



বাংলাদেশ কৃষি গবেষণা ইনস্টিটিউট

গবেষণা উইং

গাজীপুর-১৭০১

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স্মারক নং-১২.২১.০০০০.০০০.০০৩.০৯.০০২২.২৬. ৯৯৪

তারিখ: ০৬-০৮-২০২৬ খ্রি.

বিষয়ঃ বারি'র “আঞ্চলিক গবেষণা-সম্প্রসারণ পর্যালোচনা ও কর্মসূচি প্রণয়ন কর্মশালা-২০২৬” এর কারিগরি অধিবেশনসমূহের রিপোর্টার্স'স রিপোর্ট প্রেরণ প্রসঙ্গে।

বারি'র “আঞ্চলিক গবেষণা-সম্প্রসারণ পর্যালোচনা ও কর্মসূচি প্রণয়ন কর্মশালা-২০২৬” এর কারিগরি অধিবেশনসমূহের রিপোর্টার্স'স রিপোর্ট অবগতি ও প্রয়োজনীয় ব্যবস্থা গ্রহণের জন্য এতৎসঙ্গে প্রেরণ করা হলো। সংশ্লিষ্ট সকলকে উক্ত রিপোর্টে অন্তর্ভুক্ত মতামত ও সুপারিশসমূহ বিবেচনায় নিয়ে নতুন গবেষণা কার্যক্রম গ্রহণের জন্য অনুরোধ করা হলো।

ড. ফারুক আহমেদ
পরিচালক (গবেষণা)

সদয় জ্ঞাতার্থে/কার্যার্থে বিতরণ (জ্যেষ্ঠতার ক্রমানুসারে নয়):

১. পরিচালক (উদ্যানতত্ত্ব গবেষণা কেন্দ্র/কন্দাল ফসল গবেষণা কেন্দ্র/তৈলবীজ গবেষণা কেন্দ্র), বারি, গাজীপুর/ডাল গবেষণা কেন্দ্র ও আঞ্চলিক কৃষি গবেষণা কেন্দ্র, বারি, ঈশ্বরদী, পাবনা।
২. মুখ্য বৈজ্ঞানিক কর্মকর্তা, উদ্ভিদ প্রজনন বিভাগ/কৃষিতত্ত্ব বিভাগ/মৃত্তিকা বিজ্ঞান বিভাগ/কীটতত্ত্ব বিভাগ/উদ্ভিদ রোগতত্ত্ব বিভাগ/সরেজমিন গবেষণা বিভাগ/এফএমপিই বিভাগ/সেচ ও পানি ব্যবস্থাপনা বিভাগ/উদ্ভিদ শারীরতত্ত্ব বিভাগ/পোস্টহারভেস্ট টেকনোলজি বিভাগ/জীবপ্রযুক্তি বিভাগ/খামার বিভাগ/কৃষি অর্থনীতি বিভাগ/বীজ প্রযুক্তি বিভাগ/উদ্ভিদ কৌলিসম্পদ কেন্দ্র/এএসআইসিটি বিভাগ (পত্রটি ওয়েবসাইটে প্রকাশের অনুরোধসহ), ফল বিভাগ/সবজি বিভাগ/ফুল বিভাগ, উদ্যানতত্ত্ব গবেষণা কেন্দ্র, বারি, গাজীপুর।
৩. মুখ্য বৈজ্ঞানিক কর্মকর্তা, আঞ্চলিক কৃষি গবেষণা কেন্দ্র (জামালপুর/রহমতপুর, বরিশাল/যশোর/হাটহাজারী, চট্টগ্রাম/আকবরপুর, মৌলভীবাজার/কুমিল্লা/বুড়িরহাট, রংপুর)।
৪. মুখ্য বৈজ্ঞানিক কর্মকর্তা, মসলা গবেষণা কেন্দ্র, বারি, শিবগঞ্জ, বগুড়া/প্রজনন বীজ উৎপাদন কেন্দ্র, দেবীগঞ্জ, পঞ্চগড়/আঞ্চলিক উদ্যানতত্ত্ব গবেষণা কেন্দ্র, চাঁপাইনবাবগঞ্জ/ফল গবেষণা কেন্দ্র, বিনোদপুর, রাজশাহী/আঞ্চলিক মসলা গবেষণা কেন্দ্র, মাগুরা/সরেজমিন গবেষণা বিভাগ, রংপুর/পাহাড়ী কৃষি গবেষণা কেন্দ্র, খাগড়াছড়ি/আঞ্চলিক উদ্যানতত্ত্ব গবেষণা কেন্দ্র, লেবুখালী, পটুয়াখালী।
৫. প্রধান বৈজ্ঞানিক কর্মকর্তা, অনিষ্টকারী মেরুদণ্ডী প্রাণী বিভাগ/মেশিনারী মেরামত ও রক্ষণাবেক্ষণ বিভাগ/আঞ্চলিক মসলা গবেষণা কেন্দ্র/ডাল গবেষণা উপ-কেন্দ্র, বারি, গাজীপুর/পাহাড়ী কৃষি গবেষণা কেন্দ্র, রাইখালী, রাঙ্গামাটি/কন্দাল ফসল গবেষণা উপ-কেন্দ্র, মুন্সিগঞ্জ/কন্দাল ফসল গবেষণা উপ-কেন্দ্র, সেউজগাড়ী, বগুড়া/লাক্ষা গবেষণা কেন্দ্র, কল্যাণপুর, চাঁপাইনবাবগঞ্জ/কৃষি গবেষণা উপ-কেন্দ্র, ঠাকুরগাঁও/পাহাড়তলী, চট্টগ্রাম/সরেজমিন গবেষণা বিভাগ ও কৃগকে, পাবনা/সরেজমিন গবেষণা বিভাগ, (ময়মনসিংহ/ফরিদপুর/সিলেট/কুমিল্লা/শ্যামপুর, রাজশাহী/নোয়াখালী/কিশোরগঞ্জ/দৌলতপুর, খুলনা/গোপালগঞ্জ/কক্সবাজার/কুষ্টিয়া)/মসলা গবেষণা উপ-কেন্দ্র, ফরিদপুর/আঞ্চলিক ডাল গবেষণা কেন্দ্র, মাদারীপুর/আঞ্চলিক উদ্যানতত্ত্ব গবেষণা কেন্দ্র, শিবপুর, নরসিংদী/সাইট্রাস গবেষণা কেন্দ্র, জৈন্তাপুর, সিলেট।
৬. উর্ধ্বতন বৈজ্ঞানিক কর্মকর্তা, পাহাড়াঞ্চল কৃষি গবেষণা কেন্দ্র, রামগড়, খাগড়াছড়ি/মসলা গবেষণা উপ-কেন্দ্র, লালমনিরহাট/কৃষি গবেষণা কেন্দ্র, রাজবাড়ী, (দিনাজপুর/বেনেরপোতা, সাতক্ষীরা/চরবয়রা, ঘোনাপাড়া, গোপালগঞ্জ)/সরেজমিন গবেষণা বিভাগ, (বান্দরবান/ভোলা/টাঙ্গাইল/বরেন্দ্রকেন্দ্র, রাজশাহী/পটুয়াখালী/শেরপুর/চেলোপাড়া, বগুড়া/গাইবান্ধা/মানিকগঞ্জ)।
৭. বৈজ্ঞানিক কর্মকর্তা, সরেজমিন গবেষণা বিভাগ, শিবপুর, নরসিংদী।
৮. মহাপরিচালক মহোদয়ের একান্ত সচিব, বারি, গাজীপুর।
৯. অফিস কপি।

**Regional Research-Extension Review and
Program Planning Workshop 2026**

Rapporteur's Report


০৩.৮.২৬

পরিচালক (গবেষণা)
বাংলাদেশ কৃষি গবেষণা ইনস্টিটিউট
জয়দেবপুর, গাজীপুর



Research Wing
Bangladesh Agricultural Research Institute
Gazipur-1701
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Contents

Sl No.	Name of Region	Page No.
1.	Dhaka Region	1
2.	Rajshahi & Bogura Region	3
3.	Rangpur Region	4
4.	Jamalpur Region	6
5.	Jashore Region	8
6.	Barishal Region	10
7.	Chattogram Region	13
8.	Cumilla Region	14
9.	Sylhet Region	18
10.	Khagrachari Hill Tract Region	21

1. Dhaka Region

Regional Research Extension Review and Program Planning Workshop-2026 was held in the seminar room of BARI on 6-7 July 2026. Scientists of OFRD, BARI, Tangail, Kishoreganj, Narsingdi, Manikganj and Gazipur presented their research findings. Scientists of Tuber Crop Research Substation, BARI, Munshiganj and Regional Horticultural Research Station, BARI, Narsingdi presented their research findings. Among other institutions BWMRI (Gazipur), BRRI (Gazipur); BSRI (Gazipur), BINA (Gazipur) and BIRTAN (Narayanganj) presented their research activities undertaken in their respective stations. DAE, Tangail, Gazipur, Manikganj, Munshiganj, Narsingdi, Kishoreganj, Narayanganj and Dhaka presented their demonstration activities.

Comments and Suggestions

1. Compare BARI Sarisha-20 against other advanced lines.
2. Distribute BARI-developed watermelon seeds to the farmers for large-scale adoption.
3. Establish the optimum mustard seed rate for zero-tillage cultivation.
4. Research should be initiated to prevent fruit cracking production of watermelons (BARI Tormuj-1 and 2).
5. Initiate research on residual fertilizer effect in potato–groundnut system
6. Perform a comprehensive pooled analysis across three years' of trial data for BARI Mash-3
7. Promote short-duration mustard cultivation exclusively in the upper catena (higher elevation) zones.
8. Distribute BARI-developed watermelon seeds to farmers for large-scale adoption.
9. Research on Maize-Based Intercropping in haor areas
10. Integrated nutrient & disease management in Lotkon
11. Identify associated soil-borne fungal pathogens and physiological causes for seedling wilting and fruit drop in lotkon
12. Control of Betelvine stem rot
13. Off-Season watermelon and barley adaptability in charlands of Narsingdi
14. Promotion of improved mustard varieties
15. Expansion of stress-tolerant crop varieties in Charlands of Manikganj
16. Multi-variety evaluation in potato adaptive trials
17. Replacement of older potato varieties in research trials
18. Optimization of plant spacing and fertilizer rates of potato cultivation in Munshiganj
19. Formulate a multi-disciplinary research program focusing on crop management, yield optimization, post-harvest handling, and pest/disease control for lotkon.
20. Development of seedless/small-seeded lotkon varieties
21. Conduct germplasm purification, and optimized nutrient management trials to maintain the authentic flavor profile, aroma of Amritasagor banana.
22. Dissemination of grapefruit varieties in Narsingdi
23. Align research work with as charlands, saline, drought, and haor regions—to ensure location-specific technology generation.
24. Alignment with Government Election Manifesto Goals
25. Promotion of rice-based cropping patterns
26. Develop short-duration (<80 days) mustard varieties.
27. Strengthening research work in charlands

28. Research on cucurbits in Arial beel of Munshiganj
29. Monitoring Jaggery (Gur) adulteration during production
30. Development of dual-purpose maize varieties
31. Breeding optimization for BWMRI Bhutta-2
32. Assessment of farmers' perceptions on BINA crop varieties
33. Sufficient seed supply for DAE extension activities
34. Strengthening fruit tree-based agroforestry in Gazipur
35. Demonstration of promising potato varieties in Gazipur
36. Performance investigation of BARI Sarisha-20 in Sreenagar of Munshiganj
37. Gummosis disease management in BARI Malta orchards.
38. Expansion of export-quality chili varieties in Manikganj
39. Establish field demonstrations of high-value BARI vegetable varieties in Saturia and Singair upazila of Manikganj
40. Partner with DAE to establish joint multi-crop demonstration plots
41. Breeding programs should focus on developing early and late-season vegetable varieties.
42. Conduct breeding research to develop dwarf and disease-resistant strains of the Amrit Sagar banana..
43. Develop early/late-season vegetable varieties, as well as high yielding varieties (HYV) for ginger, garlic, and Kakrol.
44. Develop management practices for stemphylium blight in BARI Masur-6 and BARI Masur-8.
45. Develop management techniques to reduce pod shattering in BARI Sarisha-18.
46. Research and technologies are required to prolong the post-harvest shelf-life of broccoli.
47. Joint Research-Extension monitoring and field assessments
48. Prevention of mustard seed mixing
49. Scale up multiplication and distribution for BARI Piaj-6 (onion) and BARI Badam-5 (groundnut) seeds.
50. The DAE needs to provide an update on current rooftop gardening activities.
51. Breeding and selection programs are needed to develop high yielding varieties (HYV) for ginger and garlic.
52. Research technologies need to prolong the post-harvest shelf-life of broccoli.
53. Formulate pest management interventions to control high insect infestation in BARI Mouri-1 (fennel/aniseed).
54. Variety names must be written accurately as per styles and formula of respective institution /organizatization and standardized across all documentation.
55. Research efforts should be initiated to develop high yielding varieties (HYV) of Kakrol.

2. Rajshahi and Bogura Region

The major comments, suggestions and recommendations:

1. Research on litchi fruit cracking, fruit drop, and alternate bearing is needed.
 2. Pulse-based cropping systems should be promoted to reduce methane emissions from Boro rice cultivation.
 3. Development of fodder-type grasspea varieties.
 4. Mungbean varieties with synchronized pod maturity are needed to facilitate harvesting.
 5. Genetic purity of BARI Sharisa-14 and BARI Sharisa-20 should be maintained.
 6. Development of waterlogging-tolerant, short-duration, dwarf, lodging-resistant, and high-yielding sunflower varieties.
 7. Efficient sunflower oil extraction machine is needed.
 8. Local rapeseed germplasm from the Charlands of Sirajganj should be incorporated into breeding programs.
 9. High-yielding, tip burn-resistant garlic varieties with good keeping quality suitable for the Chalan Beel region are needed.
 10. Onion varieties with improved keeping quality should be developed to reduce postharvest losses.
 11. Faridpur local onion cultivar should be included in onion breeding programs.
 12. Availability of summer onion seed should be ensured through BADC and other relevant organizations.
 13. High-yielding hybrid vegetable varieties should be developed to compete with imported hybrids.
 14. Soil test-based fertilizer recommendations should be promoted for fruit orchards.
- A standardized format for Regional Research–Extension Review Workshop should be developed.

3. Rangpur Region

A two days Regional Research-Extension Review and Program Planning Workshop-2026 was held during 14-15 July, 2026 at seminar room, OFRD, Alamnagar, Rangpur organized by Regional Agricultural Research Station, BARI, Burirhat, Rangpur.

Technical Session-I: (RARS, BARI, Burirhat, Rangpur; BSPC, BARI, Debiganj, Panchagarh; OFRD, BARI, Rangpur; OFRD, Gaibandha; ARS, BARI, Thakurgaon; ARS, BARI, Rajbari, Dinajpur, SRC, BARI, Lalmonirhat, BRRI, and BJRI Rangpur)

The major comments, suggestions and recommendations:

1. Research on soil acidity and microbial activity should focus on green manuring and liming.
2. Climate resilient crop varieties should be developed.
3. Research on dehydrated preservation technology for fruits and vegetables.
4. Value addition of potato and litchi should be introduced and promoted.
5. Husking and milling facilities for foxtail millet should be developed.
6. Research on post-harvest losses of vegetables and fruits should be undertaken.
7. Incorporation of light interception data for intercropping in arecanut and zinger in gunny bag cultivation.
8. Fortified (rich in Mg) and four-seeded groundnut varieties are required.
9. The use of pumpkin vegetative parts as vegetables should be addressed.
10. Research on charland agriculture (disease insects, mulching, irrigation)
11. Incorporation of disease-pests incidence data in experimental results.
12. A comparative nutrition analysis among the homestead models should be conducted.
13. Research on jelly seed formation, maturity index, malformation and sooty mold infestation in Harivangha mango should be taken.
14. Extension of BARI Piaz-4 for early cultivation in charland areas.
15. Use of sandbar technology in bitter gourd and other vegetables in charland
16. Development of own biopesticide from research.
17. Promote bio-control agents (*Trichogramma*) at the farmers level.
18. Research on heavy metal contamination in irrigation water should be undertaken.
19. Research on Gemini virus management (vector and resistant varieties) should be conducted.
20. Recent BARI developed technologies should be available in printed form.

Technical Session-II: (DAE, Dinajpur; DAE, Nilphamari; DAE, Thakurgaon; DAE, Panchagarh; BWMRI, Dinajpur; BSCRI, Gaibandha and Cotton Research Centre, Rangpur)

Comments, suggestions and recommendations:

1. Wilt and blight-resistant traits should be incorporated into the Asterix potato variety.
2. Potato varieties with high dry matter content and low glycemic index (GI) should be developed.
3. Early maturing potato varieties with long storage capacities should be developed.
4. Potato varieties suitable for export should be developed.
5. Short-duration sweet potato varieties should be developed.
6. Blight-resistant tomato varieties should be developed.
7. Brinjal varieties resistant to gemini virus and shoot and fruit borer should be developed.

8. Pod borer-resistant country bean varieties should be developed.
9. Mungbean varieties with synchronized maturity should be developed.
10. Drought-tolerant groundnut varieties should be developed.
11. Seed storage problems associated with groundnut should be addressed.
12. Tomato varieties with extended shelf life should be developed.
13. The citrus greening problem in Malta should be addressed.
14. Cucumber varieties resistant to mosaic disease and powdery mildew should be developed.
15. Scab-resistant potato varieties should be developed.
16. Short duration wheat varieties should be developed.

Technical Session-3: (DAE, Rangpur; DAE, Gaibandha; DAE, Kurigram; DAE, Lalmonirhat; BADC (Marketing and Vegetables seed) Rangpur; SCA, Rangpur; Horticulture center, Burirhat, Rangpur; AIS, Rangpur; BIRTAN, Rangpur; CDB, Rangpur and SRDI, Rangpur)

Comments and suggestions:

1. Advanced research programs based on IOT, AI and climate-smart agriculture should be taken.
2. Bagging practice should be followed in case of late mango harvest.
3. Research on Zero tillage cultivation should be undertaken for charland areas.
4. BARI Surjomukhi-3 should be cultivated instead of hybrid varieties for better economic return.
5. BARI Masur-8 should be spread in the charland areas of Gaibandha and Kurigram.
6. BARI Mistialu-8 replacing Aman rice in some parts of Gaibandha should be introduced with higher profitability.
7. Management practices for controlling the sweet potato weevil should be developed.
8. BARI Sarisha-22 should be popularized among farmers to improve output.
9. A survey should be conducted regarding BARI variety adoption at the farmer level.
10. A farm mechanization program should be introduced and popularized among farmers.
11. BADC should convince seed dealers to market newly developed BARI varieties among farmers.
12. A nutrition-based survey should be conducted in eight districts of Rangpur division under Bangladesh Institute of Research and Training On Applied Nutrition (BIRTAN).

4. Jamalpur Region

Suggestions and Recommendations:

1. Disease incidence in S₃ generation Bottle gourd lines (inbreed development) should be evaluated with the assistance of the Pathology Division and economic analysis should be conducted by the Agril. Economics Division.
2. The duration of country bean varieties should be considered when developing cropping patterns.
3. The effects of PGR application should be evaluated while ensuring that the crop's natural resilience is maintained.
4. Yard-long bean varieties should be selected and presented based on consumer preferences.
5. The critical level of phosphorus in soil and plant should be determined.
6. The initial soil status and the status after five years of organic amended soil should be assessed, with special emphasis on mineralization.
7. The relationship between fertilizer application and microbial activity should be investigated.
8. The moisture content of cow dung should be measured before dilution for preparation of liquid organic fertilizer.
9. High-value crops with relatively low yields should be identified, and their economic feasibility should be evaluated for demonstration to farmers.
10. Differences in fertilizer recommendations between the STB method and the Khamari App should be evaluated.
11. Adaptive trials should be conducted to facilitate farmer adoption.
12. The adoption rate of the Narikeli model should be assessed with the assistance of DAE.
13. The reasons of lower yield of BARI Piaz-6 compared with BARI Piaz-4 under farmers' field conditions should be identified.
14. Research on suitability and demand for crop varieties should be conducted with the assistance of BADC.
15. In addition to yield, data on color, size, and nutritional quality should be collected for variety development.
16. Research should be designed to address the field-level problems.
17. Two-crop-based cropping patterns should be developed for the haor areas of Netrokona.
18. Research on the Motorsuti–Boro–T. Aman cropping pattern should be conducted in Sherpur region.
19. Turmeric germplasm should be collected with the assistance of DAE.
20. Research should be conducted on the taste and consumer acceptability of bottle gourd.
21. The compatibility of sweet potato and spinach for intercropping should be evaluated.
22. In intercropping experiments, appropriate Row-to-Row (R-R) and Plant-to-Plant (P-P) spacing must be maintained.
23. For Late Blight of Potato, weather forecast information should be followed to preventive disease before disease outbreaks.
24. The predatory role of the Ladybird Beetle in controlling insect pests should be emphasized.
25. It should be determined whether irrigation is required during the tillering stage.
26. The performance of Tillage and No-Tillage systems should be evaluated under different soil types.

27. Experimental yield should be compared with the national average yield to evaluate the research outcome.
28. A comparative study should be conducted between infected mustard plants and different breeding lines to identify which lines produce higher yield under disease pressure.
29. Research findings should also be compared with weather data to explain the influence of environmental conditions on crop performance.
30. Relevant factors influencing crop performance should be clearly identified and explained.
31. Groundwater depletion should be presented using line graphs showing the declining trend.
32. Rainwater harvesting technology should be promoted as a sustainable solution to water scarcity.
33. Researcher should identify potato varieties that can survive under waterlogging conditions and evaluate their performance.
34. Research should be taken on local Potato germplasm, especially Jam Alu.
35. Seeds of BARI-released Garlic and Ginger varieties should be supplied. Training should be arranged on summer onion production.
36. Heat and blast tolerant Mustard varieties should be introduced. Brown rot-resistant Potato varieties should also be introduced.
37. Seeds and planting materials of BARI Begun-4, Alubokhara, and Sweet potato should be distributed to Horticulture Centre, Jamalpur and farmers.
38. BADC should ensure an adequate supply of BARI-released Spices, Oilseeds, and Potato seeds.
39. Potato varieties resistant to both early and late blight should be introduced.
40. Over the last ten years, the average soil pH has decreased by 0.5 units. Suitable cropping patterns should be introduced to improve soil pH.
41. Title of virus disease management, growth and Yield of Brinjal experiment should be corrected. More treatments such as sticky traps and some chemical insecticides spray should be included.
42. The amount of liquid organic fertilizer should be specified while conducting the research.
43. Number of crops in case of survey of vegetable disease in Jamalpur should be mentioned. The study should focus on a crop that is economically important and widely cultivated in Jamalpur.
44. Groundnut adaptation rate should be included. The importance of including non-adopters should be clearly highlighted in the study. Non-adopters' data should be included.
45. Red Amaranth (Lal Shak) and Cabbage should be cultivated using an intercropping system. High priority crops should be considered.
46. BARI Hybrid Poto-1 & 2 should be included in the adaptive trial. BARI Mistikumra-1 and BARI Mistikumra-2 should be included in the pumpkin experiment.

5. Jashore Region

Suggestions and recommendations:

1. HRC, Jashore will collection and evaluation of best grape germplasm from the Jashore region and develop proper production package.
2. Research program on high-yielding and hybrid varieties of watermelon to be developed and ensure the supply of seeds to farmers.
3. Research program on superior varieties of water chestnut will be taken.
4. Research should be carried out on recycling agricultural waste for agricultural purposes.
5. It was suggested to ensure supply seeds of BARI Potato-25, BARI Potato-67, BARI Potato-68 and BARI Potato-90.
6. Research program on management practices to eradicate thrips in watermelons should be taken
7. Program on the development of effective management practices against foot and root rot of lentil.
8. Research programs on bio-pesticide based management practices against new diseases in dragon fruit should be initiated.
9. It was suggested to expand research on organic fertilizer, compost, balanced fertilizer and integrated fertilizer management for maintaining soil health.
10. Solar operated farm machinery should be developed by FMPE Division of BARI and RARS, Jashore.
11. Development of improved and more effective technologies for the preservation of onions, fruits, and vegetables was suggested.
12. Develop, supply and ensure the availability of affordable and modern agricultural machinery suitable for small farmers by FMPE Division of BARI and RARS, Jashore.
13. A cost-effective machine for cleaning black cumin and sunflower oil extraction should be developed by FMPE Division of BARI and RARS, Jashore.
14. Research program on the management practices against Parthenium weed should be taken.
15. Research on homestead vegetables gardening to be initiated.
16. Encourage farmers of Kushtia to shift from tobacco-based cropping system to other more profitable cropping pattern.
17. Development of high yielding variety of cinnamon, bay leaf, cardamom, cumin etc. spice crops by Spices Crops Division.
18. The supply of improved quality seeds of BARI Lau-4, turmeric, ginger, garlic, onion, ground nut and mungbean should be ensured.
19. Lodging resistance maize variety, salt and heat-tolerant wheat varieties should be developed by BWMRI, Jashore.
20. Development of soil testing lab in district and union level and arranging training for farmers by SRDI, Jashore.
21. It was suggested to prepare crop-specific salinity tolerance charts to identify the tolerance level of each variety by SRDI, Jashore.
22. Development of short duration Tosa jute variety by BJRI, Jashore.
23. Extension of Barley varieties at Jashore region was suggested.
24. Popularize the “Khamari Apps” and “Krishi Projukti Vander” among the farmers.
25. Establishment of a quick response team to provide solutions to problems arise in farmer’s field with with RARS, BARI, DAE, BADC, SRDI, BRRI, BINA, BJRI personnel.

26. Conduct research on improved varieties and crop management to expand the cultivation of chui (piper chili) spice crops.
27. Management of rust disease in mangoes and lemons by Plant Pathology Division.
28. Determination of optimum fertilizer recommendations for specific crops, especially onion to achieve maximum yield.
29. Conduct research on water and disease management for various fruits grown in saline coastal areas, such as jujube, sapota, mango, coconut, watermelon, betel nut, citrus fruits and banana by ARS, Satkhira and OFRD, Khulna.
30. Conduct research on deformation of sweet potatoes by ARS, Satkhira and Tuber Crops Research Centre.
31. Experiment should be taken based on yield gap of different crops.
32. Complete production packages should be developed on zinger cultivation in bag.
33. Gerbera and Lilium seedlings should be grown and supplied through tissue culture laboratory.
34. Seed production and distribution of BARI mandate crops should be strengthened.
35. Develop technologies for increasing juice production in date palm by BSRI.
36. Determination of the appropriate dose of plant hormones for dragon fruit cultivation was suggested.
37. Demonstration of BARI Masur-8, BARI Til-4, BARI Khesari-3, 5, 6; BARI Mung-6; BARI Lau-3, 4; BARI Aam-3, 4, 5, 8, 11; BARI Lebu-4, 5; BARI Kola-1, 2, 3, 4, 5; BARI Malta-1; BARI Sofeda-3; BARI Kanthal-3, 4, 5; BARI Sharisha-14, 17, 18, 20; BARI Surjomukhi-3, BARI Rasun-2, 4; BARI Peaz-5; BARI Motorshuty-3; BARI Sheem-1; BARI Begun-11 and BARI Tomato-15, 21; BARI Hybrid Tomato-8 should be strengthened as these varieties are getting popular among farmers of Jashore region.

6. Barishal Region

The major comments, suggestions and recommendations:

1. Crop-Specific Research & Breeding

Watermelon

- **Pathology:** Conduct pathogenicity tests and bioassays to develop sustainable, integrated disease management (IDM) strategies for gummy stem blight, rather than relying solely on fungicides.
- **Pest Control:** Advance research for controlling thrips in watermelon cultivation.

Sunflower

- **Variety Selection & Breeding:** Avoid selecting tall varieties that are highly susceptible to lodging during cyclones and strong winds in the southern region. Focus research on increasing the oil content of BARI Surjomukhi-3.
- **Cultivar Promotion:** Promote BARI Surjomukhi-3, as its yield potential is comparable to commercial hybrids given proper planting space.
- **Agronomy:** Investigate poor field germination under southern agro-ecological conditions and determine specific plant-to-plant and line-to-line spacing for the Gopalganj Basin.
- **Technology:** Introduce mini sunflower extraction machines at the farmer level to increase production.

Sesame

- **Breeding:** Include BINA Til-1 as a parent in hybridization programs to develop stress-tolerant, high-yielding varieties. Continue hybridization to develop advance lines for waterlogged and drought conditions.
- **Climate resilient breeding:** Develop management strategies to reduce foot rot under waterlogged conditions. Specifically, research waterlogging-tolerant sesame varieties capable of surviving 3-5 days of inundation.

Groundnut

- **Breeding:** Expand hybridization programs to include germplasm with bold seed sizes, high yields, high viability, and high oil content.

Pulse Crops

- **Quality Control:** Ensure biochemical and nutritional analyses (using HPLC) for pulse crop improvement.
- **Pathology:** Develop effective management strategies for foot rot in lentil.
- **Seed Production:** Increase the production of breeder, foundation, and truthfully labeled seeds to meet farmer demand on time.

Hog Plum (Amra)

- **Germplasm:** Collect waterlogging-tolerant germplasm to develop climate-resilient cultivars suitable for southern Bangladesh.

Vegetable & Tuber Crops

- **Pumpkin:** Prioritize the development and promotion of small-sized pumpkins to match consumer preference and market demand.
- **Ginger:** Develop production technologies that account for the partial shade-loving nature of ginger.
- **Sweet Potato:** Conduct market research to understand why BARI sweet potato varieties have not been popularized.

- **General:** Initiate research on the development of hybrid varieties for various vegetables.

2. Fruit Crop Improvement

- **Guava:** Initiate research to control wilt and die-back diseases, extend shelf life, and support location-specific cultivation of local cultivars.
- **Malta:** Develop greening and die-back-resistant varieties suited for *sorjan* cultivation, and conduct location-specific research on fruit shape and color.
- **Mango & Jackfruit:** Research *Amrapali* mango for fruit softness and BARI Kathal-6 jackfruit for tree hardiness.
- **Other Fruits:** Conduct research on local germplasm for *Bangi/Lalima*, *Chalta*, BARI Jamrul-1 (insect resistance), cowpea germplasm, Saudi date varieties, hybrid nuts, and tissue culture of Palmyra palm (*Tal*).

3. Climate Resilience & Natural Hazards

- **Salinity & Soil:** Include more intensive data of pH, and sulfur content in OFRD future experiments in Patuakhali. SRDI should investigate the causes of increasing soil pH and sulfur, and provide soil-related information (Upazila/Union Nirdeshika) to all government organizations.
- **Waterlogging:** Develop waterlogging-tolerant varieties of sesame, sunflower, and chili. Research a waterlogging-tolerant grasspea (*khesari*) variety to survive flash flooding in the Barishal region during November and December.
- **Drought:** Develop drought-tolerant and disease-resistant mustard varieties.

4. Agronomy & Irrigation Management

- **Fertilizer & Water:** Provide farmers with specific, DAE-approved schedules for fertilizer and pesticide application in watermelon cultivation.
- **Irrigation:** Conduct research on the fine-tuning of drip irrigation systems.
- **Mulching:** Test the suitability of water hyacinth as a mulch material for different crops.
- **Specific Regions:** Conduct agronomic management research for onion, garlic, and cumin in the Barisal region. Investigate the role of vermicomposting in onion storage.
- **Mungbean:** Study the effects of waterlogging on mungbean cultivation (sowing date: Feb 25 - Mar 5) in the Gopalganj Basin. Research the application of the GA₃ hormone to achieve 80% synchronized flowering.

5. Extension, Technology Dissemination & Digital Agriculture

- **Community Pest Management:** Promote synchronized, community-based management for whiteflies and mites in coconut. BARI and DAE should provide farmer incentives and jointly support technology implementation.
- **Digital Agriculture:** Expand the implementation of the Khamari App in selected upazilas following government initiatives.
- **Seed Supply:** Increase the production of BARI-developed varieties to ensure the timely availability of quality seeds. SCA must increase inspections of seed companies to ensure high-quality seeds that increase yields by 25-30%.
- **Farmer Selection:** Strengthen selection procedures to ensure government support reaches genuine farmers and prevent misuse by non-genuine beneficiaries.
- **Trial Adaptation:** Ensure adaptive trials are conducted for all BARI-released varieties.

6. Research Communication & General Directives

- **Data Confidentiality:** Summarize key findings during scientific presentations rather than presenting complete, unpublished data tables.
- **Food Safety:** Monitor and regulate pesticide usage, as excessive agrochemicals pose human health risks.
- **General Crops:** Develop mosaic-resistant varieties of mungbean, okra, and papaya. Research the quality improvement of jute seeds (BJRI and BINA) and the expansion of BSRI Akh-41 and 42 in the Madaripur region. Conduct research on *Stevia*.

7. Chattogram Region

Session -1&2: (Research Activities of RARS, Hathazari, Chattogram, 2) ARS, Pahartali, Kholsi, Chattogram, 3) OFRD, Nowakhali 4) OFRD, Cox's Bazar 5) BRRI, Sonagazi, Feni 6) BINA, Noakhali and SRDI, Chattogram University campus, Chattogram)

Suggestions and recommendations:

1. To develop chilli cultivars with export-oriented qualities, conduct a hybridization program on Halda chilli and various local cultivars.
2. It is very important to know the soil health status of arable land; this will help make appropriate decisions for soil fertilizer management and will save money.
3. A lot of people love capsicum for its skin. The key issue in gaining consumer acceptance is skin thickness. The varieties released by BARI are excellent, although they have thinner skin than others. Research on this matter ought to be conducted.
4. In the event of hybridization, it is essential to increase the emasculation or fertilization efforts to more than 1000 flowers to ensure successful fruit setting.
5. A decrease in soil pH in RARS is leading to a decrease in maximum crop production. With the exception of cowpea, this soil does not support the growth of any pulse crop. For this reason, the agricultural experts will be able to conduct more informed studies with more precise data on healthy soils if SRDI takes sufficient soil samples from this station and analyzes them.
6. Set up research projects that concentrate on seaweed to accomplish certain goals that pertain to humans. Notable dietary and toxic elemental data Include notable dietary and toxic elemental data in any seaweed-related experiments.
7. For potato experiments, the Dohazari cultivar should be included as a control.

Session 3 & 4: (DAE, Chattogram; DAE, Feni; DAE, Noakhali and DAE, Laxmipur)

1. The coastal areas of Noakhali, Chattogram, and Cox's Bazaar may be able to adapt BARI Motor-3 and grass pea as a relay crop no more than fifteen days before rice harvest. Officials from the DAE were asked to send demand letters to the BARI regional office in advance of the season to obtain seeds for all the pulse crops.
2. The BARI Aam-3 is undergoing a process of degeneration. It was suggested that integrated management-based experiments may be used to solve these difficulties.
3. The request was made to DAE to expand the eco-friendly vegetable varieties developed by BARI to the farmers rather than commercial varieties. DAE also requested the creation of variants that can be grown in different institutions so farmers can test and compare them.
4. In case if hybridization on country bean germplasms should be made in two separate set for two stations (RARS, Hathazari and ARS, Khulsi, Chattogram).
5. Experiment based on biochar and other compost should be stress oriented like salinity or drought.
6. The application of hormones to fruit growth and development is a very vital issue nowadays, but the abuse of these hormones is becoming a threat to fruit cultivation, especially dragon fruit in Bangladesh. So, an experiment must be conducted related to hormones, where farmers use the available hormone that should be used as a check.

8. Cumilla Region

Technical Session I: Activities of Research Organisations (RARS, BARI, Cumilla)

Comments and Suggestions:

1. Planting materials of BARI Lebu-6 should be rapidly multiplied before large-scale distribution, with the Horticulture Centre and interested entrepreneurs being involved in seedling production and dissemination. An illustrated extension leaflet should also be prepared to support its promotion.
2. An adequate and reliable supply of quality seeds and planting materials of BARI-developed vegetable and fruit varieties should be ensured. Where seed-quality problems are detected, BADC should be notified immediately, and the original seed sacks and tag cards should be retained for verification and corrective action.
3. BARI Begun-12 and other new crop varieties or technologies should be recommended only after location- and agro-ecological zone-specific adaptive trials have been completed and their environmental suitability, regional adaptability, and field performance have been confirmed.
4. High-yielding hybrid cucumber varieties should be developed from the best available BARI breeding lines. During the development and evaluation of cucumber and other crop varieties, quality attributes such as taste, aroma, nutritional value, colour, size, appearance, market preference, and yield should be assessed.
5. Family sized sweet pumpkin varieties with market preferred fruit size should be developed instead of focusing only on very large fruits. Farmers' existing practices should be included as control treatments where appropriate, particularly in potato–pumpkin intercropping experiments.
6. The market acceptance of BARI hybrid varieties should be improved through desirable product quality, attractive appearance, and improved seed packaging.
7. In French bean and other intercropping studies, crop-specific nutrient requirements should be determined carefully, particularly because poor nodulation is frequently observed under Bangladesh soil conditions. Fertilizer requirements, Land Equivalent Ratio, production costs, benefit–cost indicators, and Marginal Benefit-Cost Ratio should be included in the evaluation.
8. Intercropping experiments should be repeated in the following season or year before final conclusions are drawn. Intercrops capable of acting as pest barriers or repellents should be selected, while pathology and entomology data should be recorded to compare pest and disease incidence under sole and intercropping systems. The push-pull approach should also be evaluated as an alternative pest-management strategy.
9. For experiments involving gibberellic acid, the source and application rate of GA₃ should be clearly reported, and a Benefit-Cost Ratio should be included because of its comparatively high cost.
10. Standard scientific procedures should be followed when seeds are arranged and placed in petri dishes during germination tests. An additional onion seed-production trial should also be conducted with complete observations on seeds and umbels before the findings are finalized.
11. The sources and application rates of zinc and boron fertilizers should be clearly specified, and all proposed zinc sources should be compared to identify the most effective option.

Location-specific micronutrient recommendations, including iron where required, should be developed only after biochemical analyses have been verified.

12. In trials involving Miracle Fertilizer, the treatment comprising 75% of the recommended fertilizer dose plus 12 mL L⁻¹ Miracle Fertilizer should be compared with the full recommended fertilizer dose. The 100% recommended dose should be retained as the reference recommendation unless sufficient experimental evidence supports a reduced dose.
13. For new fertilizer formulations and pesticides, only verified experimental findings should be reported. The practical and crop-safety implications of simultaneous fertilizer and pesticide application should also be assessed. Urea should be used judiciously, and DAP may be replaced with TSP where agronomically appropriate.
14. The conclusions of each study should be organized according to the stated objectives, and every conclusion should be directly supported by the experimental results.
15. A systematic survey of soil acidity should be conducted to identify affected crops, the extent of damage, regional acidity levels, and suitable management practices. Soil-test-based liming should be promoted where acidity is confirmed. Where calcium deficiency or soil acidity contributes to blossom-end rot, appropriate lime or calcium-management measures should be evaluated and recommended.
16. Soil testing and soil-test-based fertilizer application should be made mandatory in contact farmers' fields and incorporated into Good Agricultural Practices and safe-food production programmes. GAP recommendations should be practical, farmer-friendly, and prioritized for high-value and export-oriented crops. They should be promoted only where production-cost and return analyses demonstrate economic profitability.
17. Demonstrations of BARI Pani Kachu and BARI Mukhi Kachu should be conducted in the fields of interested farmers. The shortage of healthy planting materials, excessive production of female flowers, and poor survival of male plants in pointed gourd cultivation should also be addressed.
18. Summer tomato varieties resistant or tolerant to major diseases and insect pests should be developed, and grafted tomato seedlings should be promoted as a management option for bacterial wilt. Artificial inoculation under controlled conditions should be used when crop reactions to specific diseases are evaluated.
19. The latest mustard varieties should be disseminated through illustrated extension leaflets containing authentic field photographs and clear production guidelines.
20. The field performance and survival of grafted mango saplings should be monitored and documented after distribution.
21. The evaluation and dissemination of BARI Til-6 should be continued, and early sowing should be recommended in flash-flood-prone areas so that the crop can mature before sudden flooding.
22. The recommendation to add a small quantity of salt to sunflower oil for improving storage stability should be clearly documented and scientifically evaluated before being promoted.
23. Short-duration rice varieties should be developed for inclusion in improved and intensified cropping patterns.
24. Under the PARTNER project, the extent, location, and methods of agricultural transformation in newly developed non-rice production areas should be documented.
25. The title of the OFRD cropping-pattern improvement programme should be revised so that its objectives, interventions, and target cropping systems are accurately reflected.

Technical Session-II: Research activities of BRRI, Regional Station, Cumilla; BINA, Sub-Station, Cumilla; BJRI, Regional Station, Cumilla; SRDI, Regional Laboratory, Cumilla; SRDI (Field), Regional Office, Cumilla)

Comments and suggestions:

1. Recommended doses of phosphorus, micronutrient, and other necessary fertilizers should be applied under continuous rice cultivation to ensure adequate nutrient availability, replenish nutrients depleted from the soil, maintain soil fertility, and improve crop productivity and soil health.
2. Further research should be conducted to evaluate the effectiveness and practical application of nano-fertilizers in rice cultivation.
3. Lime should be applied to reduce soil acidity in the soils of Cumilla, and the budget allocated for testing the presence of heavy metals in the soil should be revised.

Technical Session III: Activities of DAE, BADC & Other Organizations (DAE, Cumilla, DAE, Brahmanbaria, DAE, Chandpur)

Comments and Suggestions:

1. The specific causes of the low yield of BARI Sarisha-20 at the farmers' level should be clearly identified in the presentation. Balanced fertilizer applications and appropriate extension support should be ensured to improve yield. Since an unusually high yield of Tori-7 was reported in Brahmanbaria despite its generally low-yielding performance, the reported data should be verified, the reason for the discrepancy should be explained, and BARI Sarisha-20 should be considered as a replacement for Tori-7.
2. BARI Sarisha-22 and BARI Sarisha-23 should be promoted as canola-quality mustard varieties. Their desirable characteristics should be communicated to farmers, and adequate seed and production support should be provided to facilitate wider adoption.
3. BARI Alu-90 should be disseminated more widely because of its high yield potential, tolerance to late blight, strong farmer demand, and reportedly adequate seed stock at BADC. Timely planting and necessary extension support should be ensured, while the causes of low potato yield at the farmers' level in Brahmanbaria should be clearly identified and explained.
4. The name BARI Mash-5 should be corrected in the presentation, as no black gram variety under this name has been released by BARI.
5. Reduced planting distance for BARI Surjomukhi-3 should be validated, as it may produce a yield comparable to Hysun-33. Following validation, the recommended spacing should be promoted by DAE.
6. Sesame should be promoted only on well-drained sandy loam soils and in fields where standing water does not occur because of its high sensitivity to waterlogging.
7. BARI Begun-8 should be evaluated and promoted as a rootstock for grafted summer tomato. The rootstock should be maintained 20–25 days older than the scion, and the graft union should be kept approximately 2–3 inches above the soil surface during transplantation.
8. BARI Lau-4 and BARI Lau-6 should be promoted in preference to BARI Lau-1 because of their higher yields at the farmers' level.
9. Recommended integrated virus-management measures should be adopted for kenaf and communicated to farmers because of the crop's high susceptibility to viral infestation.
10. The availability of an updated database or list of jute-seed producers in Brahmanbaria should be indicated in the presentation.

11. Expansion of the area under tobacco cultivation should not be permitted, as advised by the Additional Director (Crops) of DAE.
12. It should be clearly stated that BARI primarily conducts research on non-notified crops and does not have a direct mandate for commercial seed production. An adequate supply of quality seed should therefore be supported by relevant institutions, including BRRI and BINA, in accordance with their responsibilities for notified crops.
13. The yield performance of BARI varieties should be compared with that of other commonly cultivated varieties, particularly in the case of mustard, so that their relative advantages can be clearly demonstrated. Where farmers' reported yields exceed the stated potential yields of crops or varieties, the data should be verified, and the reasons should be explained.
14. The cultivated area of each crop should be presented both in absolute terms and as a percentage of the total cultivated area. Four- to five-year trends should also be presented for crops showing increases or decreases in area, and the specific reasons for such changes should be analyzed.
15. Information on the availability, operational condition, utilization, capacity, and limitations of existing agricultural machinery and equipment should be included.
16. Appropriate captions should be provided for all photographs and figures. Every crop variety should be identified by its correct official name, while popular or local names may be included in parentheses where necessary.
17. A complete and standardized presentation format should be followed. Relevant information on all major crop groups, including maize, flowers, fruits, and tuber crops, should be incorporated. Information on important insect pests and diseases should also be included.
18. As the annual flower market in Cumilla has been estimated at approximately BDT 3 billion, or Tk 300 crore, suitable initiatives should be undertaken to expand commercial flower cultivation and strengthen the associated production, marketing, and value-chain systems.
19. An appropriate crop-production model should be followed in PAGE's homestead-gardening programme. Side by side relevant, accurate, and adequately presented statistical data should be included in PAGE's future presentations.

Technical Session IV: (Plenary Session (Proposed programs of RARS, BARI, Cumilla))

Comments and Suggestions:

1. Gummosis disease should be treated as a major research issue. A comprehensive literature-based review should be conducted, and the proposed research programme should be revised accordingly.
2. For potato-based cropping patterns, a short-duration potato variety-such as Valencia or another suitable variety-should be selected so that it fits properly within the proposed sequence.
3. The proposed Mustard-Boro-Summer tomato cropping pattern is not considered suitable. After consultation with the Deputy Director and Additional Deputy Director, it should be revised to Mustard-Boro Rice-Fallow.
4. Technologies for mixed or companion cropping of brinjal with coriander and brinjal with field pea have already been developed. OFRD, BARI, Cumilla may conduct farmers' field trials to evaluate and disseminate the BARI Begun-10 and field pea intercropping technology.

9. Sylhet Region

The Regional Research–Extension Review and Programme Planning Workshop–2026 was organized by the RARS, BARI, Akbarpur, Moulvibazar on 15–16 July 2026. Scientists from BARI and other NARS institute, representatives from DAE, BADC, Department of Agricultural Marketing (DAM), SRDI, BSRI, Habiganj Agricultural University Research System (HAURES), NGOs, farmers and other stakeholders participated in the workshop.

Comments and Suggestions:

1. During the discussion, the participants appreciated the research achievements of BARI and emphasized the importance of strengthening research–extension linkage to ensure wider dissemination and adoption of improved technologies in the Sylhet region.
2. The representatives of DAE presented their achievements and highlighted farmers' feedback regarding BARI-developed technologies. They emphasized expanding demonstration and validation program for BARI Jharsheem-1 and strengthening the promotion of BARI Satkara-1 and Naga Morich, to increase technology adoption.
3. The workshop identified an increasing demand for breeder seed, foundation seed and quality planting materials of BARI Lau-4, BARI Panikachu-1, BARI Mukhikachu-1, BARI Mukhikachu-2, BARI Begun-12, BARI Sheem-6 and vines of BARI Sweet Potato-17. Participants discussed the need to strengthen seed multiplication and improve the distribution system for quality planting materials.
4. The representatives of BADC reported that farmers are reluctant to produce breeder seed of BARI Alu-7 and suggested to emphasize white-skinned potato varieties. They mentioned that the identity of BARI varieties remains low and suggested making fact sheets and variety-related information available through the BARI website. Participation of seed dealers and BADC's personnel in regional review workshop and in the field days should be ensured.
5. French bean is an important crop for Sylhet region. Program should be taken for improvement of new varieties.
6. Participants observed that prolonged and continuous rainfall during summer has become a major constraint for summer onion production, highlighting the need for adaptive research on climate-resilient production technologies and improved agronomic practices.
7. The workshop recognized the profitability of grafted summer tomato cultivation in the Sylhet region; however, serious wilting problems were reported under farmers' conditions. Participants discussed that the problem may be associated with the loss of resistance in the rootstock, improper grafting techniques, grafting height and soil contact. Seed- and soil-borne pathogens were also identified as possible causes of the disease.
8. The participants noted that polythene mulching and poly net houses are suitable technologies for summer tomato production, although farmers generally prefer lower-cost production methods. The importance of enhancing the fruit quality of BARI Malta-1, particularly by increasing total soluble solids (Brix), was discussed. Participants also emphasized strengthening research on citrus processing, preservation and post-harvest management to improve market opportunities.
9. Farmers highlighted the importance of Satkara as a major citrus crop of the Sylhet region and stressed the need for further research to enhance its production.

10. The workshop discussed the potential for expanding the cultivation of BARI Til-1, BARI Til-2 and BARI Til-3, particularly in Ajmiriganj and Bahubal upazilas of Habiganj district.
11. The representatives of SRDI highlighted the increasing concern of heavy metal contamination in agricultural soils due to industrialization and emphasized the need for research in this area.
12. Participants recognized the importance of agroforestry practices in the Sylhet region and discussed the need for collaborative research with the Agroforestry Department of Sylhet Agricultural University. Farmers also reported crop damage caused by bats, monkeys and squirrels, particularly in agroforestry systems.
13. Representatives from NGOs emphasized the importance of generating location-specific pest status data to support research planning and effective pest management.
14. Farmers highlighted several practical constraints, including water and fertilizer shortages, lack of quality planting materials, low market prices and insufficient cold storage facilities. They emphasized that future research programmes should be more demand-driven and responsive to farmers' needs.
15. Overall, the participants agreed that future research should focus on location-specific problems, climate resilience, technology validation and stronger institutional collaboration to improve agricultural productivity and farmers' livelihoods in the Sylhet region.

Recommendations:

1. Strengthen research–extension collaboration among BARI, DAE, BADC, OFRD, SRDI, HAURES, NGOs and other relevant organizations through joint planning, adaptive research, technology validation and coordinated extension activities to facilitate rapid dissemination and wider adoption of improved agricultural technologies.
2. Expand demonstration and validation programmes for BARI Jharsheem-1 and strengthen the promotion of BARI Satkara-1 and Naga Morich to increase farmers' adoption of these technologies in the Sylhet region.
3. Strengthen breeder seed, foundation seed and quality planting material production of BARI Lau-4, BARI Panikachu-1, BARI Mukhikachu-1, BARI Mukhikachu-2, BARI Begun-12, BARI Sheem-6 and vines of BARI Sweet Potato-17 through community-based seed production and multiplication programmes. A standardized guideline should also be developed for efficient seed acquisition and distribution from BARI.
4. Focus on white-skinned potato varieties considering farmers' preference and popularize BARI potato varieties through multi-location trials in farmers' fields. The latest research findings on potato should be disseminated through training, demonstrations and field days.
5. Upload fact sheets and variety-related information of BARI-developed varieties on the BARI website to increase variety awareness. Seed dealers should be invited to future regional review workshops and BADC should participate in field days to enhance technology dissemination.
6. Conduct economic research on agar cultivation in the major production areas of Borolekha and on Khasia betel leaf cultivation. Evaluation studies should also be undertaken on Jara lemon, Naga chilli and Goyalgadda country bean.
7. Strengthen research on Satkara production and undertake studies to improve the Total Soluble Solids (°Brix) of BARI Malta-1. Greater emphasis should also be given to citrus processing, preservation, post-harvest management and marketing.

8. Conduct adaptive research on summer onion to develop climate-resilient production technologies and suitable agronomic practices for high-rainfall environments.
9. Undertake comprehensive research on grafted summer tomato to address wilting problems by evaluating rootstock resistance, improving grafting techniques, studying grafting height and soil contact, and identifying seed- and soil-borne pathogens associated with the disease.
10. Promote affordable protected cultivation technologies, including polythene mulching and poly net houses, for summer tomato production under the agro-ecological conditions of the Sylhet region.
11. Conduct research on seed- and soil-borne pathogens responsible for wilting in grafted summer tomato and explore alternative approaches to pesticide use in summer tomato cultivation.
12. Strengthen research on haor-based vegetable production and identify suitable pineapple varieties for the region.
13. Expand the cultivation of BARI Til-1, BARI Til-2 and BARI Til-3, particularly in Ajmiriganj and Bahubal Upazila of Habiganj district, and undertake research on BARI Sunflower to explore its production potential in the region.
14. Strengthen research on pointed gourd through germplasm collection. Continue research on the male–female ratio to facilitate future vine supply for farmers.
15. Generate location-specific pest status data to support effective research planning and pest management strategies.
16. Increase the number of replications in experiments where the number of treatments exceeds the number of replications to improve the precision and reliability of research findings.
17. Conduct research on heavy metal contamination in agricultural soils considering the increasing impact of industrialization on soil quality.
18. Strengthen collaboration with the Agroforestry Department of Sylhet Agricultural University on agroforestry research and collaborate with HAURES in biotechnology and IoT-based research for fruit grading.
19. Organize scientific training programmes on Agroforestry practices and undertake research to minimize crop damage caused by bats, monkeys and squirrels in agroforestry systems.
20. Prioritize vegetable and fruit research under farmers' field conditions through OFRD and emphasize crop production from T. Aman harvest to March, when the region experiences comparatively fewer natural hazards.
21. Undertake research on processing, preservation and value addition of agricultural commodities to improve product quality, marketability and farmers' profitability.
22. Strengthen the Extension–Research–BADC linkage. Since OFRD is working directly with farmers, DAE should be more actively engaged in the dissemination of BARI-developed technologies.
23. Update the FRG framework under the Khamar-e App based on actual real-time location to improve its field applicability.
24. Future research programmes should be need-based, demand-driven and location-specific, addressing farmers' practical needs, production constraints and regional agricultural challenges.

10. Khagrachari Hill Region

Report related suggestions

1. Fruit Crop Research

- Assessing the current status, production potentials and future prospects of Latkan (*Baccaurea ramiflora*) in the hill regions.
- Evaluating the future potentials of rambutan cultivation.
- Strengthening research and extension activities on dragon fruit and Rangui mango.
- Assessing the potential for grape cultivation in the hill regions.
- Collecting and documentation information on the production potential, insect pests, and diseases of emerging fruit crops.
- Conducting research on olive varieties suitable for olive oil production.
- Including a control variety in ber (jujube) trials.
- Collection and evaluation Gulsha olive, Sultana mango, bel, and Sultikalai from Langadu at three research stations.
- Undertaking mutation breeding research on fruit crops.

Proposed new program related suggestions

2. Coffee Research

- Promoting the use of compost and other organic fertilizers in coffee cultivation.
- Considering shade trees, water sources, and environmental factors during coffee plantation establishment.
- Selecting coffee varieties with uniform or near-uniform bean maturation.
- Maintaining a comprehensive coffee database including plant age, canopy size, and other important traits.
- Evaluating the selected 17 coffee germplasm lines across the three hill districts.
- Assessment of coffee germplasm for yield, quality, adaptability, and tolerance to pests and diseases.

3. Soil Health and Sustainable Agriculture

- Encouraging farmers to conduct soil testing and use the Khamari App for balanced fertilizer application.
- Strengthening research and extension on organic and sustainable crop production systems.
- Promoting the utilization of weeds as mulch and organic manure for improving soil health.
- Conducting farmer-friendly research on soil acidity management and soil fertility management in the Chattogram Hill Tracts.

4. Spices and Plantation Crops

- Assessing the cultivation potential of ginger, turmeric, and taro in Jhum, across, and gentle-slope lands.
- Conducting research on natural color-producing spices crop and developing suitable varieties.
- Evaluating the environmental impacts of ginger cultivation in plastic bags and develop eco-friendly alternatives.

- Conducting intercropping research involving cotton with ginger, turmeric, and suitable vegetables to maximize economic returns.

5. Variety Development and Germplasm Evaluation

- Identifying improved and suitable varieties for Jhum cultivation and conducting variety-specific research.
- Properly evaluating exotic germplasm before large-scale dissemination.
- Ensuring germination testing before distributing germplasm from PGRC.
- Identifying suitable Kharif-season vegetable, spice, and rice varieties for Jhum cultivation.

6. Crop Protection

- Undertaking integrated research on Citrus Greening, Whitefly, and other major pests and diseases.
- Ensuring the quality of pesticides and preventing the use of substandard pesticides.

7. Irrigation and Climate-Smart Agriculture

- Promoting the adoption and expansion of solar-powered irrigation systems in the hill regions.

8. Cropping Systems and Farming Practices

- Conducting need-based research addressing farmers' actual needs and constraints.
- Evaluating cropping patterns including BARI Sarisha-14 and BINA Sarisha-9 to identify systems with higher BCR.
- Demonstrate and disseminate research outputs and technologies at the farmer level.

9. Field Crop Research

- Popularize suitable BRRI rice varieties for Jhum cultivation.
- Evaluating the performance of hybrid cotton varieties in the hill regions.
- Assessing the cultivation potential of chewing-type sugarcane varieties in hilly areas.

10. Extension and Institutional Development

- Strengthening agricultural extension programs to increase farmers' participation.
- Establishing a full-fledged BARI Research Centre in Bandarban Hill District.
- Including Scientific Assistants (SA) of HARS in BRRI training programs.

11. Other Priority Research Areas

- Conduction of research to solve the lodging/tilting problem of cashew trees.
- Ensuring the availability of BARI-developed open-pollinated (OP) vegetable varieties at the farmer level.


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