectors of agricultural and rural development (Fig. 1).

The FFS is founded on principles of non-formal adult education to facilitate farmer groups to learn about their local situation, related problems and based on identify opportunities for improvements through routine field-based sessions, field based experimentation, observations and analysis.



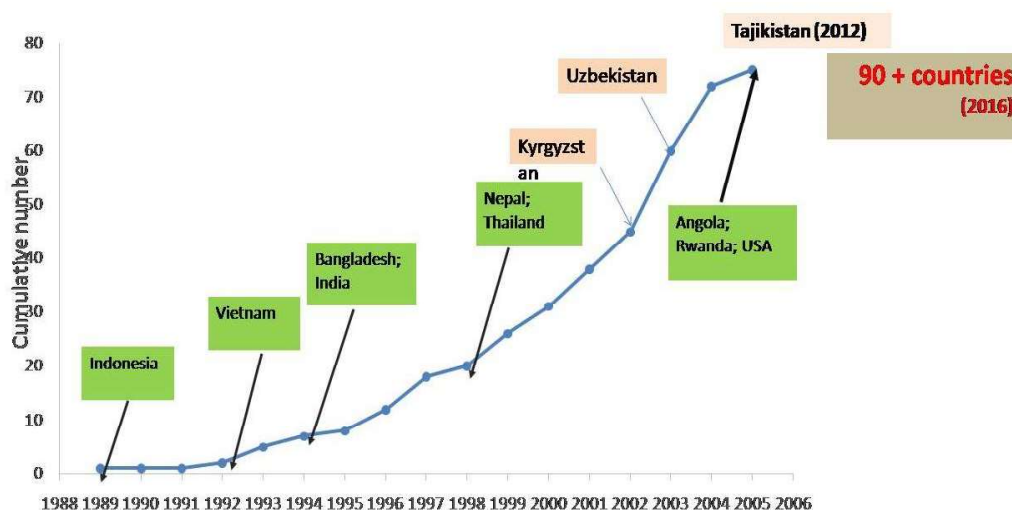
**Fig. 1:** Context and Topics adapted to FFS (Source: Adapted and modified from FAO, 2016)

## **MATERIALS AND METHODS**

A desk review was carried-out for the study. Reliable information were gleaned through various literature and secondary sources mainly from the reports of relevant projects and programs that have had embraced FFS approach, casual study reports and from the authors’ own informed knowledge gathered from long work experience in the field of FFS implementation. Relevant information was arranged systematically. Findings are summarized in the figures and briefed in texts.

## FINDINGS

### Global status of FFS implementation



**Fig. 2:** Number of countries applying FFS approach (Source: Braun *et al.*, 2006)

From its cradle in Southeast Asia, FFS has spread to other parts of Asia in early 1990s, to Africa in the mid-1990s and subsequently to other parts of the world (Fig. 2).

### Evolution of Farmer Field School in Nepal

Farmer Field School was first introduced in Nepal through FAO’s Technical Cooperation Project (TCP) on Integrated Pest Management (IPM) in 1997 led by the then Plant Protection Division of the Department of Agriculture under Ministry of Agriculture and Cooperatives. This pilot project aimed at to prepare a cadre of trained plant protection officers to run FFS in farmer’s fields that would eventually contribute to increase agricultural productivity (GC, 2018) at the same time maintaining the agro-ecosystem. Subsequent phases of IPM program implemented under “FAO’s Regional Community IPM Program in Asia” and “Support to National IPM Program” funded by Norwegian Government were successful in expanding program’s outreach to broader farmers’ community by forming nationwide cadres of FFS graduates, farmer trainers as well as practitioners. Since then, this approach has been adapted in several projects implemented by the government (Table 1) and several Non-Government Organizations (NGOs) working in agriculture, forestry and social development sectors. World Education, Caritas-Nepal, TITAN and Care Nepal are some noteworthy examples of NGOs which promoted FFS from the very beginning and continued to sustain the core principles of FFS in other approaches like LOK PATHSALA implemented by Jeevan Kendra, Dhanusha (a leading local NGO) with support from Care Nepal in JALADH river watershed. Farm Business School designed and implemented in

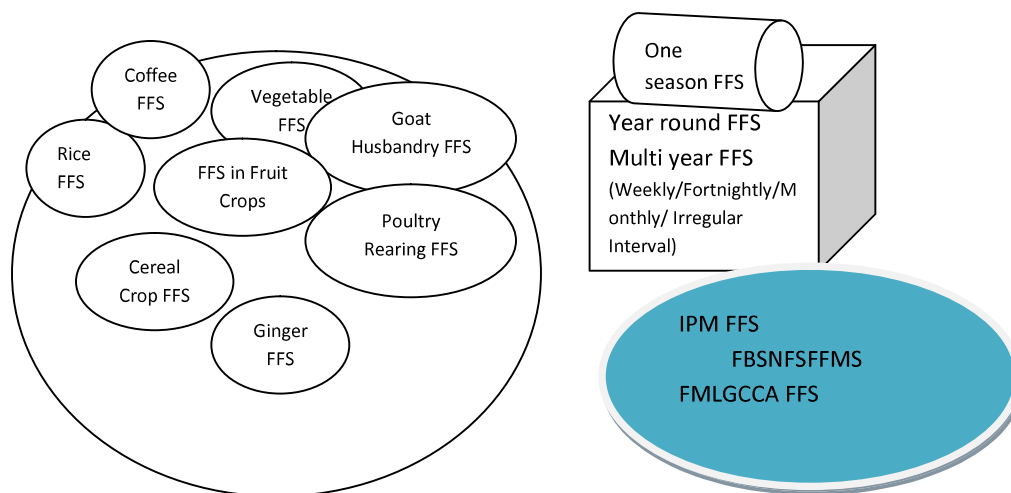
FAO agribusiness project (TCP/NEP/3503)<sup>1</sup> is an example of adapting the approach towards agribusiness promotion.

**Table 1.** List of major projects that adopted FFS approach in collaboration with Government of Nepal

| <b>Project title</b>  | <b>Implementation year</b> | <b>Funding</b> | <b>Technical Assistance</b> |
|---|----------------------------|----------------|-----------------------------|
| Technical Cooperation Program (TCP/NEP/6712)                        | 1997-1998                  | FAO            | FAO                         |
| Regional Program on Community IPM in Asia” (GCP/RAS/172/ NOR)       | 1998-2002                  | Norway         | FAO                         |
| Support to National IPM Program in Nepal Phase I (UTF/NEP/055/NEP)  | 2004-2007                  | Norway         | FAO                         |
| Support to National IPM Program in Nepal Phase II (UTF/NEP/059/NEP) | 2008-2013                  | Norway         | FAO                         |
| Ginger Competitiveness Project (MTF /NEP/068/STF)                   | 2012-2014                  | STDF-EIF       | FAO                         |
| Agriculture and Food Security Project (AFSP)<br>UTF/NEP/073/NEP     | 2013-2018                  | GON and GAFSP  | FAO                         |
| Climate Change Adaptation Project (GCP/NEP/070/LDF) <sup>2</sup>    | 2015-2018                  | GEF/LDCF       | FAO                         |
| Kisan Ka laagi Unnat Biu-bijan Karyakram (KUBK-ISFP)                | 2013-2019                  | IFAD           |                             |
| Food and Nutrition Security Enhancement Project (FANSEP)            | 2018-2023                  | GON and GAFSP  | FAO                         |

<sup>1</sup> TCP/NEP/3503 - Building Agribusiness Capacity of Smallholder Farmers to Market Safe Produce of Good Quality

<sup>2</sup> Reducing vulnerability and increasing adaptive capacity to respond to impacts of climate change and variability for sustainable livelihoods in agriculture sector in Nepal.



**Fig. 3:** Adaptation of the FFS approach in various settings and contexts in Nepal

Application of the FFS approach beyond IPM is widely diversified in Nepal. It is adapted to various technical domains involving diverse range of actors and development partners. Diversity of its application is seen from a single commodity focus (e.g. rice, vegetables, etc.) to varying fields of schools dealing with multiple dimensions of crop management in given cropping systems, agribusiness (Farmers' Business School), resource management (Farmers' Forestry Management School/Forest Management Learning Group) and socio-cultural aspects of community life including nutrition interventions (Fig. 3). Forest Management Learning Group (FMLG) has special focus on season-long experiments on forestry silviculture practices engaging 20-25 farmers in a group lasting for 1-2 years. Farmers' Forestry Management School (FFMS) has special focus on community forest management with emphasis on Dalit participation (Braun *et al.*, 2006). It is noteworthy to mention that the FFS approach has now been included in the regular academic curricula of vocational and agriculture university education in Nepal.

**Milestone of FFS activities, 1997-2018**

The focus of FFS has changed over time. Changes happened over the two decades are presented in Table 2 that describes milestone events ranging from the beginning of IPM FFS to Nutrition Field School NFS.

**Table 2.** Chronological Evolution of FFS activities during the period from 1977 through 2018

| <b>Year</b> | <b>Milestones</b>   | <b>Key Activities</b>  |
|-------------|---|--|
| 1997        | Launching of TCP for IPM  | <ul style="list-style-type: none"><li>• Field studies to collect information about rice production practices and interventions areas on agro-ecosystem based rice production</li></ul>   |
| 1998        | First IPM TOT and satellite FFS                                   | <ul style="list-style-type: none"><li>• First ‘Season long Training of Trainers (TOT)’ on Rice IPM course for 35 officers of Plant Protection Division, with facilitators from Philippines organized at Jhumka, Sunsari.</li><li>• Five satellite FFS conducted as a part of TOT</li></ul>   |
| 1999        | Beginning of FFS implementation on Rice IPM                       | <ul style="list-style-type: none"><li>• Government of Nepal launches the national IPM program</li><li>• Graduates of the First TOT conducted first batch of (30) FFS</li><li>• Second TOT conducted for GoN staffs including some staffs from NGO ( e.g.Care Nepal, World Education, RRN) with national facilitators from first TOT backed up by international facilitators from Philippines and Indonesia</li><li>• Total of 63 FFS conducted in two cropping seasons</li></ul> |
| 2000        | Beginning of Farmer to Farmer FFS facilitated Farmer Facilitators | <ul style="list-style-type: none"><li>• A curriculum development workshop is held to prepare for Training for farmer facilitators.</li><li>• The workshop was followed by a series of five 10-day TOTs for farmers held at various locations with a total of 156 participants.</li><li>• Carried out Participatory planning workshops</li><li>• Started Science by farmer activities</li></ul>   |
| 2001        | Beginning of Vegetable IPM FFS                                    | <ul style="list-style-type: none"><li>• World education organized third season-long TOT in Rice using Nepalese facilitators at Kalbalgudi, Jhapa</li><li>• Fourth season long TOT focused on Vegetable IPM organized at Budol of Kavre district</li><li>• Government decides to increase allocation for IPM Program as part of the next 5-year plan</li><li>• More than 50% of FFS are now being conducted by</li></ul>  |

| <b>Year</b> | <b>Milestones</b>   | <b>Key Activities</b>  |
|-------------|---|--|
|             |   | farmer trainers  |
| 2002        | Establishment of TITAN and decisions for FFS institutionalization | <ul style="list-style-type: none"> <li>• At national level the IPM Trainers Association (TITAN) was established to form a network of facilitators and FFS graduates.</li> <li>• IPM farmers had formed their own organizations in 26 districts under guidance of TITAN</li> <li>• 23 Vegetable FFS, in which 575 farmers were trained.</li> <li>• 225 FFS graduated farmers trained as FFS facilitators</li> <li>• a workshop for the IPM trainers is held with the theme “Strengthening of IPM Program” and decided to form National IPM Coordination Committee, National IPM Technical Committee and District IPM Coordination Committee.</li> </ul> |
| 2003        | Beginning of Coffee FFS   | <ul style="list-style-type: none"> <li>• Coffee promotion project (Cop) of Helvetas Nepal organized Coffee FFS Curriculum Development Workshop with support from IPM program</li> </ul>  |
| 2004        | Launching of Support to National IPM Program in Nepal Phase I     | <ul style="list-style-type: none"> <li>• Increase in crop diversity (rice, vegetables, coffee, tea) for FFS</li> <li>• Increase in district coverage of IPM FFS</li> <li>• Beginning of involvement of educational institutions in implementation of FFS</li> </ul>  |
| 2008        | Launching of Support to National IPM Program in Nepal Phase II    | <ul style="list-style-type: none"> <li>• Beginning of consolidation, Up-Scaling and Institutionalization phase of FFS</li> <li>• Adopted approach and modality for the Implementation of Yearlong FFS to cover major crops grown in a year</li> </ul>  |
| 2009        | First Livestock FFS in Nepal                                      | <ul style="list-style-type: none"> <li>• Heifer Nepal piloted Improved Goat Management Farmer Field School (IGM FFS) in one of its project areas in 2010.</li> </ul>   |
| 2013        | Designing and implementation of Ginger GAP FFS                    | <ul style="list-style-type: none"> <li>• Refresher training to FFS facilitators to support implementation of FFS on Good Agricultural Practices for Ginger</li> <li>• A total of 50 Ginger GAP FFS implemented in four districts</li> </ul>  |

| <b>Year</b> | <b>Milestones</b>                                       | <b>Key Activities</b>  |
|-------------|---|--|
| 2014        | Agriculture and Food Security FFS modules developed     | <ul style="list-style-type: none"> <li>• Approach, modality and curricula for Crop and livestock (Goat and Dairy) FFS fitting to the need of AFS designed</li> <li>• Incorporation of nutrition sessions in FFS curricula of both crop and livestock FFS</li> <li>• 1932 Crop FFS and 363 livestock FFS as envisaged in AFSP implemented (World Bank, 2018)</li> </ul> |
| 2015        | Piloting of Poultry rearing FFS                         | <ul style="list-style-type: none"> <li>• Egg to Egg and Chick to Chick FFS modules developed and piloted in AFSP districts</li> </ul>  |
| 2018        | Conceptualization of standalone Nutrition Field Schools | <ul style="list-style-type: none"> <li>• FANSEP appraised NFS as a skill-based learning approach and aims to establish NFS in each target community to remove barriers and identify catalysts for improved food-based nutrition practices.</li> </ul>  |

Source: Various sources including Westendorp (2012).

### **Status of FFS implementation**

Nepal IPM program implemented since 1997 were successful in institutionalizing in-service training on IPM-FFS for mid-level technicians and officers, producing a critical mass of capable FFS facilitators across the government organizations and NGOs with capacity to push FFS approach. Table 3 presents the outputs of various IPM related projects in Nepal. Economic analysis of Agriculture and Food Security Project (AFSP) shows that unit cost of operating one field school was NPR 65,000 against the government norms of NPR 106,400. This is attributed to intensive school sessions conducted under the project as compared to normal GON program.

**Table 3.** Output figures of Key Projects related to FFS implementation in Nepal

| <b>Items</b>  | <b>Initiation Phase (1997-2003)</b> | <b>Support to NIPMP (2004-2013)</b> | <b>After 2013<sup>1</sup></b> | <b>Total</b> |
|---|-------------------------------------|-------------------------------------|-------------------------------|--------------|
| IPM FFS Facilitators (Govt. Officials) Developed (Number) | 139                                 | 507                                 | 99                            | 745          |
| FFS graduated farmers trained as FFS Facilitator (Number) | 301                                 | 847                                 | 395                           | 1543         |

<sup>1</sup> Included AFSP data only- A total number of 1,932 crop FFSs (with 85 percent women's participation) and 363 livestock FFSs (96 percent of women) were conducted during the project period of AFSP.



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|                               |        |      |       |        |
|-------------------------------|--------|------|-------|--------|
| FFS Conducted (Number)        | 907    | 1246 | 2295  | 4448   |
| Farmers trained (71 % female) | 56,575 |      | 57375 | 113950 |

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Source: Compiled by author from various sources<sup>1</sup>

### **Enabling policy environment**

Nepal Agriculture Extension Strategy (2007) has recognized FFS as a participatory extension approach for experiential learning and action. Agriculture Development Strategy (2015-2030)-so far the guiding national policy document for Nepal's agriculture sector – has recognized FFS as an institution for generation and dissemination of technology for higher productivity. In this document, FFS is recognized as an exclusive capacity development program for further strengthening of existing and upcoming agricultural and livestock service centers and sub-centers (ALSC) extended to improve capacity of extension staff and farmers in climate smart agricultural practices. The ADS envisions to support strengthening of the ALSCs by providing sufficient resources for organization of FFS to promote organic and bio-fertilizer and building capacity of women farmers and implementing Farmer Marketing School (FMS) in VDCs selected for value chain development. Financial norms for conducting various types of FFS have been set by Government of Nepal to maintain consistency in implementing FFS.

As an educational and extension tool, the FFS is relatively costly in comparison to other extension methods. Therefore, the investment on FFS should be justified vis-à-vis the expected outcomes and impacts in the short and long terms. It is irrational to compare FFS with another tool of conventional extension. However, key common indicators are developed to compare FFS with few other commonly used extension tools as mentioned in Annex 1 and Annex 2. Annex 1 consists of comparison of design features of FFS, Demonstrations and other convectional training methods. In Annex 2, comparisons of FFS with few common extension tools based on some common performance indicators are given.

### **Noteworthy results and outcomes**

In villages where FFS was conducted several years ago, we still see that farmers continue applying practices that they learnt during FFS training. Certain agronomic practices that were introduced in FFS have been adopted for farmers' own benefits.

### **Enhanced credibility**

In FANSEP appraisal document, Farmer Field Schools (FFS) is adopted as a successful approach for disseminating new techniques of farming, test innovations and integrate new

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<sup>1</sup> Based on information at <http://www.vegetableipmasia.org/pages/8-nepal-national-ipm-programme>  
Updated April 2015 ; Annual Report of Plant Protection Directorate 2065 p 158; AFSP  
Implementation Completion and Results Report of world bank

ideas on good agriculture and animal husbandry practices based on the lesson learnt from AFSP. Moreover, FFS has been credited for its contribution in empowering the local community, especially giving voice to female farmers. A farmer-led FFS started in Nepal since 2000 is now a standard component in several programs and projects that adopt FFS approach for farmer's education.

### **Pesticide use reduction**

A recent systematic review of the published outcome report of the FFS concludes that the FFS generally had a beneficial effect on agricultural practices and endpoints (e.g. pesticide use reduction; yield increase). Regmi *et al.* (2014) reported 70% reduction in pesticide use among FFS farmers compared to non-FFS farmers along with diffusion effect on neighboring farmers, major reduction in EIQ and 20-40% increase in income compared to non-FFS farmers. However, Jha and Regmi (2011) revealed that the farmer irrespective of their attendance in FFS, overuse pesticides, and they recommend to revisit FFS curricula to best empowering farmers for making the right decisions suitable for a location-specific vegetable production system.

### **Social capital formation**

Westendorp (2012) reported that women farmers felt empowered due to FFS through the group work, collective singing, and by their speaking in front of the group. Referring to her one farmer level study, she mentioned that the FFS helped them explore and discover new opportunities. The FFS reportedly created interaction between farmers, thus breaking strong traditions of segregation according to caste, gender, and religion. FFS farmers became more confident to raise their voices and demand services from the district agricultural office, such as inputs or training. Farmers claimed that through FFS their relationship with the government had improved.

### **What should we expect from FFS?**

To answer this question, we must recognize that the FFS is not an end itself rather an intrinsically protean means that is dynamic and engulfs an adaptive approach to response to changing opportunities, contexts and needs. There thus remains considerable scope for disagreement about what we can expect from "FFS" to achieve.

However, the technical assistance team may remain asking important contemporary questions about the FFS to move further beyond the immediate outcomes of the FFS, and seeking answers to how the FFS helps farmers learn and apply their knowledge, how it helps farmers solve their problems, how the FFS interacts with its institutional and political environment, and how the FFS contributes to rural development. Such questions regarding the relevance and position of the FFS require more in-depth studies on a case-by-case basis.

A problem-based FFS curriculum designed after an intensive consultative process has apparently helped achieve the expected results in Nepal.



### **ISSUES AND CHALLENGES**

In Nepal, Climate change adaptation project reported difficulties in conducting the FFS for extremely poor families. The opportunity cost of FFS participation was accounted in a few responses. In Nepal, some farmers found it difficult to sacrifice time to attending the FFS as it requires regular half-a-day participation in learning sessions. Several challenges were reported regarding FFS facilitation. Short training duration was considered as a weakness, whereas high turnover or rotation of facilitators and master trainers was a drawback in FFS implementation. Moreover, inadequate involvement of national research institutions to support the FFS activities somehow deprived the FFS practitioners to take advantage of their expertise in resolving the complex field problems. Some pertinent issues in implementation of FFS are summarized in Annex 3 based on learning from AFSP.

### **CONCLUSION AND RECOMMENDATION**

Literature on comprehensive and contemporary reviews of FFS, in-depth case studies, national survey on FFS implementation and related impact studies are inadequate in Nepal. Availability of such resources would have guided to formulate better road map of advancing FFS and its variant approaches. They could have helped the professionals (i) evaluate whether the FFS continues to be relevant to farmers, programs and rural development interventions; (ii) assess the current status of implementation and lessons learnt from the FFS; and (iii) describe the impacts of the FFS on sustainable rural livelihoods. This study however with certain limitations, attempted to present an overview on how FFS evolved in Nepal and the subsequent interventions thereafter during its implementation. Based on the findings, this study recommends as followings:

- A project or program adopting FFS approach should adhere to the core FFS principles in program design and envision building local ownership and promoting ecological learning to realize the impact.
- FFS set for demonstration purposes cannot effectively show its potential impacts in terms of empowerment. Therefore, it is advisable to use other approaches of education and extension if set guidelines due to given limitations cannot be followed in FFS implementation.
- A project or program adopting FFS approach should reorient their systems of quality assurance for monitoring, evaluation and learning (MEL) to ensure quality interventions (from design to follow-up) aimed to achieving expected outcomes and impacts.
- In line with decentralized governance structure, a project or program adopting FFS approach should best explore to capitalize opportunities for technical, financial and political support to FFS implementation available at district and local levels.
- Where appropriate, FFS programs should move further from crop-based approach to systems-based interventions (e.g. including agro-forestry, livestock, nutrition sensitive interventions etc), aimed at assisting its participants in addressing their broader challenges faced in their livelihood situations founded on participatory problem censing and problem solving analytical tools.
- The right balance among human, social, natural and financial capital indicators should be considered for evaluating outcomes and impacts of the FFS. Monitoring observations from the causal chain (design to implementation) leading to the impacts should be included in the ongoing evaluation.
- Advocacy strategies suitable to local, provincial and federal levels for the FFS should be developed based on lessons learnt. Programs should consider building more pluralistic cadres of field officers, and strengthening the feedback mechanisms down from the field to the authorities upward.
- FFS program should proactively strengthen its engagement with researchers in multiple ways: in problem analysis and identification of possible solutions; in action research partnerships with farmers; and evaluation of the process, outcomes and impacts of the FFS.
- Make FFS the entry point for modern agri-extension as the ultimate goal of FFS is Human Development. Modern extension is founded on the strong human resource base with the mindset to adopt innovations such as Farmer and Science (action research to be undertaken in collaboration with NARC's Outreach Research) and sustainable natural resource management, etc.

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**Annex 1:** Comparison of design features of FFS, Demonstrations and other Convectional Training

| <b>Features</b> | <b>FFS</b>  | <b>Demonstration</b>  | <b>Conventional Training</b>   |
|-----------------|---|---|--|
| Approach        | Discovery based<br>Learning by doing<br>Experiential learning<br>Learners centered  | Seeing is believing<br>Adoption stage<br>Technology centred   | Chalk and Talk<br>Technology centered  |
| Curriculum      | Flexible curriculum<br>Need focused<br>Participatory Curriculum development<br>Every FFS is unique<br>Field based ( without wall)<br>Study plot as main learning venue<br>Participatory and Interactive<br>Crop Season long at regular interval | Pre-decided technology<br>Pre-fixed<br>Target oriented<br>Field based<br>Demo field<br>Consultative<br>2-3 Meetings during crop cycle | Pre-set curriculum<br>curriculum decided by training institution<br>Prototype<br>Classroom based<br>Flash field works<br>Information exchange<br>Continuously for a pre-fixed duration (Daily basis) |
| Administered by | Facilitators  | Extension workers   | Trainers   |
| Aim             | Technology Adaption and sharing   | Technology adoption and dissemination   | Technological awareness building   |
| Outcome         | Develop sense of ownership in farmers over program<br>Serves interest of farmers<br>Make farmer an active innovator   | ownership in farmers over program overlooked<br>Serves interest of technicians and researchers<br>Make farmer technology acceptor     | ownership in farmers over program overlooked<br>Serves interest of technicians and researchers<br>Make farmer a progressive adopter  |

Source: Compiled by author jointly with Dr. Siddhi Ganesh Shrestha (2018)

**Annex 2:** Comparison of FFS with few common extension tools based on some common performance indicators

| SN | Indicators                                   | FFS                             | Result<br>Demonstration<br>* | Production<br>Demonstration<br>* | District Level<br>Training<br>(3 Days)* |
|----|--|---------------------------------|------------------------------|----------------------------------|---|
| 1  | Area, Ropani                                 | 1                               | 1                            | 3                                | NA                                      |
| 2  | No. of participants                          | 25-30                           | 1 (10-15)                    | 1 (10-15)                        | 20-25                                   |
| 3  | Duration, days                               | 120                             | 120                          | 120                              | 5                                       |
|    | Field work, hours                            | 30                              | 2-3                          | 2-3                              | 0-1                                     |
| 4  | Learning event, days                         | 19                              | 5                            | 5                                | 3                                       |
| 5  | Cost   |                                 |                              |                                  |   |
|    | a. Total                                     | 65,000                          | 2,000                        | 6,000                            | 106400                                  |
|    | b. Per participant                           | 2600                            | 80                           | 400                              | 4256                                    |
|    | c. Per participants per day                  | 137                             | 16                           | 80                               | 1419                                    |
|    | c. Per event day                             | 3421                            | 400                          | 1200                             | 35467                                   |
| 6  | Benefits (relative to FFS)                   |                                 |                              |                                  |   |
|    | a. KAP                                       |                                 |                              |                                  |   |
|    | Knowledge enrichment                         | High                            | Medium                       | Medium                           | Medium                                  |
|    | Skill imparting                              | High                            | Low                          | Low                              | Very low                                |
|    | Behavioral change                            | High                            | Low                          | Low                              | Very low                                |
|    | b. Adoption rate                             | High                            | Medium                       | Medium                           | Low                                     |
|    | c. Local resource person development         | Yes                             | No                           | No                               | No                                      |
|    | d. FtF extension                             | High                            | Low                          | Low                              | Very low                                |
|    | e. Process                                   | Explore Discover<br>Adopt (EDA) | Adopt                        | Adopt                            |   |
|    | f. Learning by                               | Doing                           | Seeing                       | Seeing                           | Listening                               |
|    | h. Innovation                                | Yes                             | No                           | No                               | No                                      |
|    | i. Scaling up of tested innovations          | Yes                             | Maybe                        | Maybe                            | No                                      |
|    | j. Cost effectiveness (cost/beneficiary/day) | 137                             | 16                           | 80                               | 1419                                    |

| SN | Indicators   | FFS  | Result<br>Demonstration<br>*                 | Production<br>Demonstration<br>*             | District Level<br>Training<br>(3 Days)*      |
|----|--|--|--|--|--|
|    | k. Participatory   | Yes  | Yes  | Yes  | No   |
|    | l. Testing   | Yes  | Yes  | Yes  | No   |
|    | m. Sustainability  | High   | Low  | Low  | Very low                                     |
| 7  | Theory and Principles  |  |  |  |  |
|    | a. Adopter category covered  | Early +Late Majority (68%) & innovators (2.5%) & Early Adopters (13.5%) included | Innovators (2.5%) and Early Adopters (13.5%) | Innovators (2.5%) and Early Adopters (13.5%) | Innovators (2.5%) and Early Adopters (13.5%) |
|    | b. Retention of learning (Reading 10%, Hearing 20%, Seen 30%, Heard & Seen 50%, Conversation 60%, & Doing 90%) | Doing (90%)  | Heard and Seen (50%)                         | Heard and Seen (50%)                         | Heard (20%)                                  |
|    | c. Learning Method (after 3 days: spoken 13%, shown 20%, & spoken and shown 65%)                               | Spoken & shown (65%)   | Shown & spoken (65%)                         | Shown & spoken (65%)                         | Spoken (13%)                                 |
| 8  | Specialty  |  |  |  |  |
|    | a. Field exposure  | High   | Low  | Low  | Very low                                     |
|    | b. Events  | More   | Less   | Less   | Less but hectic                              |
|    | c. Duration  | Season   | Season                                       | Season                                       | Short  |
|    | d. Degree of local need addressed  | High   | Low  | Low  | Very low                                     |
|    | e. Educational outcomes  | Rich   | Fair   | Fair   | Fair   |

\* DAE. 2016. Agriculture Extension Program Implementation Guideline & Norms 2073/74.

Directorate of Agriculture Extension

NA = Not Available/Applicable, E = Explore, D = Discover, A = Adopt

Source: Compiled by author jointly with Dr. Siddhi Ganesh Shrestha (2018)



**Annex 3: Issues in implementation of FFS and areas suggested for improvement**

| <b>SN</b> | <b>Issues</b>                      | <b>Causes</b>  | <b>Suggested improvement</b>  |
|-----------|------------------------------------|--|---|
| 1.        | Poor Quality FFS                   | <ul style="list-style-type: none"> <li>• FFS process not followed properly</li> <li>• Inadequate supply of quality seed and inputs in time</li> <li>• Deployment of only one facilitator per FFS</li> <li>• No fulltime presence of facilitator during FFS session (4.5 hrs)</li> <li>• Junior Technicians (JT) /Junior Technical Assistant (JTA) trainer of Gov. offices used to attend FFS occasionally, not regularly</li> <li>• FFS conducted by general technicians, not trained for FFS facilitation</li> <li>• Lack of periodical monitoring</li> <li>• Geophysical constraints in accessibility</li> </ul> | <ul style="list-style-type: none"> <li>• Ensure presence of dedicated two trained facilitator per FFS</li> <li>• Establish mechanism to ensure the timely supply of quality seed and input as norms</li> <li>• Systematic monitoring of FFS by Concerned officials and stakeholders</li> <li>• Remodel FFS for the location with difficult terrain and accessibility</li> </ul> |
| 2.        | Target of FFS                      | <ul style="list-style-type: none"> <li>• In many cases, target of FFS were set too high with respect to availability of facilitators</li> </ul>  | <ul style="list-style-type: none"> <li>• Set or revisit FFS target by accessing the potentiality of VDC based on the criteria defined by experts</li> </ul>   |
| 3.        | Incompetent Farmer Facilitator     | <ul style="list-style-type: none"> <li>• Candidates selected for TOF before graduation from FFS</li> <li>• Poor attitude of selected candidate</li> </ul>  | <ul style="list-style-type: none"> <li>• Selection of right candidate</li> <li>• Refresher training for them</li> <li>• Regular backup from Gov. JT/JTA and Project officers.</li> </ul>  |
| 4.        | Inadequate no of FFS facilitator   | <ul style="list-style-type: none"> <li>• Some of the JT/JTA trainers are deployed outside project district. So, they could not be involved in conducting FFS.</li> <li>• Almost 25% facilitators dropped out conducting FFS</li> <li>• Most of the farmer facilitators are given role of supporting facilitator. They are not used as responsible trainers for FFS</li> </ul>  | <ul style="list-style-type: none"> <li>• Increase number of facilitators by organizing TOFs</li> <li>• Train field technicians as FFS facilitator</li> </ul>  |
| 5.        | Weak monitoring of implemented FFS | <ul style="list-style-type: none"> <li>• Lack of Participatory Monitoring plan</li> <li>• Not giving due priority to FFS by District Technical Officers (DTO) hired for AFSP</li> <li>• DTO- not well-known with the FFS procedure</li> </ul>  | <ul style="list-style-type: none"> <li>• Need to define TOR of DTO, DADO, FFS trainers and FFS leaders in context of FFS implementation</li> <li>• Enforce a monitoring and backing up plan for FFS</li> </ul>  |