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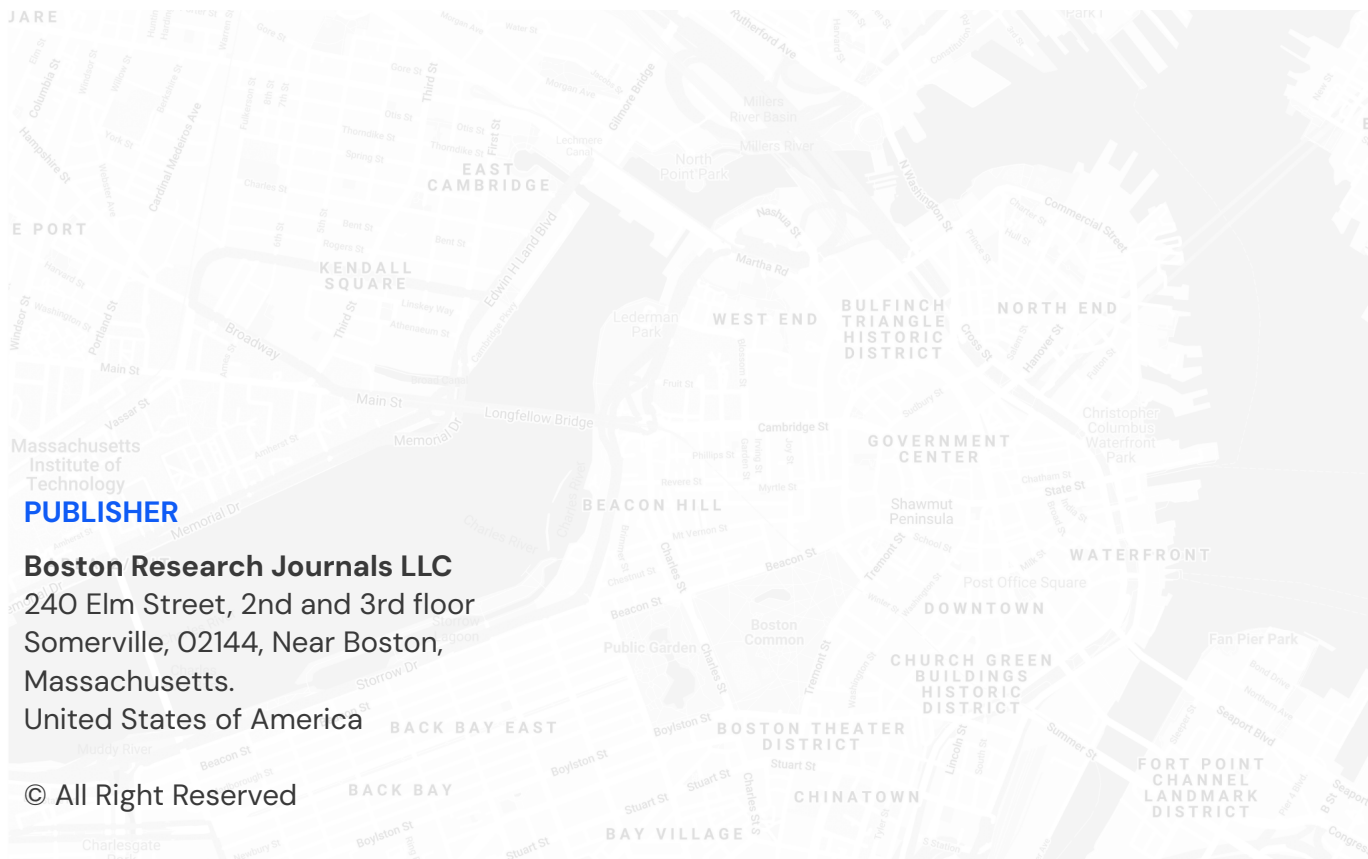
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## Research Articles



# The Fireflies Kindle Their Lights To Seek Darkness: Scripting Ecological Concern in Some Select Poets of North-East India

Dr. Arun Kumar Mukherjee

## ABSTRACT

*The literature of India's North-east and her poetry in particular, is characterized by a strong 'spirit of place' and the vast ecological variety in the region strewn with rivers, hills, gorges and ravines, with a mesmeric charm of the flora and fauna, has ever actuated creative imagination in the poets and writers of the land. A confluence of various tribes and communities with their respective belief-systems, rituals and folklores, North-east has ever retained her exotic charm not only for mainland India but also for the rest of the world. After Independence, the region also had to undergo some territorial re-alignment of some states due to socio-political necessities and as a result of the emerging realities of urbanization, deforestation, industrialization and mechanization for the cause of development and also of the flip side of these changes in the forms of partition-violence and cross-border terrorism (with its bases operating mainly in neighboring countries); a genuine concern for the ecological well being of the land has developed over the years into a major vein of poetry in the North-east. To put it in simple terms, the persona which had so long been used to singing the naivety of existence amidst the plenitude of nature in a state of perfect bliss with the surroundings, now feels as it were perturbed by a gnawing awareness of something ominous lurking in ambush round the corner. The present article attempts for a synoptic overview of some representative works of the indigenous poets of two major states so as to trace how an acute eco-conscience marks the poetic sensibility in North-east where nature, as per the systems of faith and understanding enshrined by folk and literate traditions, is a vital force equipped with human emotions and having the potency to help poetic imagination.*

**Keywords:** Spirit of place, Ecocritical, Flora and Fauna, Urbanisation, Poetic Imagination

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**Read Online:** <https://bit.ly/4jm1sJE>

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## I. INTRODUCTION

India's North-east is the place of a rare scenic beauty with mystic mountains, magic rivers, and a sprawling verdure punctuated by little hamlets that have been for centuries the habitation of different indigenous tribes and migrant settlers. In popular imagination, at home or abroad, India's North-east, a conglomeration of eight sister states with an astounding ecological variety, is a space of a mythic realism where the simple, unassuming life-style of people living in peace with the hilly terrains is as if characterized by some presiding intelligence of nature as enunciated in the fables and folk-tales of this zone and such a system of a naïve, ingrained understanding as if crystallizes over time, into a potent force of conviction in the collective unconscious of the people living in North-east. Naturally, any unforeseen change (which is mainly wrought by urbanization and also by strayed souls working for separatist forces or apostles of militancy) in the familiar set-up – the fragrance of rice grown in the *jooms*, of known and unknown flowers, the sweet lilt of stringed instruments like *sharinda* or *chompreng* played by ordinary folk in the evening, often melting either with the notes of the mythic bird Nuyai or the rippling sound of brooks flowing through the cracks and fissures among the hills to fill the air – sparks off a rich 'melancholy strain' from the indigenous bards and their mournful numbers articulate in the ears of sensitive readers a rich expression of eco-consciousness. The varied expressions of some tensed wonder arising out of experiencing an imminent disaster in the familiar set up, as if edges on to what Wordsworth once felt with despair – 'That there hath past away a glory from the earth' (*Immortality Ode*, L.18). Though eco-consciousness as a marker of poetic

experience may have distinctive and nuanced manifestations, however little, characteristic of the altered situations and the changing milieus in different states, the present article seeks to highlight the theme with reference to the works (translated into English) of some representative poets of two major North-eastern states – Assam and Tripura.

In the poetry from Assam, the largest state in North-east with river Brahmaputra as the life-line and an enviable bio-diversity almost at par (as per official sources) with the Equatorial rain-forests, and also a treasure-trove of myth and folk-lore, changes in ecosphere such as, pollution, urbanisation, global warming deforestation and also militancy, elicit poetic concern as manifest in the works of Navakanta Baruah, Anupama Basumatary, Harekrishna Deka, Hiren Bhattacharyya, Anubhav Tulsi and Santana Tanty among others.

A poem *Bat* by Nabakanta Baruah presents through an oblique angle, a tranquil yet tensed picture of nature in the fancied vision of bats. While alive, hanging from the racks of a grocery shop with their feet, the bats have an inverted view of the world:

They saw:  
The earth strung above the sky,  
And the trees that rest on the firmament  
Thrusting their roots  
Into the hoary darkness of the earth.  
(Nabakanta 2009, p.8.L.7-11)

But this natural, innocuous scene receives a severe, teleological purport of an ecological disorder in the dying vision of the same creatures before they are electrocuted – by holding fast to 'the liquid death that speeds/ Through tense electric wires' (L.34-35). The

closing lines are replete with suggestions of a terrible consequence when the earth as it were, loses itself in a blind bid for suicidal masochism.

And then?

Then the sky will again lie

Recumbent.

The hills will pin it down

Astride in an inverted coital variant ;

And under the monstrous breasts

Of an insatiable witch,

Love will die a shattering death.

(L.36-43)

A delicate message of Nature's retributive justice consequent upon the violation of human rights can be discerned under a socio-political metaphor in another poem of Baruah titled *Palestine*. A shameless politicizing of human needs under the blind craze for strengthening one's power and pelf ('We killed them for they wanted eternal life/ Then bulldozed their prisons into fields of corn (L.3-4),' is warranted with terrible repercussions couched in fitting images of ecological collapse as in the closing lines of this short lyric:

What's that hand sticking out from the earth?

Other hands will sprout from it ---

And tickle us to death.

(Nabakanta 2009, p.13. L.5-7)

The spectral hand beckoning the speaker to doom is reminiscent of, to a certain extent, the skeletal hand stuck out of a wraith of money and fame tantalizing the hero in Satyajit Ray's film *Nayak* (The Hero, with legendary Uttam kumar in the lead role) to death in his nightmare and also of the airy dagger pointing towards Duncan's chamber in the hallucination scene of Shakespeare's *Macbeth*.

Some works of Anupama Basumatary are characterized by an acute eco-anxiety as in the poem *Snails* for example. The sadistic pleasure derived from watching the 'agony' of the dying snails at the time of extracting the pulp,

paradoxically turns into a nightmare of a role-switch as the speaker admits the shuddering impact of the speculation upon her soul.

Now I crawl around the sea-shores

clamber about on land and water

.....

.....

Strangely, an unknown hand picks me up

sucks my sap and leaves me empty.

The shell of my body creaks

in the agony of the heart breaking ...

(Anupama 2009, p.16. L.11-12, 17-19)

The poem *Sculptor* reminds one of a rare conjunction of life and art or, rather the alchemic property of art which is fortified by parallels in myth and folklore. Being transmitted life at the magic touch of the sculptor, the statue of a woman becomes a woman.

Is it at the magic touch

of his hand

or the conjunction of two hearts?

One day my stone - heart

Began beating

my two hands reached out

and clasped him.

Thereafter

I became a woman.

(Anupama 2009, p.17. L.12-20)

The popular strain of eco-feminism permeating the folktales and folklores of North-east, seems to have received here an added dimension in so far as recalling Philip Sidney's dictum that Nature is 'brazen' while Art turns it into 'golden.'

Two poems of Lutfa Hanum Selima Begum bear the same title - *Poem*. In one of them, she spells an anxiety for ecological crises in the chosen idiom which shows an inversion of natural order due to various reasons.

The fallen leaves want

A green passage

Back to the branches of trees.  
The birds want  
To be yellow inside eggs,  
The river wants  
That the dead fish return.  
(Lutfa 2009, p.22–23.L.1–7)

The closing lines usher in an epiphany of order and are rich in ecopoetics in so far as, the persona expresses an urge for identification with the very system in nature and elicits response from the readers as well, in her role of a bard singing of the serenity in the eco-space.

And me, melting in you  
Seek a passage back to me  
Through the green.  
Through water, stones  
Words and tunes. (L.16–20)

The poetry of Sananta Tanty bears a strong note of eco-critical concern and here the poetic power is generated by a keen awareness of the changes wrought by violence, ethnic conflicts etc.etc., taking place in the familiar set-up. The opening stanza of the poem *After Dusk* drives home the point.

Everything occurs after dusk  
a rape, or murder of a helpless man from  
minority class  
standing in front of such a truth  
I witness the first explosion in the city  
I hear the laughter of a battered river. (Santana 2009, p.271. L.1–5)

The poem titled *Poems Bring Me Back Again and Again* shows a brilliant fusion of the speaker's environmental sensitivity and her poetic accountability as a chronicler of life around, which poses diverse claims upon individual consciousness.

Just for poems I remain engrossed  
in your love even today. Look for words of life.  
Cross the river carrying with me

some moist days . ....

.....  
.....

Sit beside *Sanghamitra* and lay hands on  
A Kalashanikov.  
Give birth to poems so inseparable from life.  
( Santana 2009, p.272.L.1–9)

It is the poetic urge in the speaker that works as the sole motivation to trace the kaleidoscopic nature of experience called life – be it, to quote from the text – ‘ the intense tragedy of the river that flows in my blood’, or when ‘Life’s hunger ends with the shattering of dreams.’ Poetry and love of life are the only founts of sustenance for the speaker and the conclusion offers a confirmation of faith.

Just for poems I remain engrossed in your  
love even today. Poems drag me away  
from death. (L.38–40)

The poetry of Anubhav Tulasi carves a niche in the field of Assamese poetry with a powerful note of ecological concern. The poem *Infernal Playground* as the name suggests, possibly charts, in an artistic self-distancing mode though, the ethnic violence, insurgency, countermeasures by the government – all that had made Assam a hotbed of unrest a few decades back. The opening lines in a way echoes Shakespeare’s *Macbeth* where even in daytime, ‘darkness doth the face of earth entomb’(Act, Sc.L–11). Here in this poem, the uncanny light playing on the teak sapling, parallels a fantasmic light which as if shows a mockery of light, focusing a scenario where –‘Flameless darkness smoulders /And unbearable the moonlit night’(Anubhav 2009 p.293. L.3–4).

The ennui growing upon the soul as a dividend of some claustrophobic existence in a space lacerated by extortion, deprivation, injustice and a culture of mistrust, receives a poignant expression in the following excerpt:

Is there no way out of this hell  
Are we to rot here without protest  
Then why kidnap the obstinate one  
Who would not surrender..... (L.12–15)

With a rare clarity of vision, the poet manages to see through the ploys of power–politics that *willy nilly*, perpetuate violence and the following lines in a rhetoric of fire, categorically denounce the ferreting of violence for mean political mileage.

Is hell your playground, sirs?  
Then why do I suffer page after page  
In labour of anxiety and nightmare  
To deliver the horror alone. (L. 21–24)

The emergence of violence and fear in the sacrosanct space for living in conjunction with nature (continuing for generations) receives a telling expression in the poetry of another Assam born writer Ilabanta Yumnam. The poem *A Mountain Village* charts how the emerging change threatens to trammel up the traditional ways of ordinary life in the hilly slopes which is characterized by an unquestioned acceptance of the bucolic setting seemingly endorsed by oral narratives that acknowledge among other things, a pristine harmony between man, other living forms and nature.

They say they'd go abandoning this mountain village  
Reverberating with ballads sung by highlanders  
Rushing towards the heart, this land  
Of arteries  
Brought by a bird in its beak one day and dropped  
Where mountain and sky touch.  
(Ilabanta 2009 p. 304. L.1–6)

How such an evil interloper called militancy thwarts the serene flow of life, destroying the peace in the environment, with nature as a mute witness to the menace, is expressed with a rare poignancy in the following lines:

Those bearing bombs and guns come to torture and kill  
frequently keep dwellers restive denying time when to eat or work.

The quivering strains of the guitar  
The highland youths with dried– up throats.  
Quietly nonchalant clouds with measured tread  
Arrive to moisten the eyes of mountain maidens. (L. 7–13)

The poem *Native Land* conveys a mixed feeling of nostalgia for the poet's native place, Cachar along with a disquieting awareness of regular phenomenon of flood caused by Barak river and also the politics of identity allegedly perpetrated upon the minority of which the persona thinks himself to be an articulate part. The quick transition of thoughts – from vague homesickness ('My vacant feet would like to tread your road') to an instinctive feeling of flood ('I will kiss the water's cheek/I will sleep a night with you') interestingly terminates into a more urgent issue – the issue of ethnicity that lends a caustic hue to the poet's deliberations.

In every spot on earth  
The souls of minorities  
Are said to be suffering always  
How chewing the cud  
Shall we digest sufferings  
We are not an alien species.  
(Ilabanta 2009 p. 308. L.19–24)

Side by side with a categorical recognition of the violence and unwelcome changes creeping in the familiar orbit, a quietist tenor of poetry in perfect peace with the environment is not rare either, as in the case of poet Nirmalaprabha Bardoloi who in the poem *Dawn* for example, sings of the serene flow of life unhindered or unruffled by the urban pace :

Does the day break  
with the sound of guns?  
No.  
it breaks with the cry  
of that bird  
which nibbles through



the night's darkness  
very slowly. (Nirmala 2009.p. 73.L.1-8)

However, a cursory glance at the contemporary poetic output from Assam including those discussed here, some way or the other leads to the conjecture that notwithstanding being inter-assured of the divinity of their vocation arising out of the sacrosanct matrix of life and nature, the poets focus more on the unsavoury changes in their familiar space than merely valorizing nature and her pristine beauties which among all other considerations, mostly characterised popular poetic imagination in the state over decades.

The poetry in Tripura, a small hilly state with an astounding ecological variety and plenitude providing a fillip to creative imagination as concomitant to life spent in proximity to nature, offers an interesting picture of adulation and retrospection in terms of poetic attitude to nature in the works of the tribal and non-tribal poets of the state respectively. The ecosphere in the Kokborok poetry of Tripura, written in the language of indigenous people (known as Kokborok) appears to be a space much shredded by human greed and violence, and yet retaining much of its beauty, nuclear innocence and harmony.

Nature in the poetry of Chandrakanta Murasingh, a reputed tribal poet and the founder editor of *Kokborok Sahitya Akademy*, seems to be fraught with a strong suggestion of human intervention and a strategic ecocide that invariably gestures to some ominous possibility in store for man. The following lines taken from the poem *Pebbles* seem to be sulphurous with a strong element of eco-conscience:

The tree that still remains in this forest  
are we keeping it alive?  
The stream is now a maid servant  
in your house and in mine.  
(Chandrakanta 2017. P.51. L.1-4)

The poet also disapproves human apathy to nature that does harm to the sanctity of eco-space comprising equally of the human and the natural – 'He who survives on the mountain's peak -/ do we also keep him alive?' (L.5-6). The cautionary urge in the persona finally bolts into a sarcastic outburst against the incongruity between the mythic exaltation of nature in gorgeous narratives and the actual and sordid reality of lived experiences of those who are in close proximity with nature:

The sky is eloquent with folklore,  
the rice is full of pebbles.(L.7-8)

Another poem *Sleep* offers an encomium on Sleep which in addition to being the 'chief nourisher in life's feast' as in the case of everyman (to quote Shakespeare's *Macbeth*, Act 2, Sc.2 L.52), sustains the being of the speaker as a source of emotional poise amidst the chaotic mess of experiences – 'sleep and me in an intense red in the heart' (Chandrakanta 2017. P. 53. L.12). However, even though sleep is deemed as the best possible gift of life or a laurel for the speaker ('...making me king, sleep sits on my head/ like a golden crown'L.18-19) compared to the power and pelf sought by an individual in this materialistic world ('Just as power, lust for wealth and pride/sits tight on the minister's head,...' L.16-17), it proves to be just a frail dike to an encroaching eco-conscience where problems, purely man-made, are born out of power-politics and deprivation:

Extremists run trampling the jungle.  
Trampling the jungle march the sentries  
in their obstinate and rude power.  
Corpses travel to the cremation ground along  
the hilly road. (L.21-24)

The pensive note of expression receives a sudden poignancy with a note of familiarity and recognition:  
The face of the dead seems to be familiar,

and having eaten a broth of leaves, creepers  
and wild toads  
Kutugla's wife is dead. (L. 25-27).

A veiled concern for eco-crisis seems to characterise another poem *Chetuang Tree*, where an overall ambience of despair – in the projection of a wayward wind apathetic to the status of the speaker as an individual as far as his affiliation to some organization is concerned ('in which direction is my camp?'); and a desolate moon -- fail to quell in the speaker an acute urge for being repugnant of the limits imposed by reality: 'Yet I call to say-/ O sky, I am in your side.' (Chandrakanta 2017. P.60. L. 9-10). However, the image of the Chetuang Tree whose tapering peak almost pierces the cloud, offers a streak of transcendence by paradoxically transmitting in the collective unconscious of men, the message of nature's sacrosanctity. A similar note of disquiet arising out of nature's impoverishment *vis a vis* human greed for money/power continues in a poem titled *Sky* – 'The white, red, green flags narrate the sky's story, / blood smeared money reddens the sky'(Chandrakanta 2017. P.61. L.5-6).

However, under the façade of a rampant skepticism and apparent disillusionment arising out of some unwanted changes in the familiar environment (wrought by different reasons, man made or not), nature emerges as the motherly figure of a sanctuary for the bruised soul of this bard and a short lyric called *Ma* encapsulates as it were, the eco-testament of the poet:

The fireflies kindle their lights to seek darkness,  
wild rats bite soft roots  
inside earth's heart,  
in darkness.  
Still the earth is my mother,  
with so much of light within,  
the waters of the stream know.  
(Chandrakanta 2017. P.62.)

The poem *The Stone Speaks in the Forest* seems to be rich with a mythic symbolism. The

stone pressed by the feet of a king looking for a golden deer and also bearing the tears and dreams of some commoner such as a frustrated lover, seems to outgrow into a living entity equipped with the agency for speech. The closing lines gesture to the stone as the form of 'life petrified' showing parallels to myth (as in Ahalya's case in the *Ramayana* ) or popular imagination (as for example the stone images in *Unokoti* of North Tripura):

The stone speaks in the forest,  
Bow and arrow in hand.  
(Chandrakanta 2009, p.184. L.22-23)

A mild note of eco-consciousness is detectable in the works of some other poets such as Bikashrai Debbarma , Bijoy Debbarma and Utpal Debbarma among others.

The trauma of being cut off from the umbilical cords of one's being is conspicuously felt in the poem *Without an Address* by Utpal Debbarma. The postcolonial reality of diaspora and its concomitant feature – 'Swagreehe parabasi' that is, 'feeling alienated at home,' – is unmistakable in this poem where the poet's familiar space with all its terrestrial beauty that have sustained him in his weal and woe, seems to have lost its nuclear feature in negotiating changes wrought by time. The opening verse paragraph unravels the pangs of dislocation and subsequent loss of identity:

My life is entwined with rivers, streams, stones,  
hilly paths,  
fertile land and rows of mountain ranges.  
Walking incessantly in storm, hail and dew drops  
across night, I am exhausted.  
But the path that I had travelled on  
is now without address, lost is history  
and I am wreck.  
(Utpal 2017. P.139.L.1-7)

The loss of cultural moorings, inferiorisation in the altered subject-position for the indigenous people, a hang-over of the colonial as well as

postcolonial social reality; receive an eloquent expression in the second verse paragraph:

On a temporal road I move today  
without any constancy in life.  
My hearth is dark, companionless I have  
nowhere to go.  
And the story of my striking roots is now lost.  
(L.8-11)

Another poem *I behold these* reads like a vagrant's diary reflecting on as if, the 'ignoble strife' of 'the madding crowd' in the name of life around or the so called procession of humanity – 'Barking and roaring hollow men, in lust/tend to tear off flesh from their own bodies' (Utpal 2017 p. 140.L.8-9). In the orgy of violence and terrorism wrought by men, even nature, as it were, feels unnerved – 'The dark evening smiles and the moon and the stars/ hide their panic stricken face behind the clouds'(10-11). The toll of rampant insurgency or counter action of the State leaves no impact upon either men in power or the misguided folk and as a result 'the spark of guns dances in delight in the border'(L.13).The anxiety for the future of the progeny reigns paramount in the perfect idiom of a deeply moving, acute eco-anxiety as in the closing lines of the poem:

Moving the veil of mist emerges the sun,  
a dark, murky light on the face.  
There by the side of the border lies a corpse-  
my neighbor, my brother, had come of youth recently.  
(Utpal 2017. P.140.L.15-18)

Another poem *I go on searching* seems to add to Utpal's reputation as an indigenous poet in so far as it strives to communicate an obtuse pain bred at the psyche by the insentient bid to urbanization that often tends to repudiate the sanctity of one's roots:

Here there's no joom, no forest,  
nor any tong-ghar or hill top.

Then wherefrom this smell, or is it a  
conflagration  
here in this dirty lane of the capital?  
(Utpal 2017. P.141. L.7-10)

A faintly Eliotic detection of an 'unreal city' in this context (reminiscent of *The Wasteland*), instead of echoing a Baudlairean epiphany, here remains content with the recognition of a parochial experience -- violence, that seems embedded in the North-eastern ethos:

Sometimes it gets lost God knows where,  
and then again comes back with a sharp  
happiness.  
Gun and gunpowder float at the tip of my nose.  
(L.11-13)

The deliberate evocation of pathos with an astute use of understatement foregrounds the pity underlying violence and the fate of wayward youths and the poetic stance as it were, reiterates once more, the moving wail of Wordsworth – 'What man has made of man!' A smothering feel of ennui out of the perpetrated cult of violence, angst at the politics of identity that shrewdly flares out ethnic riots, a mute pain of thwarted interpersonal relationship and an acute eco-consciousness -- mark the works of another powerful poet Bikashrai Debbarma.

The poem *Within without* as the title suggests, dramatizes the rival claims of two contesting affiliations -- espousal of one's cultural roots and a commitment to nurture the same on the one hand and the urge to respond to the call of so called War for autonomous identity of the indigenous people following the mode of indiscriminate violence on the other. In a way, the poem projects very much a dialogue of self and anti-self. If the self finds consolations in thoughts of peace and reconciliation as characteristic of a rooted identity ('I am very much within. /Nothing to worry about,' Or, -- 'Kokborok is the language of the Boroks/ and I am a Borok.); the counter argument is offered by the anti-self :

To have the war is more important,  
within or without doesn't matter.  
Goal is the same.  
You too are a Borok.  
(Bikashrai 2017. P. 67. L.11-14)

While the 'War' unravels the hideous face of brutality with 'severed heads', 'chopped arms, legs' littered 'in a pool of blood,' the persona expresses frustration at the motivated silence of a particular group, perhaps the elite or the creamy class, whose conscientious role could have altered the situation for good. The closing lines thus mark a height of ironic undertone pointing to the inconclusive nature of the rampage going on:

War gains momentum.  
It might be you.  
It might be me.  
The one within  
is silent.  
He too is a Borok. (L.33-38)

In the poem *Bunyan Tree*, poet Bikashrai mourns the denuded looks of a site which with an illusion of a shelter or shadow (and of Bunyan tree?) practically exposes the speaker to an experience of aridity:

not even a single tree anywhere.  
.....  
.....  
broken branches and twigs,  
scattered helter skelter.  
(Bikashrai 2017. P 74. L.3-7)

Even celestial bodies such as the moon and the sun feel lonely to have found no peer on the terrestrial plane and the imagistic movement in the following excerpt offers a claustrophobic sense of an impending disaster:

The drowsy lullaby of a dull moon  
unknowingly transforms itself to a moan  
at the loss of someone dear.

.....  
.....

The sun-burnt hills  
with scorched dehydrated tongues  
are flung here and there  
like the folds of a worn out cloth. (L. 9-17)

In the poem *Untitled*, the poetic concern for ecological well being is superbly couched in terms of ultra modern and apparently incompatible experiences of civil and commercial interests as advertised in social media. The requirement of 'uninhabited vacant land' for development is counterbalanced by an equal cry for afforestation with the slogan: "Saving tree saves life, forest is therefore, / a necessity for life"( Bikashrai 2017. P 79. L.9-10). The third appeal sounds yet more vitriolic in the suggestion of utopian schemes of development which are afault with self-contradictory agenda that at best betray a studied indifference to the question of promoting ecosphere: "For wildlife sanctuary forest has to be vacated"(L.12) The irony at the heart of all this fiasco is superbly stressed by the common urge for enlisting "Like, Comment and Share" from the viewers of Social Media, specifically, Facebook, Instagram, Ex-handle, etc.etc.

The closing lines of the poem sound as an astute statement of eco-conscience that abjures the fetish of populist craze threatening to become the dominant trend in the most influential thing known as Social Media:

I just don't require anything,  
just a share in land and forest everywhere-  
no like, no comment, no share.(L. 14-16)

The poetry of Bijoy Debbarma offers an exquisite blend of mythic consciousness, ecological anxiety and a teleological concern couched in brilliant poetic imagery. The popular narratives of repressed histories and the politics of representation, a vital feature of postcolonial literature, seem to have been beautifully rehearsed in the poem *Ekalabya of Longtarai*. Under the façade of the age-old saga of deprivation of the marginal to gratify the interest of centre, the poet exalts the iconic

figure of Ekalabya who in spite of having arguably a greater skill in archery, was ostracized by guru Drona to safeguard the interest of Arjuna. Here the mythic parable of monopoly, nepotism and victimization seems to suggest a parallel in the prioritization of the centre or the capital (Agartala) by eliding the interest /worth of the periphery and the third verse paragraph strongly gestures to such a conjecture.

Arjuna's are jealous and many faced,  
they have many appearances.  
At every street intersections,  
at every traffic point,  
on table, chair, corridor and red tape-  
Arjuna's, Duryodhans and Dronacharyas stand  
on guard.  
When you shall reach the Longtarai peak,  
They'll cut off your right thumb.  
(Bijoy 2017. P.82. L.32-40)

This superb blend of the perennial with the parochial makes the poem truly remarkable and the postcolonial urge for rewriting one's own history reclaiming the agency for speech for equally rich yet repressed histories, is further traced in the sequel piece *Ask your thumb back* where Eklabya, the legendary figure of subalternity, is exhorted to claim his thumb back from the schematic ostraciser known as Dronacharya. The poem bears an excellent account of eco- narrative further characterized by, what may be called, a strategic essentialism to dismantle the hegemonic. To put in simple words, through the haunting description of nature, the persona as if seeks redressal for the injustice meted out to Eklabya. The following excerpt drives home the point:

The breeze that spreads the fragrance of your  
blood,  
now returns as a song.  
Eyes open in a sleepy face.  
Poetry germinates in the earth  
that bore drops of your blood.  
The grass that felt the touch of your blood

is now reciting your poem.  
(Bijoy 2017. P.86. L.5-11)

Since the designated subject position is altered in a counter-narrative ('the dumb have now found articulation'L.14), the poet finally urges:

Ekalabya, gone are the days of gurudakshina.  
You have a bow and a sound-piercing arrow.  
So now, ask your thumb back. (L.15-17)

A mythopoeic treatment of nature contextualizing the present scenario distinguishes the poetry of Bijoy Debbarma. The last poem discussed in this context, *Why Should I go?* reads, as the name suggests, like a poetic testament of Bijoy kumar, containing his apology as a poet (also as an individual) for his affiliation to his indigenous roots in course of his cultural odyssey through different métiers of experience which are most often, not without lures of opulence and power threatening to trammel up traditional ways of life. The disquieting awareness of an unwholesome nature of experience; of an emerging change, is aptly expressed in the following lines:

Those innumerable roads lead towards the road  
royale.  
Random winds blow from that direction;  
dress disrobed, hair disarranged, a scorching  
feel of the blast.  
(Bijoy 2017. P. 87.L.10-12)

Being used to his familiar space—containing the mythical 'Chethuang forest', 'the tongghar in the orchard', with scenic spots like *Longtarai*, *Shakantan*, *Jompui*, *Atharamura*, -- the persona can repudiate the narratives of something 'new', fascinating reality which is termed as below: "A distant lyric comes floating far beyond, /tune unknown and unheard, but new in appeal"(L.15-16). While the tantalizing charms of an exotic reality cause emotional perturbations in the poet by 'breaking boundaries, leaving addresses'(L.18), the agitation at the core is quelled by the poet's allegiance to his



sustaining values or moorings as reiterated in the closing lines of the poem:

Innumerable murmurs creep into the heart,  
revolting at every step –

Why should I go? Why?

– discarding the roots, far away from the origin.  
(L.19–22).

Thus, a subterranean consciousness of myth negotiating the contradictory claims of reality characterizing existence, over all marks the poetry of Bijoy Debbarma.

Speaking generally, in the poetry of the indigenous people of Tripura, one comes across an overall peace of understanding with some naïve and pristine sanctity of the living space and its recuperative potency in negotiating unwholesome changes that for a time threaten to trammel up the ways of life in the bucolic setting that has been spanning through generations.

For some Bengali poets of Tripura (which is also a border –state like Assam), the trauma caused by urbanization is coupled with the pangs of separation due to partition of the country in 1947 and this is nowhere better illustrated than in the works of Amulya Sarkar, Kalyanbrata Chakraborti and Aparajita Roy among others.

The following extract from the poem *Gone are lamp-lit Nights* by Aparajita Roy conjures up the sordid imagery of an uncanny look of vagueness and uncertainty that a familiar evening dons as a result of geo-political changes in the name of partition. The resultant feeling is one of unremitted gloom fretting in the blind alley of despair.

Gone are the lamp-lit eves for long  
Only the stifling load-shedding reigns  
I grope for the door in vain,  
To lock-out an old prisoner of darkness.

.....  
.....

In words written in fire on the wall,  
Shall it set all lapses right?

(Roy 2005. P.31. L.1–4, 12–13. Translation mine)

A poem titled *My Boat yearns to be Ashore* written by Amulya Sarkar contains a heart-rending account of post-partition violence and civil war which has turned the homeland into a wasteland of aborted hope with the cries of widows, raped women and bereaved parents that rend the sky.

My woeful night throbs  
Cribbed with enemy tents around  
While I cover my body with cactus  
Pall my child's corpse with moonlight

.....  
.....

In my yard, now unknown serpents hiss,  
The woods murmur the moaning of the raped,

.....

The water of Gomati turns red  
With a new spurt of bloodshed

.....  
.....

Is this the land we dreamt all along,  
To be a place my dear, for a sweet home?

(Sarkar, 2005, p. 36, L.1–4, 7–8, 10–11, 14–15.  
Translation mine)

In the works of another formidable Bengali poet of Tripura Kalyanbrata Chakraborti, one comes across a chiseled expression of facing the loss of a nuclear innocence characterising the familiar space due to reasons more man-made than natural. For example, the poem *In A Strange Darkness* upholds the political diplomacy of cross-border tactics that repudiates the common man's desire for living together with those weaned from the homeland – a legacy of shared culture that marks the sanctity of generations. The lines quoted below relate to the transference of 'Three Bighas' land and its effect upon the people of the Indo-Bangla border and thus unravel the pangs

of feeling alienated at home, the 'anxiety of being a foreigner' at one's homeland.

My grandmother died several days after the land.....

.....was seized in the name of setting an orphanage.

After paying my loans and dues I have moved to this hut in the colony. ....

..... it is simply propaganda that the imperialists have Left our country for good. (Chakraborty 2009, p.85 . L.3-10)

Another poem titled *Refugee* spells the trauma of isolation and uncertainty faced by a middle-aged refugee and the urban setting paradoxically whets memory and desire only to inure oneself to further bouts of self-pity.

...trickeries of the heart, its weal and woe, civilization and its gifts -- All Have to be bundled up In this pre-recluse state of life.

.....

.....

Memory unremitted, floods every corner, Before the siren blows, the brothel and *Brindaban*, Are washed alike... the city tower goes up and down the flow... Night sets in...at the detention camp, Eating just a handful of beaten rice We pass wakeful nights .... Expecting that the sins accrued in our hearts, Be covered by the silt of waters.... (Selected Poetry, *Translation mine*, p.41-42)

Taking cue from the epigraph, one may safely conclude that Timon's reflections leading to his "deep recognition, and intimacy [...] toward the vast forces, the stillness, the immensity, of nature, [...] which the intellect of man has muddled..."(as detected by critic G.Wilson

Knight), seems to be symptomatic, though to a certain, limited extent, of the predicaments faced by the indigenous bards of North-east. While negotiating untoward changes in the familiar space, these raconteurs of a lost Elysium seek to articulate in their respective *métiers* the human role in the Reality they encounter – viz, a mounting fear of being weaned from the sanctimonious relationship with nature that has sustained humanity over the ages.

[**Word notes:** *Joom/Jhum*– Patches of leveled land on hill slopes used for cultivation. *Nabanna*– New rice after harvest. *Tong-ghar*– room on the mound to keep watch on the *joom*. *Sharinda*, *Champreng* –traditional musical instruments used by the tribal people in Tripura., *Nuayi*– Mythical birds in the belief-system of tribal people in Tripura.] *Longtarai*, *Shakantan*, *Jompui*, *Atharamura*,– hilly areas in Tripura]

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# Agriculture and Public Policy in India – Recent Trends and Future Directions

Dr. V. Basil Hans

## ABSTRACT

*Agriculture plays a pivotal role in India's economy, providing employment to a significant portion of the population and contributing to the country's GDP. Public policy in India has historically focused on addressing challenges faced by the agricultural sector, such as land fragmentation, inadequate infrastructure, and low productivity. Over the years, agricultural policies have aimed at improving food security, ensuring fair prices for farmers, and boosting rural development. However, India's agricultural sector continues to grapple with issues like climate change, water scarcity, and the economic distress of farmers. This paper explores the evolution of agricultural policy in India, analyzing key reforms, their impact on rural livelihoods, and the ongoing policy debates surrounding subsidies, irrigation, and market access. It further examines the role of government initiatives such as the Pradhan Mantri Fasal Bima Yojana (PMFBY), National Agriculture Market (e-NAM), and minimum support price (MSP) systems in enhancing productivity and reducing farmers' vulnerability to market fluctuations. The paper also highlights the need for sustainable agricultural practices, the role of technology in improving agricultural outputs, and the importance of aligning public policy with environmental concerns to ensure long-term food security and economic stability.*

**Keywords:** Food security, agricultural productivity, policy interventions

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**Read Online:** <https://bit.ly/3RU8hWt>

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## I. INTRODUCTION

Agriculture has long been the backbone of India's economy, engaging over 50% of the population and contributing significantly to the nation's GDP. As one of the largest producers of food grains and cash crops globally, India's agricultural sector is vital not only for food security but also for rural livelihoods and national economic growth. However, despite its importance, Indian agriculture faces numerous challenges, including fragmented landholdings, inadequate infrastructure, poor access to markets, and vulnerability to climate change. The policy landscape has thus played a critical role in shaping the development of this sector.

In India, public policies related to agriculture have evolved over time, transitioning from early post-independence focus on land reforms and food security to more modern concerns about sustainability, farmer welfare, and technological adoption. The Green Revolution, initiated in the 1960s, marked a significant policy shift towards increasing food production through high-yielding varieties and chemical inputs. Since then, numerous reforms have been implemented to support farmers, enhance agricultural productivity, and ensure food security.

However, despite various policy interventions, challenges remain. Small landholdings, lack of mechanization, dependency on monsoon rains, and fluctuating market prices continue to hinder agricultural growth. The distress of farmers, manifested through agrarian protests, indebtedness, and low income levels, has become a pressing issue in recent years. Furthermore, the debate over Minimum Support Price (MSP) policies, direct benefit transfers, and agricultural subsidies continues to shape policy discussions.

This paper aims to examine the evolution of agriculture and public policy in India, with a focus on major reforms, current challenges, and future policy directions. It will explore how

government initiatives, such as the Pradhan Mantri Fasal Bima Yojana (PMFBY), e-NAM, and MSP, have impacted the sector, as well as the need for more sustainable and farmer-centric approaches in policy formulation. Understanding the intricate relationship between agriculture and public policy is essential for crafting strategies that ensure the long-term viability and growth of India's agricultural sector.

## II. OBJECTIVES OF THE STUDY

The primary objectives of this study on Agriculture and Public Policy in India are:

1. To Analyze the Evolution of Agricultural Policies in India:
  - To examine the historical development of agricultural policies in India since independence, highlighting key reforms and their impact on agricultural growth and rural development.
2. To Evaluate the Effectiveness of Current Public Policies:
  - To assess the impact of current agricultural policies, such as the Minimum Support Price (MSP) system, Pradhan Mantri Fasal Bima Yojana (PMFBY), and e-NAM (National Agriculture Market), on farmers' income, productivity, and market access.
3. To Identify Challenges Facing Indian Agriculture:
  - To explore the main challenges faced by the agricultural sector, including issues like land fragmentation, water scarcity, inadequate infrastructure, climate change, and the economic distress of farmers.
4. To Investigate the Role of Technology and Innovation:
  - To evaluate how technological advancements, such as precision

farming, digital platforms, and biotechnology, are influencing agricultural productivity and policy effectiveness.

5. To Explore Sustainable Agricultural Practices:

- To examine the role of sustainable agricultural practices in public policy and their potential to address environmental concerns, ensure food security, and promote long-term agricultural growth.

6. To Propose Policy Recommendations for Future Development:

- To offer recommendations for improving agricultural policies, focusing on farmer welfare, market integration, infrastructure development, and environmental sustainability.

7. To Understand the Social and Economic Impact of Agricultural Reforms:

- To investigate the socio-economic impact of agricultural reforms on rural communities, particularly in terms of poverty reduction, employment generation, and income distribution among farmers.

Through these objectives, the study aims to provide a comprehensive understanding of the intersection between agriculture and public policy in India, as well as offer actionable insights for improving the sector's efficiency, sustainability, and inclusivity.

### III. THEORETICAL FRAMEWORK

The study of agriculture and public policy in India can be framed using various theoretical perspectives from agricultural economics, public policy theory, and rural development. The following key theories and concepts form the theoretical foundation of this research:

1. Modernization Theory:

- Modernization theory posits that the development of agriculture is a necessary step in the overall economic development of a country. It emphasizes the need for technological adoption, infrastructure improvements, and policy reforms to transform traditional agricultural practices into more efficient and productive systems. In the context of India, this theory explains the shift from subsistence farming to market-oriented agriculture through policies such as the Green Revolution and the promotion of high-yielding varieties and modern agricultural techniques.

2. Dependency Theory:

- Dependency theory, in the context of agriculture, focuses on how developing countries like India may be trapped in a cycle of dependency on external markets, technology, and resources. This is particularly relevant in understanding how India's agricultural policies, while aiming for self-sufficiency, may inadvertently perpetuate dependencies, such as reliance on subsidies, imported technologies, or global market conditions. This theory can be used to analyze the limitations of India's public policies in creating truly self-reliant and resilient agricultural systems.

3. Agrarian Crisis and Marxist Theory:

- Marxist theory, particularly the focus on class struggle and unequal distribution of land and resources, offers insights into the structural challenges facing agriculture in India. The agrarian crisis, characterized by rural indebtedness, low farmer income, and unequal access to resources, can be analyzed through this lens. Policies such as land reforms,

subsidies, and credit schemes aim to address these issues, but often face obstacles like ineffective implementation or failure to address deeper systemic inequalities.

#### 4. Rural Development Theory:

- Rural development theory highlights the interconnectedness between agriculture and broader rural development goals, such as poverty reduction, employment generation, and improving living standards. The theory advocates for an integrated approach to development, emphasizing the need for infrastructural investment, education, healthcare, and access to markets to complement agricultural policies. In India, policies like rural employment schemes (MGNREGA) and rural electrification are key examples of how agricultural policies must be integrated into wider rural development strategies.

#### 5. Public Choice Theory:

- Public Choice Theory helps to explain the behavior of policymakers and the challenges in crafting effective public policies, especially when various interest groups (such as large farmers, agribusinesses, and political entities) lobby for their needs. In the case of India, the influence of various stakeholders, including farmers' unions, state governments, and private sector actors, often complicates policy formulation and implementation. This theory can provide insights into why agricultural policies like MSP or subsidy programs may have unintended consequences or become distorted by political considerations.

#### 6. Sustainable Development Theory:

- Sustainable Development Theory focuses on achieving long-term agricultural growth without compromising the ability of future generations to meet their needs. It emphasizes the balance between economic growth, environmental protection, and social equity. In the context of India, this theory aligns with the need for policies that promote sustainable agricultural practices, such as organic farming, water conservation, and soil health management, while addressing issues like climate change and resource depletion.

#### 7. Institutional Economics:

- Institutional economics examines how the formal and informal institutions (laws, policies, market structures) shape the behavior of individuals and organizations within an economy. In India, agricultural policies are often influenced by institutional factors like land tenure systems, market access, credit availability, and government institutions (e.g., Food Corporation of India, Agricultural Produce Market Committees). Understanding how these institutions function and interact helps to analyze the effectiveness of agricultural policies in addressing issues like market inefficiencies, farmer empowerment, and policy implementation gaps.

#### 8. Behavioral Economics:

- Behavioral economics looks at the psychological and social factors influencing farmers' decision-making. This perspective is useful for understanding the inefficiencies in agricultural decision-making, such as the tendency for farmers to continue using traditional practices even when

better options are available. Public policies targeting behavior change—such as insurance schemes, credit facilities, or awareness campaigns about new technologies—can be analyzed through this lens.

The theoretical framework for this study integrates multiple perspectives to examine the complex relationship between agriculture and public policy in India. It recognizes the historical, economic, social, and political dimensions of agricultural development while focusing on sustainable, inclusive, and efficient policy interventions. By utilizing these theories, the study aims to critically analyze the effectiveness of current agricultural policies and propose recommendations for future improvements.

#### IV. NEW POLICY INITIATIVES IN AGRICULTURE SECTOR

Agriculture being a State subject, Government of India supports the efforts of States through appropriate policy measures and budgetary allocation under various schemes/ programmes. The various schemes/ programmes of the Government of India are meant for the welfare of farmers by increasing production, remunerative returns and income support to farmers. For faster and wider development of agriculture in the country, in the new Government the Union Cabinet has approved following programmes:

1. Clean plant Programme: The Union Cabinet, approved the Clean Plant Programme (CPP) on 09.08.2024 with outlay of Rs. 1765.67 crore. The CPP aims to enhance the quality and productivity of horticulture crops by providing disease free planting material and will benefit dissemination and adoption of climate resilient varieties, with yield enhancement.
2. Digital Agriculture Mission: The Union Cabinet approved the Digital Agriculture Mission on 2.9.2024 with an outlay of Rs. 2817 Crore, including the central share of Rs. 1940 Crore. The Mission is conceived as an umbrella scheme to support digital agriculture initiatives, such as creating Digital Public Infrastructure, implementing the Digital General Crop Estimation Survey (DGCES), and taking up other IT initiatives by the Central Government, State Governments, and Academic and Research Institutions.
3. Progressive expansion of Agriculture Infrastructure Fund Scheme: The Union Cabinet approved the progressive expansion of Agriculture Infrastructure fund (AIF) on 28.8.2024 to enhance and strengthen the agricultural infrastructure in the country and support the farming community by expanding the scope of eligible projects and integrate additional supportive measures to foster a robust agricultural infrastructure ecosystem. Expanded scope includes allowing individual eligible beneficiaries for creation of infrastructure covered under 'viable projects for building community farming assets', integrated processing projects, convergence of PM Kusum 'A'.
4. National Mission on Edible Oils – Oilseeds (NMEO–Oilseeds): The Union Cabinet approved the National Mission on Edible Oils – Oilseeds (NMEO–Oilseeds) on 3.10.2024 with total outlay of Rs.10,103 Crore. It aims to boost domestic oilseed production and achieving self-reliance in edible oils. The Mission will be implemented over a seven-year period, from 2024–25 to 2030–31.
5. National Mission on Natural Farming: The Union Cabinet approved the National Mission on Natural Farming (NMNF) on

25.11.2024 as a standalone Centrally Sponsored Scheme. The scheme has a total outlay of Rs.2481 crore (Government of India share – Rs.1584 crore; State share – Rs.897 crore).

Moreover, following significant programmes have also been initiated during 2024–25.

- i. National Pest Surveillance System (NPSS)
- ii. AgriSURE – Agri Fund for Start Ups & Rural Enterprises
- iii. Krishi Nivesh Portal (Phase –I)
- iv. Krishi–DSS Portal – A Geospatial platform for Indian Agriculture
- v. Introduction of Voluntary Carbon Market (VCM) for various sustainable agriculture practices (Gol, 2024)

## V. ROLE OF PUBLIC POLICY IN AGRICULTURAL DEVELOPMENT

To ensure sustainable development under the Robust China Project, appropriate public policy strategies need to be designed from an analysis of demographic and social changes that will occur over the span of the project. Although Law and Local Government have become increasingly concerned about ensuring the sustainability of their development activities, the constraints to sustainability have not been adequately examined from a social perspective. Making use of the Resource Interaction Model applied at the project level, a biophysical assessment of the impact of population growth and social change on water resource development under the project suggests that a dependency on a single crop area may lock a large proportion of the population into poverty, degrading the very resource on which the population depends (Paul Sharma, 1970).

The implications for poverty and welfare raise the issue of appropriate interventions through

public policy decisions. The development of a biodiversity matrix that examines the characteristics of 2803 biological species in terms of their unique potential to provide a range of resources or services of value to rural communities indicates constraints on the ability to respond effectively. Rural like villages pursuing livelihood in agriculture has a direct dependence on the land to meet their needs for food, fodder, fuel, and building materials and increase their income through sale of produce. Consequently, the ability of the system to harness the potential of the biota of biodiversity hinges on the landholding of resource that rural like community controls, which may well be inadequate (Motkuri, 2012). Broad policy implications of the demographic and social analysis highlight the role of micro-family planning and agricultural technology innovation at the household level as a mechanism for breaking the link between demographic and social change inducing the loss of natural resources and the associated decline in welfare.

## VI. POLICIES FOR SUSTAINABLE AGRICULTURE

The need to transition to sustainable agricultural practices is increasingly being recognized in India, as in the rest of the world, under the rubric of environmentally friendly and resource-conserving practices. Nonetheless, the initiatives in that direction remain largely at the level of policy pronouncements and their implementation is yet to begin. Nevertheless, recent years have seen the declaration of a number of policies designed to promote organic agriculture, agro-ecology, and the conservation of agri-biodiversity. The fact that these new provisions have been enacted both at central, i.e. federal, level, as well as by some states, intensifies the need for thorough analysis of this new policy environment. The main objective of these policies is to provide support to farming communities, particularly smallholders and tribal populations relying on



local seeds and traditional practices, in their endeavor to maintain their agriculture and seed conservation practices. The primary aim is to stimulate demand from below, i.e. facilitate the efforts of farmer organizations, municipalities and other local bodies to engage in sustainable agriculture and for this purpose to build up their knowledge and capacity. The activities will broadly focus on farmer-to-farmer training, seed conservation, and landrace exchanges, as the first step to take up diversified agriculture, ensuring an increasing share of local crops on the local markets. As the new provisions are already in place, the rest of the text will focus on the assessment of the possibilities to implement the above envisaged activities, emphasizing what needs to be done at the level of government, farmer organizations and other stakeholders, and how can they intensify their efforts. It will also critically evaluate the constraints to policy implementation, and review what kind of support from the national authorities is essential to facilitate this process and make it sustainable. There are already clear difficulties on the way, primarily of financial nature, but also related to the regional and local unevenness in the overall awareness and the readiness, i.e. capacity, of the different sets of actors. When and how regional and local disparities, as well as the farmers' level of awareness and access to relevant education, get integrated in the process, the overall analysis should contribute to the better understanding of the ways in which locally adjusted policy can be developed in order to adequately address the urgent needs of the poorest regions and states in terms of sustainable agriculture and wider biodiversity. Farmers in those regions do not practice the desired cultivation technique, the relationship proved to be highly significant and negative. More educated farmers were also less likely to sell part of the crop, which strengthened the above-mentioned interpretation related to the importance of knowledge/education in the successful pursuit of sustainable agriculture.

Thus, overall, there is urgent need for a policy approach that will address the need for combining, in a comprehensive manner, agricultural, environmental, and to a certain extent also broader economic and societal goals. Such an approach should closely link various activities at the levels of policy-making, knowledge and educational support, as well as advocacy. Further, since the above mentioned components belong to the arenas of both agriculture and science, they should rely on interdisciplinary collaboration. Governments should also ensure that measures which will make agricultural economics work in favor of sustainable agriculture are taken as a matter of priority.

## VII. INVESTMENT IN AGRICULTURAL RESEARCH AND DEVELOPMENT

India's future agriculture will depend on innovation. Challenges range from the impacts of climate change on historical cropping patterns and seasons to issues related to declining soil health, pest and disease incidence, and water availability. There is also the "food-water nexus" social issue of agriculture competing with urban and industrial use for the same water resources. Resolving these multifaceted challenges will require investing in agricultural research and extension at higher levels than at present.

This chapter examines recent investments, current R&D activities, and institutional arrangements for funding agricultural research in India, and the strategies adopted by researchers and policymakers to use this funding effectively. Recent initiatives point the way to needed changes to a still-evolving system also grounded in the global experience. Sustainable crop productivity growth has largely been the result of public investments in agricultural research and development (R&D), beginning in the 1960s. Initial yield growth was achieved in cereals and focused on Triticum



aestivum, *Oryza sativa*, and *Zea mays*. The principal means for this increasing productivity were the development and dissemination of package technologies encompassing high-yielding varieties, irrigation and other inputs, and, more recently, mechanization and integrated pest management. However, in the absence of policy attention, this yield growth has plateaued (K Joshi et al., 2005). Given the considerable promise of alternative health benefits in a period of rapidly increasing concern over obesity and changing dietary habits, pulses seem a natural focus of further R&D attention. Through public, public-private, and PPPs, recent research appears to show potentially productive avenues for such investment that others might build upon. The paper also examined the ways in which extension methods need to adapt in order to scale up technological solutions and involve farmers more closely in the research process.

### VIII. IMPACT OF PUBLIC POLICY ON FARMERS

India became independent more than 70 years ago. It inherited a large number of poor people, some of them involved in agriculture. Agricultural growth was expected to lift their income. The state had an important role in getting the growth right for them. Equally importantly, these farming people, who were then the majority, received serious public attention. In today's urbanized times, they are still a large number, perhaps around 50% or more of the households. Put differently, almost everyone in the country has either been a farmer, is the rural relative of one, or is supported by farming people. Good farmers have made a significant contribution to the development and urbanization of India. The latter are not always recognized, or rewarded, especially for the poor (Guthula et al., 2020). Urban, educated people outside this sector may therefore show attitudes towards agriculture that are dismissive, disconnected, or harsh. To counter this exclusion, the decisions

that city-based lawmakers, policy formulators, and urbanites make are illustrated. This involves a general and comprehensive examination of agricultural strategies and practices. The main concern is, of course, the impact of these policies on farm income, lifestyle security, and social welfare, the last two being broader matters of cohesive and equitable societies.

A badly structured public policy can, in particular, impair the financial and input resources available to farmers. This will contribute to rural poverty if farmland is not sufficient or if there are public and private limitations on other livelihood options. For rural populations, these include smallholder and farming landless households (who depend on leasing access to land). Investment in education and health for poorer rural residents is critical to moving them out of the poverty trap. However, there is also a broad national context. Domestic tariffs and government spending can have a profound effect on Indian agriculture. For example, India allows the highest agricultural tariffs in the world, and some crops receive heavy price support. Many citizens oppose free trade in some areas, but it can also benefit domestic agriculture by enhancing efficiency. The flow of money is obviously important, for both inter-governmental trade and assistance. This includes exporting crops that have high aid, credit, or preferential demand (Bandhu, 2009). Farmers and rural populations that live close to markets also benefit significantly. Protectionist strategies, on the other hand, reduce these financial flows. In a world of open trade, economic feasibility is therefore in the right place, but it also depends on successful lobbying. Finally, in the larger analysis of the country policy, gender-specific challenges for women farmers are often ignored. A magisterial study of global gender disparities shows that women are disadvantaged compared to men in every nation (as farmers, agri-producers, wage earners, and entrepreneurs), except in a few Oceania exchanges. In many countries, most

notably in South Asia and parts of Africa, the gender-based disparity in agriculture is making strides. As a result, investment plans focused on women are likely to significantly increase agricultural prosperity. Unfortunately, current policies and study do not take proper account of gender challenges. This means that women farmers in developing countries are less able to withstand increasing climate crises (their efforts to engage in sustainable, protective agriculture are therefore particularly important). In addition, findings show that the rates of return to women farmers are 33% higher than those for men farming. Rough estimates suggest that filling the gender gap by this sum could result in a 2.5–4% growth in GDP by developing countries. To hold it on the radar, by increasing agricultural resources, income, and savings, a new concern should be to abet women farmers to meet the necessary protective steps better. Finally, field data on the implementation of public policies and its effects on farmers are lacking. Discussing a few cases can help provide a broader knowledge. However, winning some luck, pat legitimacy is barely expected to be tested.

## IX. INCOME AND LIVELIHOOD SECURITY

Agriculture not only supplies the necessary food to the populace but also supports low technology-based labor extensive employment in rural areas. The slowdown in agriculture will result in the deceleration of the large workforce available in this sector. Traditional agriculture-based textiles and industries, rural development expenditures, well-being programs for socially disadvantaged groups in rural areas are adversely affected by a slowdown in agriculture. Rising demand for food grains and non-food grains due to demographic pressure is unlikely to be met from available resources. The limited availability of land and irrigation facilities is likely to reach a point where the dependency on agriculture only as a means of subsistence becomes enormity.

Though there is a composition change in labor from agriculture to other sectors, a large workforce will always remain in agriculture, if not raised. Larger export orientation to gather more resources from agriculture does not reduce the economic viability of agriculture, but on the other hand brings a 'Two Children Theory' of population management into agriculture (Guthula et al., 2020). Productive commercial orientation, rather than the sustenance one, must be the basis for the economic viability of agriculture. The necessary policy issues that have to be considered in raising this kind of productivity from agriculture to reduce poverty are also divided into developmental and protective policies. A two-stage modelling approach is adopted in considering these two sets of policies, to predict their effects on economic, financial aspects, dynamical balance between region, riceland, workforce, and to explore tradeoff between viability and sustainability, the conditions for better agricultural performance and a comparative perspective. Agro-based industries must be rationalized. With the liberalization of imports of essential commodities, the domestic industries and commercial agriculture must improve productivity and hence viability (Bandhu, 2009).

Agricultural policy is inherently complex, but useful insights can be gained through the identification of dominant effects. The inadequate understanding of varying attitudes about agricultural policy work among farmers; landowners, agribusiness people etc in a developing country such as India impedes the meaningful formulation and execution of appropriate policy changes that would stimulate investment, improve resource use etc. This study presents an agent-based simulation model for the agricultural sector and utilizes it to analyze 3 possible policies changes and related outcomes. Model development begins with an overview of the most salient features of the troubled sub-sector considered. This is

followed by a more detailed look at agent definitions and the algorithm that drives their normative behavior. Model calibration is tackled in data preparation and ends with a discussion of scenarios, experiments and results.

## **X. SOCIAL WELFARE AND INCLUSION**

Social welfare and inclusive growth need to be an integral part of any society. The evolution of society years after years demands that the marginal group of the society needs to be accommodated in the growth story of the society. India, the world largest democracy has a unique feature of having a very resurgence farming community with 75% dwelling in the countryside and also the growth of Indian economy and GDP is very much dependant on the agriculture which is providing the occupation to about 58% of total population of the country reeling 22% of the total GDP till today (Kumar, 2017). Here dwells the importance of Agricultural policy and various welfare schemes that effect the dividends of agriculture. Any policy or scheme if it touches the root of agriculture, the farmers economic paradigm, improvement in productivity and the standard of living of farming should be the core and to add that the agricultural policies are not only the farmer centric but should have a larger dimension extending variable benefits to the other economic agents also. Agriculture policy is a unique policy with confluence of various cross-cutting schemes which effect the producer of the class as well as affected by the one of the beneficiaries of these policies. The policies have an implication of distribution of resources or input subsidies or prices support or the technological support.

A number of the Indian Farmers decades after decades and still hibernating under the social vice, economically feeble and low development domains. The comparisons of their socio-economic stakeholders with national average counterpart suffice a sorry state of

affairs. There is a deep rooted existence of inequity and disparities in the social power structure of the Farmer's society based on gender, social origin and so called as Caste hierarchy, Hierarchical structure of this society are rigid and perpetuation on generation to other. During decades the people are considered as backward man make autonomous group. Only Bombay high court order on 1992 forced to non-state look seriously to include these communities. This is why the need of welfare-economic policies and scheme where these marginal groups can also empower them. Recently, many successes stories of the farmers have been observed throughout the nation where they empowered through inclusive policy or scheme. There is a stronger need for agriculture to show the success of these groups. On basis of a deeper and wider analysis, the broader dignity of equitable and inclusive development will be established for an equitable and development by the delivery of more power and self-respect to the presently marginalize peoples.

## **XI. FUTURE DIRECTIONS AND RECOMMENDATIONS**

Sri Ravi Agrawal showed his kind support to agriculture by mentioning Indian farmers' achievements in respect of food grains. It is argued that the Indian farming community deserves not only appreciation but also effective and speedy support. The learning and technology of India indicate the potential power of the Indian farmer. The government, public society and farmers' organizations should come forward to furnish effective support. The agriculture of India at this time is in a dynamic phase. The green revolution strategy adopted in the mid-sixties has greatly improved agriculture and food grain production quickly through the use of high yielding varieties (Singh et al., 2013). The government of India improved the agri-infrastructure immensely both for production and for research and development

in agriculture. But now the green revolution technology is faced with the problem of rise in input cost and stagnation in productivity, particularly in the case of land. The farmer's use of input cost, such as chemical fertilizers and pesticides further troubles him with the problem of soil and environment. Thus, a new amicable 'Eco-technology' for farming and farmers should be developed and adopted by the farming community. Government controlled or restricted use of chemical fertilizers and pesticides by the farmers' community lead to poor development and is misleading. Hence the government should come forward and encourage farmers' participations in policy-making. It is also mentioned that the 'PMO', state agriculture ministries and education ministries have not forged education knowledge and technology to augment the farmers' practices. Alternately there should be a platform whereby the concerned and associated people, as well as departments, may assemble. Co-incidentally radio, TV, press and the farmers' mass media are also effectively endorsing the platform. This triangular inspection may broaden the base of the farming community, and technologies, knowledge, religious practices may be handed over to the very final user more quickly and effectively.

## **XII. TECHNOLOGICAL INNOVATIONS IN AGRICULTURE**

Technological innovations are believed to play a pivotal role in transforming agriculture, both by augmenting productivity growth and by enabling the creation of a sustainable, resource-efficient agriculture for the future. Recent technological advancements in agriculture will provide the dynamic force behind dramatic changes over the next decade. Precision farming, biotechnology, and the use of renewable energy sources are examples of innovations which are expected to be disseminated more broadly in the near future.

Precision farming encompasses technologies and systems, which optimize the management of inputs in agricultural production with respect to the actual variability of the resources in space and time. Technologies to achieve these objectives include satellite-based information systems, unmanned aerial vehicles, geo-referencing systems, and variable rate technologies for fertilization, seeding, and spraying . Biotechnologies refer to a wide variety of methods that are used to improve the genetic make-up of plants. Abiotic stresses in crop production, for example, will be reduced by the development of plants which have low irrigation requirements. Similarly, pest-resistant plants will reduce the use of harmful chemical substances; and waste products can be utilized as a renewable energy source. However, a successful broad dissemination of recent technologies must take account of the complexity of agricultural systems, a high diversity of public and private interests, an asymmetry of knowledge, and a public good character of new technologies.

Technologies have to be adapted successfully to the needs of existing agricultural practices, taking into account the specific economic and environmental conditions under which farmers work. This is of particular importance when technological change in agriculture involves potentially more complicated or risky procedures. Such activities imply high start-up costs which discourage farmers from adopting technology. Moreover, sometimes investment in new equipment involves the acquisition of knowledge and skills which are not available at present; Experiences in the context of Precision Farming show that these barriers can be very serious, and overcoming them requires both technical and organizational solutions. Technical problems might be linked to the unsuitability of technology given the local agro-climatic conditions or might arise due to significant differences in production know-how; organizational difficulties often concern the

involvement of a large number of actors with responsibility for specific tasks, which must be acted out in a temporal sequence. These barriers can be addressed by a sound management of the technology dissemination; but it is crucial that adoption initiatives have a multi-level and multi-actor perspective. On the one hand, the scientific and industrial sector must provide easy-to-use information and equipment which takes into consideration the particular local context. On the other hand, successful implementation of technology needs the mobilization of farmers, which usually involves cooperation and institutional support. Finally, decision-makers must recognize the priority role of initiatives in the dissemination of technology and act with determination in creating a favorable institutional framework by investing in physical infrastructure or by supporting public-private partnerships.

### **XIII. POLICY REFORMS FOR SMALLHOLDER FARMERS**

At 95 million, smallholder farmers comprise the overwhelming majority of the Indian peasantry (Singh et al., 2013). It seems quite surprising, therefore, with the policy commitment of successive governments in India and elsewhere in favor of smallholder farms, how they still prevail given the range of fiscal resources, scientific knowledge, physical assets, and many other inputs they lack to be competitive in a rapidly changing technology and market context (Aliber & Hall, 2012). Smallholder farms, in most cases, are not financially viable as the costs of cultivation are higher than their net returns. They mostly rely on local labor and little or no mechanization, have large variations in crop types and production practices, and the level of cultivation has significant influence on their farming decisions. Also, these farms are traditionally conservative in adopting new technology, both in terms of investment capital and in adoption decisions. The financial viability of smallholder farms not only depends on the

costs of cultivation on them but also on the stability in their income generation or prices of their produces. On the other hand, large size farms are operationally managed more professionally due to the infusion of graduates and post-graduate persons in the agriculture sector, especially since liberalization and open global markets. Therefore, it's crucial to investigate and choose evolving outcomes in crop types and farmers' practices of smallholder (95 million of the total Indian farmers) and large and medium size (five million) farms for the sustainability of Indian peasantry in the next few decades keeping in view the changes taken place after the globalization in 1991.

Besides, there is a distinct lack of consensus, often reflecting conflicting interests, as to what should be the content and nature of 'support' of smallholder agriculture. The same term often means different things to different people. Equally, commentators tend to draw attention to successes or to failures, case studies, and case studies in support of often strongly held ideological or disciplinary positions. At the same time, current policies and programs, both government and non-governmental toward smallholder agriculture are coming under increasing and widely varying scrutiny. It is in this context that a new research project has been initiated to focus on support for smallholder farmers.

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# Exploring the Possibilities of Smart Urbanization in the Asia Pacific to Achieve Climate Change and Net Zero in Cities of the region: Challenges and Opportunities

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## ABSTRACT

*Asian cities currently contribute 80 percent of Asia's economic activity and account for 54 percent of the region's carbon emissions. By 2050, Asia's urban population could grow by 1.1 billion and reach 3.4 billion, which is the equivalent size of today's global urban population. In the absence of significant climate adaptation measures, the most significant increase in energy consumption and greenhouse gas emissions is expected to take place in Asian mega-cities. Existing infrastructure and urban development pathways could lock cities into unsustainable growth and consumption models, with worsening impacts on climate change. Hence, smart and effective urbanization is the order of the day and all measures need to be put in place to make the Asian cities smart, robust, livable keeping in mind the global issues of climate change. The future expansion of urban areas on agricultural lands and forests could also lead to the destruction of natural carbon sinks and important climate adaptation systems. Limiting climate change therefore means decarbonizing Asian cities. The good news is that there is a strong value proposition for Asian cities to accelerate their decarbonisation. Physical climate risks and their associated social and economic costs are already significant. Their impact, if unmitigated, could increase substantially, and have a material effect on Asia's 597 million urban poor. As the majority of Asia's economic activity takes place in cities and urbanization is still progressing fast, there is a significant opportunity to increase resource efficiency and transform Asian urban growth models to make them more circular, regenerative, and inclusive. It is seen that Asian cities contribute significantly to climate change, urban population growth, creates opportunities to decarbonize at scale, and that Asian cities are also exposed to climate risks.*

**Keywords:** Low-Carbon, Asia-Pacific, Climate Resilient, Smart Urbanization, Taxonomies, UN-Habitat

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**Read Online:** <https://bit.ly/4jeHoJ6>

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## I. INTRODUCTION

The Asia Pacific region and the countries of the region are now at a critical juncture as the region is faced with the complex interplay of urbanization, climate change and biodiversity loss. This is an alarming situation given the crisis which the Asia Pacific region has been undergoing. Currently 50 percent of the population resides in urban areas. The total urban population is expected to grow from 2.5 to 3.5 billion by 2050. The region is confronted with the burgeoning crisis of climate change and it is already creating profound effects on the planet and its inhabitants. The region is prone to disaster risks caused due to severe cyclones, floods, hurricanes, tsunami, earthquakes etc. Rapid urbanization in cities have resulted in severe climate shocks, as a result the region is highly vulnerable to climate impacts on critical infrastructure, transportation systems, water and sanitation facilities, health and livelihoods. Urban areas also contribute significantly to these climate-related challenges, as they produce 70 percent of global greenhouse gas (GHG) emissions, with their share continuing to grow at a rapid pace consistently. The region is a significant contributor to global GHG emissions, accounting for over half of the total worldwide emissions in 2020. The majority of these emissions are from urban areas, predominantly from the energy sector (73 percent) (UNDP, 2024), followed by sectors like transportation, manufacturing, construction and agriculture. If current trends continue, the region's emissions

could nearly double by 2060. Despite commitments to carbon neutrality, current national actions outlined in the Nationally Determined Contributions (NDC) are insufficient to align with the goal of the Paris Agreement to limit global warming to 1.5°C above pre-industrial levels. A critical gap exists in integrating climate mitigation with other national policies, especially at the local level where technical and institutional capacities are often inadequate.

## II. SCENARIO OF ASIA PACIFIC REGION

The significant demographic and economic shifts that come with urban growth can further contribute to climate change as well as create immense pressure on natural assets with further repercussions on the urban systems. The outcome of the 2023 global stock take on the implementation of the Paris Agreement noted with alarm and concern that the progress on mitigation is not on track towards achieving reductions in global greenhouse gas emissions of 43 percent by 2030 and 60 percent by 2035 relative to the 2019 level and reaching net zero carbon dioxide emissions by 2050. As such, the COP28 decision called on all Parties to make deep, rapid, and sustained reductions in greenhouse gas emissions to be in line with 1.5 °C pathways.

## III. ISSUES AND CHALLENGES FACED BY THE ASIA PACIFIC REGION

### 3.1 Climate Change challenges

Asia-Pacific countries are already experiencing

an increase in climate-related disasters, such as typhoons, floods, hurricanes, earthquakes, tsunami and heat waves. These escalating risks, outpacing current adaptation efforts, are projected to intensify with the *IPCC Sixth Assessment Report 2023* indicating that extreme events will become more severe across all emissions scenarios. The region is expected to face potential GDP losses of 24 percent by 2100, disproportionately affecting the most vulnerable population. Urban areas, in particular, are constrained in their adaptation capabilities due to governance, financial and infrastructural limitations. The region is highly vulnerable to a variety of natural hazards, leading to significant loss and damage. This includes economic losses in South and South-West Asia and rising death tolls and affected populations in the Pacific. Addressing urban crises is essential, focusing on vulnerable and displaced groups. The recent establishment of a global loss and damage fund has the potential to provide critical financial support to the most affected countries.

### 3.2 Biodiversity Challenges resulting in Unsustainable Agricultural Practices and GDP Losses

The Paris Agreement's global stock take underscores the need to synergistically address climate change and biodiversity loss. The Kunming-Montreal Global Biodiversity Framework Target 12 focuses on increasing green and blue spaces in urban areas to enhance biodiversity and human well-being. However, the region's biodiversity is under significant threat from deforestation, unsustainable agricultural practices and urbanization. This could result in potential GDP losses higher than the global average due to the substantial economic reliance of the region's food and agricultural sectors on natural resources. By 2100, an estimated 13 percent to 42 percent of all species in Southeast Asia are projected to be lost. Transitioning to

nature-positive urban plans and investments is imperative. Key economic sectors, including food, land, urbanization, ocean use, infrastructure and energy, contribute to biodiversity loss, yet present opportunities for significant economic gains if managed sustainably.

The Asia-Pacific region faces formidable challenges in reducing GHG emissions, adapting to climate impacts, addressing loss and damage, and conserving biodiversity. Coordinated and ambitious efforts are essential to ensure the region's resilience and sustainability. The UN-Habitat role has been spelt out in terms of its implementation of various projects in the Asia Pacific region. The goals and ambition of the UN-Habitat ROAP (Regional Office for Asia and the Pacific) Accelerating Multi-level Climate and Urban Environment Action Programme for 2024-2030 are to have:

- I. 200 plus cities across the region assisted on climate and urban environment actions
- II. 30 plus member states supported in line with the UN-Habitat CCUE (Climate Change and Urban Environment) targets
- III. USD 3 billion mobilized to support urban and urban-related climate and environment actions. This includes UN-Habitat implemented projects and projects for which UN-Habitat has provided project preparation support.
- IV. 30 knowledge products released and issued in collaboration with 30 partner institutions.

### 3.3 Asia Pacific Cities are Diverse Complex Dynamic and Vulnerable to Climate Change

Asia-Pacific cities are diverse, complex and dynamic cities and are continuously evolving and growing. The issues confronted by the region are multifarious which include maximizing sprawl and maximizing resilience,

making cities more resilient, embracing compactness for sustainability and resilience, compact development across neighbourhoods to mega cities and the applicability of the concept from neighborhoods to mega cities. The future of cities is not uniform across regions and can lead to a range of scenarios. While responding to climate change vulnerability and rising levels of inequality are global concerns, other issues are bifurcated by region. In developed countries, the key priorities for the future of cities also include managing cultural diversity, upgrading and modernizing ageing infrastructure, addressing shrinking and declining cities, and meeting the needs of an increasingly ageing population. In developing countries, urban priorities for the future are rising levels of poverty, providing adequate infrastructure, affordable housing and addressing challenges of slums, high levels of youth unemployment and investing in secondary cities.

#### IV. REVIEW OF LITERATURE

The review of literature on the topic of research have been obtained from secondary published sources by referring to publications of international organizations such as the GGGI (Global Green Growth Institute; Republic of Korea; Insight Brief No.9, June 2024, Urban Climate Action; Policy Brief Series; SDU, UNESCO, Accelerating Multi-Level Climate and Urban Environment Action; Priorities, Partnership, Resources, Proposals, UN-HABITAT, 2024, UNESCAP, 2024-2030; 2024, Crisis Resilient Urban Futures; The Future of Asian and Pacific Cities 2023; UN-HABITAT, UNESCAP, Asia Business Council ; (March 2023); Asia's Catalysts for Net Zero ; Berenice, Boets, Colleen, Howe and Janet Pau, Envisaging the Future of Cities ; World Cities Report, 2022; UN-HABITAT. These literatures are specific to the topic of research study as it covers aspects and challenges, strategies adopted and plan of

action for development of the Asia Pacific region in the long run.

#### V. RESEARCH METHODOLOGY IMPLEMENTATION AND RESULTS

To achieve the ambition that has been envisaged for the Asia Pacific region a multi-pronged development strategy needs to be put in place backed by the ambitious programmes and strategies adopted by the UN-Habitat, UNESCAP, ADB including undertaking projects in countries of the Asia Pacific region that are enlisted as follows:

- i) Indonesia's US\$ 33 billion move to relocate its capital from Jakarta to Nusantara
- ii) Singapore's Climate Resilient Approach
- iii) Liuzhou, China's capital for electric vehicles
- iv) Surabaya, Indonesia's Testing Ground for Waste Management Solutions
- v) Greater Bay Area became a leading innovation hub
- vi) Hydrogen Innovation Clusters in Japan and South Korea
- vii) In 1995, Malaysia inaugurated Putrajaya as its federal administrative capital, shifting some of its administrative functions to the new city, which is only 25 km south of Kuala Lumpur
- viii) The Government of Turkmenistan led an integrated multilevel governance approach to plan and implement the new city of Arkadag. Based on the concept of a compact integrated and mix-use development, the city is being built to have 64,000 inhabitants with the aim of promoting a high quality of life as the new capital city for the Ahal region.

To facilitate and achieve this ambition, UN-Habitat ROAP in partnership with ADB need to focus on five means of implementation namely, (i) City & Local Level Actions, (ii) National Level Support, (iii) Partnerships, (iv) Regional and Multi Country Actions and (v) Knowledge Management & Communication.

The implementation of the programme would

seek to foster urban and climate sustainability principles that can be adjusted according to the challenges and realities faced in the areas of action. Monitoring, Evaluation and Learning (MEL) are key activities for this regional programme. The MEL approach for this programme will create synergies with already existing activities and MEL systems at the national and regional levels. This would help maximizing the impact of on-going activities and complementing already established systems, especially those tracking the National Adaptation Plans (NAP) and Nationally Determined Contributions (NDC) with urban specific dimensions.

### 5.1 Lessons Learned from Regional Programmes

By highlighting lessons learned and emerging innovations from UN-Habitat's past and current initiatives at the country, regional, and global levels, the Regional Programme provides entry points to strengthen partnerships and multilevel actions in support of its implementation. The human-induced warming is causing climate change, which is already creating profound effects on the planet and its inhabitants. Climate change is now manifesting with increased mean temperatures, changes in rainfall and variability, sea-level rise, and disasters from heat and drought, wildfires, landslides, flooding, and other weather-related events. Urban areas and cities are highly vulnerable to climate impacts on critical infrastructure, transportation systems, water and sanitation facilities, health, and livelihoods. Urban areas also contribute significantly to climate related challenges, as they produce 70 percent of global GHG emissions, with their share continuing to grow. Without successfully addressing climate change issues emerging from and impacting urban areas, the targets of the Paris Agreement would be difficult to achieve. The projects implemented in Asia Pacific region enlisted above would go a long

way in achieving rapid urbanization taking into account adoption of the aspects of climate adaptation and mitigation in the region.

Due to the strong inter-linkage between urban development, climate and natural systems, urban systems thinking is more than ever required to ensure aversion of locking-in cities and emerging urban areas into high emissions pathways and, critically, to avoid mal-adaptation. Failure to act will not only lead to further aggravation of climate change, but also trigger a chain of dire consequences including food insecurity, increased incidence of diseases, social instability, and irreversible loss of ecosystems and species. Whilst concerted global efforts are needed to address these challenges, climate change impacts and urbanization challenges vary across the globe. Hence, nuanced approaches relative to national and local risk and emission contexts must be strategically considered when adapting to climate change and promoting low-carbon pathways.

## VI. LOSS AND DAMAGE CONCERNS IN RESPECT OF CLIMATE CHANGE IN THE ASIA-PACIFIC REGION

Now a days the greatest challenge in the Asia Pacific region due to climate disasters have resulted in calculation of the nature of loss and damage, which has been a topic of discussion/deliberations in the CoP meetings. The loss and damage varies across the sub-regions of Asia-Pacific. While South and South-West Asia are experiencing a substantial rise in economic losses and damages, the Pacific region is witnessing increasing trends of deaths and people affected. Moreover, while productive sector losses are highest in South-East Asia (80 percent of disaster losses), than in South and South-West Asia (60 percent) the loss in the Pacific region is (30 percent). Losses in the cross-cutting sectors (economic, social and infrastructure) are highest in the Pacific compared to the other



regions. This finding highlights the importance of a comprehensive accounting of risks at the sectoral level for guiding adaptive measure to enhance future resilience (ESCAP 2022).

The Pacific Small Islands Developing States (PSIDS) based their call for a loss and damage fund with assumptions and evidence that loss and damage is a consequence of the failure to ramp up mitigation financing and actions that existing financial mechanisms established under the UNFCCC such as the Green Climate Fund (GCF) may have potential and growing policy pressure to help address elements of loss and damage. This will be unlikely to be institutionally able (due to donor preferences and expectations) to direct the scale of expertise, attention, and policy reform required to fund high trade-off issues. The need for additional financing to address loss and damage like financing for adaptation or mitigation will be targeted at nationally determined priorities and needs and not proposed to be a 'blank cheque' approach from which to price compensation for all climate impacts. The call for loss and damage financing must be distinct and additional to mitigation and adaptation financing; no singular fund under the UNFCCC is expected to provide a complete financial solution to loss and damage and that a spectrum of arrangements will need be considered and linked to the central fund (*Policy Primer on Loss and Damage Considerations for Pacific Island Countries*, UNDP 2023).

### 6.1 loss and damage : country-specific issues on climate change

Advocacy on loss and damage is also being reflected in NDCs. About 60 percent of second-generation NDCs from 'climate promise' supported countries in the region refer to loss and damage. For instance, Sri Lanka included a chapter on loss and damage and identified NDC targets and actions for addressing loss and damage, while Pakistan

included a section on loss and damage as part of means of implementation for its NDC. Nauru included loss and damage as one of eight areas that contribute to sustainable development. Vanuatu's NDC notes that loss and damage actions are part of the country's National Climate Change and Disaster Risk Reduction Policy while Nepal indicates that it will develop a national strategy and action plan on loss and damage by 2025. Cambodia, Myanmar, Viet Nam, Maldives, Lao PDR, and Tonga all speak to loss and damages occurring from increasing disasters and some countries have detailed cost estimates and systems for tracking this information (UNDP 2022).

Indonesia, Thailand, Vietnam, Philippines, Timor Leste and Bhutan are all members of the Santiago Network which catalyzes technical assistance for averting, minimizing and addressing loss and damage and proactively documenting and integrating loss and damage in their adaptation plans (UNFCCC).

Despite such exercises being conducted by the respective countries of the Asia Pacific region, the calculation of loss and damage on account of climate related disaster is yet to be finalized in the CoP meetings.

The Asia-Pacific region is rich in biodiversity, forests, coral reefs and large river basins and other key natural capital abound. However, issues and challenges loom as rapid deforestation, expanding agriculture, and urbanization create adverse effects to terrestrial, coastal and marine ecosystems. Considering people's reliance in its natural capital, nature loss in the region will have result in economic activities losses, with as much as 63 percent (USD 19 trillion) of Asia-Pacific's GDP at risk a higher share than the global average (TEMASEK/WEF, 2021). Nature-positive urban plans and investments, with strong sustainability policies and regulations are needed in the region.

Along with climate change, economic activities in three socio-economic systems have been identified as key contributors to biodiversity and nature loss: food, land, and ocean use; infrastructure and the built environment; and energy and extractive sectors. Nature positive transitions in these areas can add up to opportunities of up to USD 4.3 trillion in annual business value in 2030 for Asia-Pacific. This estimate is based on the WEF Report (2021) which further breaks it down as potentials of over USD 1.6 trillion of opportunities in the food, land and ocean use system (38 percent of regional total), over USD 1.2 trillion in the infrastructure and built environment system (29 percent), and over USD 1.4 trillion in the energy and extractives system (33 percent).

## VII. KEY ASPECTS AND PARAMETERS OF ASIA PACIFIC REGION

### 7.1 Urban Heat Islands (UHI)

The Urban Heat Island (UHI) effect, where urban areas experience significantly higher temperatures than their surrounding rural areas, is a phenomenon that is primarily due to the high concentration of buildings, roads, and other infrastructures that trap and release heat, as well as the lack of vegetation and water. Climate change is exacerbating the UHI effect which is occurring in many parts of the globe due to urbanization. The Asia-Pacific region, which is undergoing rapid urbanization, is particularly vulnerable to amplified UHIs, which lead to not only heightened energy consumption and greenhouse gas emissions due to increased demand for air conditioning, but also threatens public health, particularly among vulnerable populations like the elderly, children and those with pre-existing health conditions.

UHI changes the local wind patterns, humidity, and precipitation rates, which can lead to the formation of heat domes over cities. These changes in the microclimate can disrupt local

ecosystems and affect the city's overall livability and sustainability. This UHI combined with climate change impacts affect local species' survival and reproduction rates, leading to a decrease in urban biodiversity ultimately limits ecosystem services that urban residents could benefit from. For example, Bangkok's Chao Phraya River in Thailand is experiencing increased temperatures due to the city's UHI effect. The thermal pollution has led to lower oxygen levels in the water, negatively impacting the river's aquatic life and contributing to harmful algal blooms.

### 7.2 Ecosystem Degradation

Terrestrial, coastal and marine ecosystems in the Asia-Pacific region are faced with growing threats from climate change and unsustainable urbanization. Urban growth often leads to land conversion and the loss of forests, wetlands, and other natural habitats, with consequent impacts on biodiversity and ecosystem services. Ultimately, urbanization pressures to biodiversity and ecosystems are also key to the constraint that limits the adaptive capacity of people and its spaces to adapt to and manage climate change impacts.

The rise in temperatures and increased instances of flooding can cause damage to road and rail infrastructure, disrupting supply chains and urban mobility. The long-term impacts of flooding and climate stressors can also alter land use due to abandonment of arable land and transformation of arable/ agricultural land to other land use types like residential blocks, industrial area, urban areas. For instance, the recent 2022 floods in Pakistan affected 33 million people and inundated 1.1 million hectares of cropland area in the Sindh province (ESCAP, 2023).

Climate actions and urban development needs to be biodiversity-inclusive and be designed with nature to improve urban health and quality of life. Green and blue spaces can provide

important habitat for species, improve habitat connectivity, provide ecosystem services, and help manage impacts of extreme events brought by climate change.

### 7.3 Air and Water Pollution

Addressing air and water pollution is essential for achieving sustainable urban development and mitigating climate change impacts in the Asia-Pacific. Megacities and urban regions in Asia and Pacific frequently experience episodes of extremely poor air quality, particularly during stagnant weather conditions. These episodes of air pollution are characterized by high outdoor or “ambient” concentrations of fine particulate matter (PM<sub>2.5</sub>; aerosol particles with an aerodynamic diameter of 2.5 µm or less), which have serious effects on human health. Long-term exposure to ambient PM<sub>2.5</sub> pollution was reported to be responsible for up to 3.6 million early deaths in Asia in 2019, which is around 80 deaths per 100,000 people. The overall ambient PM<sub>2.5</sub> exposure risk has been increasing, with rises mainly occurring in countries with a low to middle socio-economic status e.g., countries in South Asia, and Southeast Asia (ESCAP, 2023).

Rapid urbanization and industrialization have like-wise led to significant water pollution due to solid and liquid wastes. This negative condition is exacerbated by climate change, compounding the risks felt by people and communities. The World Bank estimates that water pollution in the Asia-Pacific region costs around 1 percent of regional GDP annually due to health costs, reduced fish catches, and polluted water resources.

### 7.4 Water Scarcity

It is estimated by ADB that 3.4 billion people could be living in water-stressed areas in Asia by 2030 if no urgent measures are taken. This challenge on water stress and scarcity is further exacerbated by climate change and rapid urban

development.

The reliability of water supply is affected by climate change due to the change in rainfall patterns, the occurrence of frequent droughts and floods. These climate change impacts coupled with demand from growing population and urban activities may result in water losses, contamination of sources and insufficient supply. In 2019, Chennai, India’s sixth-largest city, made global headlines when it virtually ran out of water. The crisis was attributed to a combination of poor management, lack of rainfall, and rapid urbanization. Water scarcity has broad socio-economic impacts. It can lead to food and energy shortages, hinder economic growth and lead to political instability. Furthermore, it disproportionately affects the most vulnerable populations who have the least capacity to adapt.

## VIII. STRATEGIC FRAMEWORK AND ACTION AREAS

Given the challenges faced by the Asia Pacific countries due to natural disasters and calamities, strategies of development and adoption of action plans have been proposed for development of the region viz;

### 8.1 Facilitating Greenhouse Gas Emissions and Avoidance

This action area is focused on facilitating the reduction and avoidance of greenhouse gas emissions in the region, particularly in urban areas, through transformative change in energy, transport, waste management, building and construction, urban planning and design, as well as land use practices. It involves advancing low-carbon development pathways, promoting energy efficiency and carbon neutral technologies and processes as well as renewable energy.

### 8.2 Improving Resource Efficiency and Protection of Ecological Assets

This action area aims to improve resource efficiency in cities and protect valuable ecological assets to ensure their continued provision of vital ecosystem services. This involves enhancing urban planning and design, promoting sustainable consumption and production patterns, and integrating biodiversity and ecosystem considerations into urban decision-making to contribute to achieving the targets of the Kunming–Montreal Global Biodiversity Framework (2022), the Paris Agreement on Climate Change (2015) and the SDGs.

### **8.3 Advancing Adaptation Actions in Cities and human Settlements and Building Community Resilience**

The action area of advancing adaptation actions in cities and human settlements involves prioritizing and integrating climate resilience into urban planning and infrastructure, safeguarding vulnerable urban populations and leveraging urban systems to enhance adaptive capacity. Result delivery will support accelerating urban actions towards achieving the targets of the Global Goal on Adaptation and its framework.

### **8.4 Enhancing Knowledge and Actions to address Loss and Damage**

This action area is focused on enhancing knowledge and actions to address loss and damage in the region through observing and anticipating urban loss and damage trends, advocacy, supporting partners to access loss and damage funding, and integrating loss and damage components in policies and NDCs.

## **IX. PROJECTS AND STUDIES UNDERTAKEN IN COUNTRIES ON UN-HABITAT ENGAGEMENT IN ASIA PACIFIC REGION**

### **9.1 Mongolia Ger Community Resilience Project**

The project aims to increase the resilience of communities to flooding by constructing

physical flood infrastructure, improving sanitation services and increasing community awareness. The project focuses on engaging representatives of vulnerable community groups to identify and address their climate resilience needs.

### **9.2 Cambodia Climate Change Adaptation through Protective Small-scale Infrastructure Interventions in Coastal Settlements of Cambodia**

The main objective of the project is to enhance climate change adaptation and resilience of the most vulnerable coastal human settlements of Cambodia through concrete climate change adaptation actions, particularly in areas where ecotourism has the potential to sustain such interventions. To achieve this objective, the project focuses its actions on highly vulnerable settlements in Kep Province and Prey Nob District of Preah Sihanouk Province.

### **9.3 Solomon Islands Enhancing Urban Resilience to Climate Change Impacts and Natural Disasters**

In Honiara Solomon Islands, community level achievements include raised awareness of climate change and enhanced capacity to implement adaptation and climate risk reduction measures and increased adaptive capacity through community-level actions, such as mangrove restoration, rainwater harvesting and early warning systems. At the city level, achievements include reduced risks associated with climate induced socio-economic and environmental losses through citywide governance and capacity strengthening and raised awareness of climate change adaptation and resilience safeguard project transparency.

### **9.4 Fiji**



## **Increasing the Resilience of Informal Urban Settlement**

The project focuses on building resilience in informal settlements across four urban areas and towns in Fiji Lautoka, Sigatoka, Nadi and Lami which are located in the Greater Suva Urban area.

### **9.5 Sri Lanka**

#### **Build resilience to climate change addressing drought, landslides and sea water intrusion for vulnerable upland and coastal settlements**

The overall objective of the proposed project is to support climate resilient development and increase capacity for climate change adaptation of target communities living in the Mullaitivu District. The project will provide both increased cash income of communities through improvement of livelihood and improved resilience through small-scale infrastructure and will contribute to the generation of evidence-based practices. The project aims to benefit more than 12,000 individuals directly and 16,000 indirectly.

## **X. ASIAN CITIES ARE IN THE FRONT LINE OF CLIMATE CHANGE**

Asian cities are a key contributor to carbon emissions. They are also on the front lines of the growing physical risks associated with climate change. Consequently, Asian cities must play a critical role in the fight against climate change.

### **10.1 Cities contribute significantly to Climate Change**

The World Bank's Climate Change Action Plan (2021–2025) identifies cities as one of five key systems that generate the most greenhouse gas (GHG) emissions. More than 80 percent of Asia's economic activity (GDP) is concentrated in cities. Between 2000 and 2015, the urban share of regional GHG emissions in Asia increased from 46 percent

to 54 percent, and average per capita urban GHG emissions increased 72 percent from 3.0 to 5.1 tCO<sub>2</sub>-equivalent per person. With moderate to low mitigation efforts, this share will increase steadily through 2050.

Asia's rapid urbanization has also resulted in significant land use changes and the destruction of natural carbon sinks and adaptation systems. The future expansion of urban areas could take place on agricultural lands and forests, leading to the loss of carbon stock and carbon sequestration capacity. In the years to come, the most significant increase in energy consumption and greenhouse gas emissions in Asia is expected to take place in mega-cities.

The growth of an increasingly affluent urban population will lead to the rapid expansion of housing and infrastructure. Existing infrastructure development and growth patterns could lock cities into unsustainable energy, and production and personal consumption models that could worsen climate change. Hence, limiting climate change means decarbonizing Asian cities and evolving their development pathways.

### **10.2 Urban Population Growth Creates Opportunities to Decarbonize at Scale**

Since the 1950s, people have been moving to urban areas in search of better economic opportunities, services, and education, prompting Asia's rapid and continuous urbanization. Cities in Asia have been driving global urban growth. By 2050, seven out of 10 people will live in cities globally.

Asian cities are home to 2.3 billion people, which is more than twice the size of the entire population of the United States and the European Union combined. By 2050, Asia's urban population alone is projected to reach 3.4 billion which is equivalent to size of today's global population.

Accordingly, Asian cities will account for a big part of the growth in CO<sub>2</sub> emissions in the coming decades unless they take strong climate action. With 66 percent of Asia's population projected to be living in cities by 2050, there is an opportunity to transform growth models and decarbonize at scale.

## **XI. TYPES OF RISKS IN ASIA PACIFIC REGION**

### **11.1 Floods**

According to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC6) and to the World Meteorological Organization (WMO), sea levels in Asia Pacific have risen faster than the global average and the rise is accelerating. In 2021 alone, an estimated 21.3 million people in Asia were affected by floods, most of them urban residents. In the absence of effective adaptation and mitigation measures, an estimated 300 million could be exposed to flood risks and the cost of floods will continue to increase. The rapid cave-in of land in several Asian cities is compounding risks. Recent satellite data shows that land subsidence rates in cities like Tianjin, Chittagong, Manila, Karachi, Taipei, and Mumbai are several times the mean sea level rise.

### **11.2 Droughts**

In 2021, an estimated 23.2 million people in Asia were directly affected by the reduced availability of water, including for irrigation. Economic damages increased 63 percent compared to the previous 20-year average, according to the UN-ESCAP. Droughts will continue to exacerbate food, water, sanitation, and energy security risks in Asia. By 2050, rice, soybeans, wheat, and maize prices are projected to rise due to lower yields. Much of ASEAN and South Asia have become water and food security "hotspots." This will create supply challenges for cities that will comprise 66 percent of Asia's total population by 2030.

### **11.3 Heat Waves and Heat Stress**

These are also intensifying, particularly in cities where they are compounded by the heat island effect. By 2050, Central Asian cities could see temperature increases of 6°C or more. The International Labor Organization (ILO) estimates that a global average temperature increase of 1.5°C by 2030 will affect productivity through a 2.2 percent loss of total working hours due to heat stress. Asia's poorest economies where more people work outdoors will be most affected. Effective climate action could reduce social inequalities.

## **XII. ASIAN CITIES CONTRIBUTION TO CLIMATE RESILIENCE**

### **12.1 Singapore's Climate Resilience Approach**

Singapore placed first in the latest Notre Dame University's Global Adaptation Initiative (ND-GAIN) index for taking an effective whole-of-government approach to building resilience. The Building and Construction Authority (BCA) has restored Singapore's shoreline with a geo-bag seawall system and over 70 percent of Singapore's coastline is now protected against floods and soil erosion with hard structures such as seawalls and rock slopes. The National Parks Board (N-Parks) has also restored mangrove areas to help reduce shoreline erosion.

New reclaimed land and roads near coastal areas have been raised to protect them from sea level rise. The Maritime Port Authority of Singapore has protected existing port facilities. Singapore's fifth airport terminal is being built 5.5m above the mean sea level. The resilience of power stations and electricity grids, and that of telecommunications infrastructure, including mobile and broadband networks, has also been enhanced. The Land Transport Authority



has installed flood barriers at various low-lying underground subway stations and sea level rise projections are being factored into the design of new stations. Minimum height requirements have been set for the entrance levels of buildings. BCA is reviewing strategies to address the increased risk of slope failure due to floods.

Singapore has also significantly upgraded its drainage system. The National Water Agency (PUB) has widened and deepened existing drains and canals and built diversion canals and centralized detention tanks. An underground tunnel and reservoir system is now under development to bring excess storm water into caverns for storage. Significant upgrades to the drainage system at Changi Airport are also in progress. Buildings are required to install detention tanks or green roofs, to slow runoff entering the public drainage system. Singapore is pursuing a "City in a Garden" approach, leveraging trees and biodiversity to provide shade and cover from the weather. About a third of the island is covered by trees. By 2030, 50 percent more land around 200 hectares will be set aside so that every household lives within a 10-minute walk from a park. One million trees will be planted across the island to sequester another 78,000 tons of CO<sub>2</sub>, provide cleaner air and cooler shade, and moderate the rise in urban heat. Besides expanding Singapore's tree cover, N-Parks also established a marine park to protect rare and endangered marine species. Singapore's Civil Defense Force is also stepping up patrols at fire hotspots. Together with N-Parks and the Meteorological Services Singapore, they are developing a Fire Probability Index to measure the risk of bush fires for different areas.

## 12.2 Liuzhou: China's capital for electric vehicles

The city of Liuzhou in Guangxi, China, is an example of how local authorities worked with multiple stakeholders to encourage the use of EVs for a cleaner environment. With EVs accounting for almost 30 percent of car sales, more than five times China's national average, Liuzhou now serves as a blueprint for other cities that are looking to achieve similar objectives. While Liuzhou residents were initially concerned about safety, the National Development and Reform Commission worked to ensure that they would see the convenience and benefits of using EVs. The first step was a complimentary 10-month test-drive public-private partnership campaign in 2017, after which as many as 70 percent of participants purchased an EV. The campaign was carried out by SAIC-GM-Wuling, a joint venture involving SAIC Motor Corp. and Guangxi Automobile Group and US based General Motors. Financial incentives and convenience also played an important role. EVs can be purchased from US\$4,500, and charging, which can be done from a household socket, costs just 0.1 yuan or 2 cents per kilometer. Unlimited free parking is available at certain lots.

## 12.3 Surabaya: Indonesia's testing ground for waste management

Indonesia's second largest city Surabaya offers lessons to other cities for its innovative and community-led approaches to waste management. Back in 2004, Puskadota, a local non-profit organization, joined hands with Japan's Kitakyushu International Techno-cooperate Association (KITA) to carry out a pilot program for quick and affordable household composting in one of the city's low-income neighborhoods located near an industrial area.

The plan was for pre-sorted organic waste to be transported to a nearby composting center which would produce large quantities

of high-quality compost to be sold to farmers and vendors. While the pilot project initially faced obstacles such as residents' unwillingness to separate waste at the source, community participation gradually increased, resulting in a cleaner and greener environment.

Surabaya then worked with other non-profit organizations to scale up the new waste management system. With one compost bin for every ten households, a soft infrastructure was established to help families share information and learn about the benefits of household composting. Surabaya also held competitions for the cleanest district in partnership with media partners to strengthen community participation. In 2013, a collaboration with Japanese company Nishihara also resulted in a "Super Depo" that not only separates waste into various categories but also created jobs.

Surabaya has also developed eco-parks as part of its greening efforts. Ten years after the closure of the Keputih landfill, the Institute of Technology Sepuluh Nopember (ITS) examined the soil and concluded that the area was cleared of harmful methane gas. The site has been transformed into Harmoni Park, a garden tourism attraction for local families and visiting tourists alike. Similarly, a former fishpond and an unmanaged area were converted into the Urban Forest of Gunung Ayar and the Wonorejo Mangrove Forest, respectively.

### **XIII. POLICY ACTION REQUIRED TO UNLOCK GREEN FINANCE**

Asian financial centers must provide sustainability leadership to support the growth of green finance. Several priorities stand out which are enumerated below:

#### **13.1 Policy clarity and coordination**

Policy clarity is needed to reduce transition risks. Asian municipal governments should clarify their roadmaps to net zero and explain where they intend to go with carbon pricing, different industries, technologies and regulations. They should also define clearer pathways to decarbonize brown industries and existing assets, to enable the development of responsible transition

#### **13.2 Facilitate and mandate disclosures**

Climate disclosures support well informed investment decisions and proper capital allocations. Increasing access to timely and comparable climate data and analytical tools would facilitate disclosures and increase their reliability. The International Sustainability Standards Board (ISSB) in February 2023 approved a global baseline for disclosures: the International Financial Reporting Standards (IFRS). Asian financial centers should agree to follow the IFRS to facilitate disclosures, reduce disclosure costs and increase transparency. Currently, regulators in major Asian financial centers mandate disclosures on a 'comply or explain' basis for listed companies, but not for banks and financial institutions. In cities that strive to be green finance centers, publicly listed and locally headquartered companies should be required to disclose verified climate information, including for Scope 3 emissions, to set science-based targets, and to provide information about their transition plans.

Financial institutions should be required to disclose their portfolio emissions. Regulators should also encourage disclosures by non-listed companies and SMEs. Exempting these firms risks encouraging "brown-spinning," whereby companies exempt from disclosure requirements buy up carbon-intensive assets.

#### **13.3 Strengthen oversight of green financial products**

Asian financial centers have not yet adequately tackled greenwashing in green financial products. Verification systems and information disclosure requirements largely remain weak. Banks from China and Japan are still topping the list of lenders to carbon-intensive industries. Issuers should be required to communicate transparently about their methodologies to create green indices and funds, as well as their portfolio composition. Regulators should also mandate that issuers set Science-Based Targets (SBTs) for their portfolio emissions and disclose verified climate information using IFRS-aligned metrics.

### 13.4 Promote transition finance

Western taxonomies support the allocation of capital towards climate mitigation projects. Asia is at a different stage than the West in its journey to decarbonization. In addition to promoting climate mitigation, Asian taxonomies should therefore also enable investments in effective, verifiable and time-bound transition projects. Singapore and ASEAN are developing "traffic light" systems, metrics, and thresholds to support the decarbonization of selected carbon intensive sectors. Hong Kong is planning to develop a transition taxonomy. The criteria, definitions and thresholds used to identify, describe, and classify transition activities will need to be clear, supported by evidence, and aligned across the region. Verification safeguards will help minimize greenwashing risks.

### 13.5 Address knowledge and capacity gaps

Building talent and strengthening the capabilities of bankers, insurers, and asset managers in green finance, and of companies to disclose and manage climate risks, is essential to accelerate the development of green finance in Asia. Initiatives are underway across the region. These should be scaled

and integrated, and access costs lowered, to accelerate talent development across Asia. Training should address broad environmental and social challenges, not just climate ones, to help meet the UN-SDGs.

### 13.6 Issues concerning definition of urbanization

One challenge in defining urban areas is the lack of consensus on the definition of "urban". The classifications vary from country to country. The Asia-Pacific region has an extraordinarily diverse number of urban forms, ranging from megacities to peripheral settlements. In this context, defining what constitutes "urban" is difficult as the breadth of scale blurs the boundaries between city and country-side making the traditional distinction less meaningful. A settlement of 10,000 people, for example, may be classified as being urban even though it may have more in common with its rural surroundings than a megacity of millions.

The twin challenges of diversity of urban definitions at the national level and the lack of a clear line between urban and rural communities prompted the international community to develop a globally harmonized method to define urban and rural areas. Through this commitment, which was led by UN-Habitat, the European Commission, the Food and Agriculture Organization of the United Nations (FAO), the Organisation for Economic Co-operation and Development (OECD) and the World Bank, after through extensive consultations with countries, a globally harmonized method to define urban and rural areas was officially adopted by the United Nations Statistical Commission in 2020. The method, titled the degree of urbanization (DEGURBA) (European Union and others, 2021), establishes similar thresholds and an easy to implement workflow for defining settlements, and identifies a system of settlements along

the urban-rural continuum, solving the long-standing challenge of binary urban-rural classifications that distort urbanization trends across countries. The degree of urbanization classifies the entire territory of a country along the urban-rural continuum. It combines population size and population density thresholds to capture the full settlement hierarchy (European Commission, 2020).

More than 50 countries have directly applied the method, including countries from the Asia-Pacific region. They value this approach to improve their understanding of urbanization processes and the production of comparable data within and across territories.

The response of the Asia-Pacific region to urbanization is still evolving within the context of a post-pandemic recovery. Some countries have historically discouraged the growth of their towns and cities through "ruralisation" programmes or restrictive registration systems. The COVID-19 pandemic has resulted in a decline in the use and economic value of urban central business districts due to hybrid and remote work transitions.

### 13.7 Cities and the Planetary Crisis

Though cities are often associated with negative environmental impacts, well-managed urban areas can benefit the planet. Among other potentially positive outcomes, cities and towns can promote more compact land use and deliver better access to essential services, such as sanitation, waste management and public transport. They can also provide the necessary scale for energy-efficient services and infrastructure, resulting in lower per capita emissions. Urban areas are ideally suited for financing and implementing green technologies that can lower per capita fossil fuel consumption (UN-Habitat, 2022). Rising sea levels, coastal erosion, heatwaves, bushfires and the increased intensity of

precipitation and storms are expected in the coming years (IPCC, 2021). The relative sea level in the region has increased more rapidly than the global average and countries are experiencing coastal area loss and shoreline retreat (IPCC, 2021). This increases cities' vulnerability to storm surges, coastal inundation and saltwater intrusion into aquifers, leading to loss of life and biodiversity, billions of dollars of losses and damage to infrastructure. As informal settlements are often in areas that are flood prone, poorer sections of the population are more vulnerable to the effects of rising sea levels. Exclusionary urban planning and limited investment in infrastructure development increase cities' risks of losses from extreme weather events.

## XIV. CONCLUDING OBSERVATIONS AND LIMITATIONS OF THE STUDY

Asia's rapidly growing cities are faced with critical developmental choices. They are racing against time to mitigate and adapt to climate change, in order to reduce its worst impacts and ensure sustainable growth by addressing the challenges of rapid urbanization and climate change concurrently. While local leadership will be essential to achieve strong results, so will collaboration. Asian cities rely heavily on natural capital and external supplies for food, construction and other activities. Therefore, partnerships with suppliers will be required to reduce emissions along their critical value chains. Partnerships between Asian municipalities and with international development organizations, multilateral development banks, national and regional governments, local businesses and civil society will enable Asia's systemic urban transformation and the mobilization of capital to support it. Western governments will also have an important role to play in enabling investments in transition projects, considering the impact of their taxonomies on capital reallocations in Asia. Regional collaboration will be required to

support climate innovation and enable green capital flows across the region. Doing so, will strengthen the capacity of Asian cities to work toward a sustainable transformation, securing a more prosperous and equitable future for their populations. It is observed from the study that climate adaptation being responsive measures are more important to be adopted than climate mitigation strategies in the Asia Pacific region, which are corrective measures only.

The limitations of the study is that there is no quantitative analysis of the parameters that account for the burgeoning climate crisis in the Asia Pacific region. This is due to non-availability of data on these parameters on a continuous time-series pattern. The specific projects that are undertaken in the respective countries in the region may not represent the entire region. The greatest limitation from which the study suffers is that the calculation of loss and damage with respect to climate fund is yet to be determined country-wise due to data limitations, though this aspect is deliberated in CoP meetings.

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# The Place And Proper Use Of Musical Instruments In The Liturgy

Dr. Jude Orakwe

## ABSTRACT

*This reflection explores the rightful place and proper use of musical instruments in Catholic liturgical worship. Anchored on Article 120 of Sacrosanctum Concilium and key ecclesiastical documents like Musicam Sacram and Tra le Sollecitudini, it defines sacred instrumental music as that which is created for worship and is characterized by holiness, artistic value, and universality. It critiques contemporary liturgical practices in Nigeria, especially the frequent misuse of secular and banal instrumental styles under the guise of inculturation. It emphasizes the organ as the preeminent instrument in the Latin Church, extolling its capacity to sacralize worship space and elevate the minds of the faithful. Forms of instrumental arrangements such as the organ, gospel bands, native instruments and orchestras are discussed, with a call for all to conform to the sacred nature of liturgy. The essay concludes with practical guidelines on the use of musical instruments during different liturgical seasons and underscores the instrument's supporting—not overwhelming—role in worship.*

**Keywords:** Sacred music, liturgical instrumentation, pipe organ, inculturation

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**Read Online:** <https://bit.ly/42qCukT>

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## I. INTRODUCTION

A reflection on the locus of musical instruments within Catholic liturgical worship in

Nigeria is timely. This is because the role of musical instruments in the Catholic liturgy is one that can very easily and often be overlooked, or not given sufficient attention by



curators of liturgical ceremonies with the consequence that sometimes, there are either flamboyant exaggerations or pernicious minimalism in matter of such crucial liturgical importance.

This reflection kicks off on the basis of an analysis of article 120 of the Constitution on the Sacred Liturgy quoted verbatim in the post-Vatican II Instruction on Music in the Liturgy: "In the Latin Church the pipe organ is to be held in high esteem, for it is the traditional musical instrument which adds a wonderful splendor to the Church's ceremonies and powerfully lifts up man's mind to God and to higher things. But other instruments also may be admitted for use in divine worship, with the knowledge and consent of the competent territorial authority.... This may be done, however, only on condition that the instruments are suitable, or can be made suitable, for sacred use, accord with the dignity of the temple, and truly contribute to the edification of the faithful."<sup>1</sup>

It is quite technically and critically curious that the theme of sacred instrumental music is abruptly introduced in the art. 120 of *Sacrosanctum concilium* without any prior warning, after the discourse about the functionality of sacred music in mission territories. Perhaps, the Council Fathers simply assumed a *prima facie* relevance of sacred instrumental music in the liturgy, such that it does not need any prefatory statement or argument. Hence in *Musicam sacram* (\* 4), there is a simple—almost tautological—definition of sacred music as embracing "sacred music for the organ and other approved instruments." Similarly, in the 62<sup>nd</sup> paragraph of the same document, cited above, there is the plain acknowledgement that "musical instruments can be very useful in sacred celebrations, whether they accompany the singing or whether they are played as solo

instruments."

The idea that the organ "adds a wonderful splendor to the Church's ceremonies and powerfully lifts up man's mind to God and to higher things" serves to give an immediate indication that, as far as sacred instrumental music and the liturgical use of musical instruments is concerned, the Church is not musing about an optional extra, but practically and concretely dealing with an item that is crucial and integral to the liturgy in its mission of leading the faithful to experience "a foretaste of that heavenly liturgy which is celebrated in the holy city of Jerusalem."<sup>2</sup> But the question is: what does the Church mean when it speaks of sacred instrumental music?

## II. DEFINITION OF SACRED INSTRUMENTAL MUSIC

The Instruction on Music in the Liturgy gives a classical definition of sacred music as follows: "By sacred music is understood that which, being created for the celebration of divine worship, is endowed with a certain holy sincerity of form."<sup>3</sup> The document—in the same paragraph—lists the following as various forms of sacred music: "Gregorian chant, sacred polyphony in its various forms both ancient and modern, sacred music for the organ and other approved instruments, and sacred popular music, be it liturgical or simply religious."

Our concern in the above definition is the phrase: sacred music for the organ and other approved instruments. But before proceeding, it is important that one notes immediately that the definition in *Musicam sacram* contains an idea paraphrased from an original statement of St. Pius X who in the document *Tra le sollecitudini*, insisted that sacred music must possess "the qualities proper to the liturgy, and in particular sanctity and goodness of form, which will spontaneously produce the

final quality of universality.”<sup>4</sup> Thus, we have the three normative features of sacred music, namely holiness, goodness of form and universality. We need to—and so, let us—examine the implications of these three characteristics in order to properly understand what qualifies as sacred music for the organ and other approved musical instruments and what does not.

### III. QUALITIES OF SACRED MUSIC

In discussing the qualities of sacred music, the author confesses, in all truth and honesty, that this matter had already been dealt with in a presentation made to the National Catholic Liturgical Music Council of Nigeria (NACALIMCON) at Gboko, Nigeria, in 2018. But there is a real need to present them here again in summary. And this is for a reason. Pope St. Pius X in the document, *Tra le sollecitudini*, argues that “the sound of the organ as an accompaniment to the chant in preludes, interludes, and the like must be not only governed by the special nature of the instrument, but must participate in all the qualities proper to sacred music....”<sup>5</sup>

This, of course, will apply to other musical instruments admitted for use in the liturgy, whether these instruments are native or foreign, traditional or modern.

And so, the first quality of liturgical music we shall deal with is holiness. It means that such music should be truly holy and have nothing to do with profanity or anything in common with the ethos of secular music. This quality must inhere in the music itself as well as in the manner of its execution.<sup>6</sup> Further, Pope St. John Paul II teaches that this holiness is achieved only to the extent the music in question is organically joined to the liturgical action.<sup>7</sup> Citing the magisterium of Blessed Pope Paul VI, he argues that “not all without distinction that is outside the temple (profanum) is fit to cross its threshold.”<sup>8</sup> Therefore, in line with the tradition

of the Church, “the entry into the sphere of the sacred and the religious” of any form of “music – instrumental and vocal – [that] does not possess at the same time the sense of prayer, dignity and beauty...”<sup>9</sup> is—in principle—both ruled out and summarily forbidden.

Let us apply this to the much that can be perceived and experienced about instrumental music in contemporary Nigerian liturgies. In Nigeria, there are all kinds of musical instruments in churches. Chief among them is the keyboard. As a matter of fact, many Catholic churches in Nigeria do not have what qualifies to be called a liturgical organ. I am personally interested to know the name of any Catholic church in Nigeria that uses pipe organ. At an even lower level, only very few Catholic churches in Nigeria would boast of or go for a giant-size electric organ like the Allen digital organ in the Holy Cross Cathedral, Lagos. There is also one in the Cathedral of the new Aguleri diocese in Anambra State; it has such an incredibly perfect imitation of the sound of the pipe organ. However, vast majority of Catholic churches will make do with a table keyboard, maybe, the Yamaha or Casio brand. On the other hand, many of the Catholic churches have what is presently known as the gospel band. Then, there is the arrangement for an orchestral ensemble of purely native African instruments (the so-called *nkwa* group).

But the problem begins when the choir director, the organist, or the leader of the band group or *nkwa* group forgets that the liturgy is not for entertainment and one starts to listen to tunes that remind people of what they hear or see in the theater, in the market, in Nigerian films, in profane African traditional dance music. Then, the band begins to play and the worshippers get to have a reminiscence of the afrobeat of Femi Kuti, the highlife of Osita Osadebe or even the Rastafarian reggae styles of Ras Kimono. Now, in order to secure the

quality of holiness of liturgical music, it is important to note that all such performances and indeed any musical usage that invokes the sentimental spirit of modern pop music must have no foothold in the liturgy. One fears that the ethos of secular pop, profane traditional dance and minstrel music often creeps into our liturgy, especially when our zeal for inculturation runs amok.

Next is the quality of goodness of form. This important characteristic demands that music in the liturgy must be truly artistic. In the words of Pius X: "it must be true art, for otherwise it will be impossible for it to exercise on the minds of those who listen to it that efficacy which the Church aims at obtaining in admitting into her liturgy the art of musical sounds."<sup>10</sup> The efficacy aimed at by the Church is rooted in that experience of a metaphysical beauty that becomes a participation in the divine beauty itself. For this reason, Pope St. John Paul II recognizes the urgent "need to 'purify worship [music] from ugliness of style, from distasteful forms of expression... which are not worthy of the great act that is being celebrated.'"<sup>11</sup> The demand for a high artistic quality of sacred music serves as a perfect guarantee of the beauty of the liturgy, whereby "prayer is expressed in a more attractive way... minds are more easily raised to heavenly things by the beauty of the sacred rites."<sup>12</sup>

In my opinion, much of the instrumental music in the liturgy as witnessed in many of our churches are superficial, trite and banal. Very often what one hears in Catholic churches in Nigeria are "simple, at times simplistic melodies and harmonies [that] express a narrow emotional range."<sup>13</sup> Come to think of it, my dear friends, does it not beat your imagination that our so-called Catholic gospel bands often runs only on the three primary chords—tonic, subdominant and dominant (do—fa—sol—do),

that is, if they manage to be playing in the same key as the lead singers themselves. Let's get it right! The author is not totally against the use of gospel band, that is, if it is well tuned and adapted to the sacrality of the liturgy. After all, much of African American church music involves the use of guitar, band set, piano or Hammond organ and it really sounds fine especially in the manner of the harmonic variation. But what one gets often in Nigerian churches are predictable sentimental melodies from the guitarists and organists that often come with a nauseating dance rhythm. Fact is: it can and should get better. The last feature of sacred music is universality. On this St. Pius X teaches that sacred music, "must, at the same time, be universal in the sense that while every nation is permitted to admit into its ecclesiastical compositions those special forms which may be said to constitute its native music, still these forms must be subordinated in such a manner to the general characteristics of sacred music that nobody of any nation may receive an impression other than good on hearing them."<sup>14</sup>

St. Pius X is precisely saying that sacred music in a given culture must be quickly recognizable by people from different cultural backgrounds as something that is set apart for Catholic liturgical worship. So, whether it is in the northern part of Nigeria or in the south, the musical instrumentation used in the liturgy should lend credence to the sacredness and authenticity of the sacred event—that is—as it is celebrated every and elsewhere. Therefore, no one is permitted to introduce any musical form or musical instrument in the liturgy that would or could create a bewilderment and confusion in the wider body of the Church—not even in the name or in the guise of inculturation!

It is quite interesting to note that the question of universality came up during the Special

Assembly for Africa of the Synod of Bishops held in Vatican in 1994. In his Post-Synodal Apostolic Exhortation, *Ecclesia in Africa*, Pope John Paul II,<sup>15</sup> gives the principles for a genuine inculturation of worship [and this includes sacred music], among which are compatibility with Christian message and fellowship with the universal Church. The criterion of communion with the universal church, which implies universality, is based on the acceptance of the multiplicity of cultures inasmuch as Christianity is not meant for one culture alone.<sup>16</sup> By serving as an instrument of fostering communion in the global Church, the task of inculturating African worship music does not end up becoming an instrument of isolating of African Catholics from the entire Catholic Christendom. Rather, the project of liturgico-musical interculturality demands that inculturation places “emphasis on the accurate communication of meaning in a given culture [while considering] the wider Christian community and its teaching.”<sup>17</sup>

#### IV. CATEGORIES OF MUSICAL INSTRUMENTATION IN THE LITURGY

In this section, we will itemize different types of musical accompaniments that are obtainable in various churches in Nigeria. In Nigeria, there is the organ or keyboard used alone or in combination with other instruments. In some locales, only native instruments are used. One can define them collectively as nkwa beat. Then, there is the gospel band set-up. Recently, there is also the growing possibility of the usage of a chamber orchestra. Let us look at the four types of instrumental set up.

#### V. THE ORGAN

As already indicated, the organ is the only instrument emphasized by the church in speaking about options for instrumental music accompaniment of the liturgy. In a sequel to the teaching of Pope St. Pius X, who acknowledged “the prevalence of the pipe

organ and establishe[d] appropriate norms for its use”<sup>18</sup> *Sacrosanctum concilium* gives the following indication on the pipe organ, as a prime musical instrument of the Latin Church: “In the Latin Church the pipe organ is to be held in high esteem, for it is the traditional musical instrument which adds a wonderful splendor to the Church's ceremonies and powerfully lifts up man's mind to God and to higher things.”<sup>19</sup> In saying that the pipe organ is to be held in high esteem, the Church is acknowledging the capacity of this “queen of the instruments”<sup>20</sup> for a creating a wide range of emotions that are beneficial to a more interior or spiritual participation of the faithful in the liturgy. Such emotions correspond to the inner impulse which can lead the worshipping faithful

in that direction which the liturgy itself indicates... at the beginning of the Preface: *sursum corda*—the heart, that is, the inner person, the entirety of the self, lifted up into the height of God, to that height which is God and which in Christ touches the earth, draws it to itself and pulls it up to itself.<sup>21</sup>

The use of organ, whether as an instrumental accompaniment or as solo instrument is therefore not an added extra to the liturgy. It is integral to the liturgy itself.

Aside from lifting men's hearts to transcendental realities, another important capacity of the liturgical organ is that of sacralizing the sacred space. I am aware that many of us will find the claim here bewildering and perhaps, unbelievable. But the sacralizing capacity of the pipe organ was strongly emphasized by Maurice Merleau-Ponty when he refers to even the rehearsal activities of organists as containing “gestures of consecration” in which “they put forth affective vectors, ...discover emotional sources, and ...create an expressive space, just as the gestures of the augur define the *templum*.”<sup>22</sup> In essence, Merleau-Ponty argues vigorously that



"that musical performance consecrates a particular place and time."<sup>23</sup> Of course, I am certain that we are very far from realizing this ideal because in Nigeria, there are very few really trained Catholic organists and even if they were many, there are so few liturgical organs to play. But there is no harm in upholding and going for the ideal.

Going back to the memory lane, I have never forgotten my experience of the sacralizing power of the pipe organ at one of the colloquia of the Church Music Association of America I attended in the United States between 2017 and 2019. The strange sound coming from the organ in the gallery sent a clear signal to the worshippers, namely, the church building here has become and is presently a sacred space and every thinking about the world should cease. It produced a feeling of "terribilis est iste locus," or in the words of Rudolf Otto, an experience of "mysterium tremendum."<sup>24</sup> Thus, "through the organist, the... space and time of... a [liturgical] service becomes sacred space and time."<sup>25</sup> The urge to withdraw and cease from worldly thinking felt like a deep spiritual experience of the *Asperges*, that is, sprinkling the church worshippers with holy water before Mass begins.

With regard to its practical functions, the post-conciliar Instruction on Sacred Music indicates that "the organ, or other instrument legitimately admitted, can be used to accompany the singing of the choir and the people; it can also be played solo at the beginning before the priest reaches the altar, at the Offertory, at the Communion, and at the end of Mass."<sup>26</sup> In other words, the principal function of the organ is to accompany the liturgical singing of both the choir and the congregation. As such, "the church organ serves as a support and encouragement to strong congregational singing—the ensemble of natural organs of praise, human voices, which it

can only imperfectly imitate"<sup>27</sup> But, the organ can also be played as a solo instrument. In this case, the organ "withdraws [the minds of the worshippers] from conscious perception into the dialogic fabric of worship,"<sup>28</sup> a sort of experience of altered state of consciousness.

Now, it is important to lay emphasis on the supporting role of the organ and indeed of any other instruments admitted into the liturgy. On this, the Instruction on Sacred Music, while acknowledging that "the use of musical instruments to accompany the singing can act as a support to the voices, render participation easier, and achieve a deeper union in the assembly," insists that "their sound should not so overwhelm the voices that it is difficult to make out the text." It further states that "when some part is proclaimed aloud by the priest or a minister by virtue of his role, they should be silent."<sup>29</sup> We are aware that sometimes in our churches, the sound of the Casio or Yamaha keyboard plugged to the amplifier overwhelms the voices. But the Church wants the organ or the keyboard to really "support" the singing, and not overwhelm it.

The last point of discourse about the organ concerns its use during the Advent and Lenten seasons. Some individuals quickly assume that the organ is not to be used during Lent and the Triduum. From all the searches I made, I do not find any basis for this mistaken assumption. The Church only instructs that "the playing of these same instruments as solos is not permitted in Advent, Lent, during the Sacred Triduum and in the Offices and Masses of the Dead."<sup>30</sup> This implies that the instruments cannot just be played solely on their own and alone to generate musical preludes, interludes and postludes. Therefore, only the use of the approved musical instruments—including the organ—for solo performance during Advent or Lent (and of course, during funerals) is

forbidden. The General Instruction on the Roman Missal has precise directives on the use of the organ during the so-called *tempo forte*.

In Advent the use of the organ and other musical instruments should be marked by a moderation suited to the character of this time of year, without expressing in anticipation the full joy of the Nativity of the Lord. In Lent the playing of the organ and musical instruments is allowed only in order to support the singing. Exceptions, however, are *Laetare* Sunday... Solemnities, and Feasts.<sup>31</sup>

Again, the above quotation implies that on Gaudete and Laetare Sundays (Third Sunday of Advent and Fourth Sunday of Lent respectively) as well as on solemnities and feasts falling within the *tempo forte*, the organ can also be played as a solo instrument. Even during the Triduum, "the organ and other musical instruments may be used only for the purpose of supporting the singing,"<sup>32</sup> but only to support or sustain the singing. Let us not forget the operative word "support," and, that is, in lieu of overwhelming the singing. Let us now examine other typologies of liturgical instrumentation.

## VI. NKWA BEAT (ACCOMPANIMENT BASED ON NATIVE INSTRUMENTS)

Under this rubric falls all approach to instrumental accompaniment of singing that incorporates musical instruments of our various local cultures in Nigeria. The use of native Nigerian musical instruments in our liturgical celebration is thoroughly justified by both *Sacrosanctum Concilium* and *Musicam Sacram*. Emphasizing the importance of local musical cultures and forms in mission lands, the Constitution on the Sacred Liturgy instructs:

In certain parts of the world, especially mission lands... peoples... have their own musical traditions, and these play a great part in their religious and social life. For this reason due importance is to be attached to their music, and a suitable place is to be given to it, not

only in forming their attitude toward religion, but also in adapting worship to their native genius.<sup>33</sup>

Going along the same line and citing the second paragraph of article 120 of *Sacrosanctum Concilium*, the Instruction on Music in the Liturgy declares: 'The use of other instruments may also be admitted in divine worship, given the decision and consent of the competent territorial authority, provided that the instruments are suitable for sacred use, or can be adapted to it, that they are in keeping with the dignity of the temple, and truly contribute to the edification of the faithful.' In permitting and using musical instruments, the culture and traditions of individual peoples must be taken into account.<sup>34</sup>

So, the issue facing us here is not whether local instruments may be used in the liturgy or not. The Church declares expressly that it can and should be used. Indeed, I will personally prefer the use of these local instruments to the use of modern pop band instruments because they are eloquent cultural symbols with deep cultural significance. When a Yoruba person plays any of the different species of *dundun* or talking drums in the liturgy, he is not just merely playing a membranophone musical instrument. He is actually talking, speaking or even praying with the drum. That is cultural. That is native to Yoruba. In Igbo culture, the notched flute (*oja*) is not just played, it can be used for 'making [religious] statements.'

Naturally, every rule that governs the use of the organ will apply to the native instruments. But some adaptation is obviously needed because local or native Nigerian cultural music instrumentation can be quite heavy and highly percussive. It must be emphasized that the admittance of local or native instruments into the liturgy must take cognizance of the important clause used in the text of



*Sacrosanctum Concilium* cited above, namely: "The use of other instruments may also be admitted in divine worship... provided that the instruments are suitable for sacred use, or can be adapted to it (emphasis mine), that they are in keeping with the dignity of the temple, and truly contribute to the edification of the faithful." So, the instruments must be adapted to the spirit and ethos of the liturgy. Their use in the liturgy must never resemble or imitate the sound of our local cultural dances that are characterized by fast-paced, densely percussive and loud polyrhythmic instrumentation, in which the movement of the body would be rather quite energetic, if not outright sensuous.

Obviously, because of the tendency of nkwa beat (native instruments) to produce some slight body (or micro-dance) movement like swaying (and, not to talk of full-scale dancing, especially, in occasions where exaggerations take upper hand), the author would strongly recommend that it be kept absolutely and totally silent during the Triduum. Even during Advent and Lent—and this would depend on the local culture and musical resources available—churches, although not strictly obliged by the provisions of the Church's liturgical law, may decide to reduce the number of local instruments or even avoid using it altogether in order to create a contrast between the strictly penitential seasons and more joyful periods of the liturgical year. Again, exceptions must be made for the Gaudete and Laetare Sundays. Those are days of sober joy, as the Church clearly indicates.

## VII. GOSPEL BAND

The use of the gospel band—guitars, band set, cymbals and other instruments of modern pop music—has come to stay in our country. This is a fact staring us in the face. It cannot be wished away. One can only sympathize with liturgists who feel uncomfortable about it. The

author also sometimes feel same discomfiture especially when gospel band instrumentalists become over enthusiastic and fill the church with a huge volume or high decibel of sound that makes it really difficult for someone to pray or/and meditate. Maybe one can take some little consolation from the statement of Cardinal Arinze who—concerning the use of guitar music in the liturgy—reasoned thus: "I will not now pronounce and say never guitar. That would be rather severe." But he gives a caveat: "...much of guitar music may not be suitable at all for the Mass. Yet, it is possible to think of some guitar music that would be suitable, not as the ordinary one we get every time...."<sup>35</sup>

Truly, the use of the gospel band in the liturgy is not an ideal but—given that it has inescapably become part of our religious musical culture—we have gotten the challenging task of creatively finding ways of making it adapted or adaptable to Catholic liturgy. And the adaptation must be to Catholic, but not to any other denominational or type of liturgy! I emphasize adaptation to specifically Catholic liturgy because Catholic liturgy is normatively a public worship—as well known, whereas some species of non-Catholic liturgy, for instance, the Pentecostal "liturgy"<sup>36</sup>, is not a public worship but a private worship exercised in a public place. Consequently, as a matter of principle, music in the Catholic liturgy must play the role of a handmaid—*ancilla liturgiae*, as we normally say. In a typical Pentecostal "liturgy," music does not function as a handmaid of the liturgy, but the liturgy is subject to the domination of the music. As a proof of this, acute observers will notice that in the Pentecostal setting, the real leader of the worship is not the pastor but the worship leader in the person of the principal singer.

In adapting the gospel band to the liturgy, we

may begin by accepting the gospel band music as—probably—being included in that branch of sacred music designated by the Church as “sacred popular music... [that is] simply religious.”<sup>37</sup> Perhaps, it can even be argued that the Instruction on the Music in the Liturgy has a provision with regard to—at least, the remote— possibility of use of instrumentation like the gospel band in our local Nigerian culture when it talks of the instruments being “suitable for sacred use, or can be adapted to it... and truly contribute to the edification of the faithful.”

In a deepened and critical assessment of the above cited text, it is obligatory that we take note of the indication that followed immediately: “those instruments which are, by common opinion and use, suitable for secular music only, are to be altogether prohibited from every liturgical celebration and from popular devotion.”<sup>38</sup> And this is where the problem lies: that some of the instruments used in gospel band are also used in regular Afro-pop music. But even with regard to this problem, it could be helpful to remember—from the perspective of ethnomusicology—that there is a regularly normal “blurring of the boundaries between the sacred and the secular in African and African derived musical cultures.”<sup>39</sup> In the final analysis, I would argue that if in any way the gospel band—within our local cultural context—can be genuinely made to become an instrument of fostering “the glory of God and the sanctification of the faithful”<sup>40</sup> even as it “truly contribute to the edification of the faithful,”<sup>41</sup> then one would probably not have objection to its moderate and adapted use in the church, especially during offertory procession, (but not during the minor elevations/incensation) and perhaps as prelude to and postlude after the liturgy. But, the gospel band music should in no way replace the introit which ideally should come from the Missal or the Gradual. Obviously, one would not recommend its use during the distribution of Holy Eucharist since it would

most likely disrupt the solemnity of the communion procession.

Now, having enunciated the foregoing, we need to examine practical ways of making the gospel band adapted to the liturgy. First of all, there must be the insistence—by liturgists—that they accompany the singing instead of overwhelming it. When the sound becomes extreme in volume, the psychological tendency is for worshippers to keep quiet because either they sense that the band is already doing the job of singing for them or they have the instinctive feeling that they cannot measure up to the high decibel of the loudspeakers of the noisy gospel band. Sometimes, the high volume is caused by the use of an excessive number of instruments and amplifiers. Imagine what would happen in a cathedral or a church in which five lead singers are performing with high-powered microphones, accompanied by three electric guitars playing with two keyboards and a large band set with four different sizes of loud cymbals. Then, there are congas or bongos with three talking drums. Next, let us imagine that all these instruments are connected to a high-tech amplification system that resembles the sound system that was once used for Umbria Jazz in 2003 at the Piazza Novembre XX of the Perugia Cathedral in Italy, or to the kind of amplification usually used for the now famous annual Lekki-Lagos sponsored “Unusual Praise” Gospel music concert. In such circumstances, the liturgical worship simply gets blocked up and cannot proceed. It is therefore important to reiterate what I already said above, namely, that the sound of any musical instrumentation in the liturgy “should not so overwhelm the voices that it is difficult to make out the text,”<sup>42</sup> or create a worship scenario in which it becomes impossible for the worshippers to think, reflect or meditate.

Another important area of adaptation of the gospel band is the avoidance of replication of

instrumentation patterns of secular music. I am aware that this will require lots of creativity and great effort at being original. But it is not impossible. Although—as I have said above—there is a very thin boundary between sacred and secular music in African music, yet it amounts to sheer banality and unjustified cheapness coming into the church just to reproduce the musical patterns of known Nigerian pop musicians. We can all remember the musical group known as “The Voice of the Cross.” Quite aside from the fact that they are not concerned with liturgical music, each of their musical numbers is always original and soul-lifting. The height of their achievement was in 1991 when they released the album that begins with the track: “In the morning, I will rise and praise the Lord.” It is an indication that we can help our gospel bands to create an original sound that is in consonance with the spirit and ethos of the liturgy instead of simply imitating Nigerian “highlife,” “reggae,” “juju” and even perhaps, “disco” sounds in our liturgy.

Next, it is important for us to resolve to discourage our gospel band musicians from creating some parody or adaptation of secular music within the sacred space. Permit me to cite an example from one Igbo secular song some of us are familiar with. I am referring to Onyeka Onwenu’s “Onye ga-agba egwu?” (Who will dance?) track. Now, it is grossly offensive to turn this piece into a song for liturgical celebration just by adding the religious lyrics: “Umu Chukwu ga-agba egwu” (The Children of God will dance). Similarly, it is awful to introduce into the liturgy such cheap pieces like “Anyi abịago imata Chi ahu sikariri ike” (We’ve come to know the God that is most powerful) which is an adaptation of an original folk song that says: “Anyị abịago imata ndị akwa siri ike n’ukwu” (We’ve come to see those whose loincloth are well secured on their waists).

### VIII. CHAMBER ORCHESTRA

I would immediately imagine that many liturgists and music directors may not be clearly aware of the option of using a chamber orchestra in the liturgy. But this option really exists. Probably, that would have been what was primarily going on in the mind of those who drafted the Sacrosanctum concilium and Musicam sacram while thinking about the possibility of the use of other instruments in the liturgy. But the option of use of chamber orchestra did not begin with Vatican II. Already in his seminal instruction on liturgical music, Pope St. Pius X admitted that “in some special cases, within due limits and with proper safeguards, other instruments may be allowed....”<sup>43</sup> He also indicated that only in special cases with the consent of the Ordinary will it be permissible to admit wind instruments, limited in number, judiciously used, and proportioned to the size of the place provided the composition and accompaniment be written in grave and suitable style, and conform in all respects to that proper to the organ.<sup>44</sup>

Further, Pope Pius XII declared that “other instruments can be called upon to give great help in attaining the lofty purpose of sacred music, so long as they play nothing profane, nothing clamorous or strident and nothing at variance with the sacred services or the dignity of the place. Among these the violin and other musical instruments that use the bow are outstanding because, when they are played by themselves or with other stringed instruments or with the organ, they express the joyous and sad sentiments of the soul with an indescribable power.”<sup>45</sup>

The implication of the foregoing is the clear admissibility of the use of some limited number of wind and string instruments in the liturgy. That is what I defined as a chamber orchestra.

But it would be equally an awful exaggeration to use an excessively heavy orchestral accompaniment in the liturgy. Such would be the case if there is a resorting to use of a full symphony orchestra. Let us always remember that the sound of any musical accompaniment must serve to support the singing but never to overwhelm the sound of human voices in the liturgy. This state of things, namely, "the excessive use made of musical instruments" was strongly deprecated by Pope Pius XI, who wrote thus: We hereby declare that singing with orchestra accompaniment is not regarded by the Church as a more perfect form of music or as more suitable for sacred purposes. Voices, rather than instruments, ought to be heard in the church: the voices of the clergy, the choir and the congregation. Nor should it be deemed that the Church, in preferring the human voice to any musical instrument, is obstructing the progress of music; for no instrument, however perfect, however excellent, can surpass the human voice in expressing human thought, especially when it is used by the mind to offer up prayer and praise to Almighty God.<sup>46</sup>

It is obvious that Pius XI's emphasis here is not on a normative total impossibility of using any other instrument outside the organ, but the inappropriateness of using an excessive instrumentation as exemplified by the symphony orchestra and the primacy of voice over instrument in liturgical service. Interestingly, while he argued that "no instrument, however perfect, however excellent, can surpass the human voice in expressing human thought," Pius XII would argue, years later, that when "the violin and other musical instruments that use the bow... are played by themselves or with other stringed instruments or with the organ, they express the joyous and sad sentiments of the soul with an indescribable power." This is not a contradiction of one Pope by another but nuanced views of the same reality from various

angles.

In the final analysis, a commonsense and moderate use of chamber orchestral instruments would seem laudable from the optics of Joseph Ratzinger who argued that "when man comes into contact with God, mere speech is not enough... [his] own being is insufficient for what he has to express," therefore he has to invoke and invite "the whole of creation to become a song with him."<sup>47</sup> The invocation of the entire creation then becomes iconically symbolized in the use of varied western instruments to accompany the liturgical music with the same spirit and approach that characterize the liturgical usage of the organ.

## IX. CONCLUSION

In concluding this reflection, let me state that the decision of the Church to admit instruments in the liturgy is the fruit of the maturation of the Church's liturgical and aesthetic sensibility down through the ages. It may interest us to know that at the early period of the Church, the use of musical instruments was really frowned upon. This will help us to understand my initial statement that the musical instruments approved by the church as liturgically fit are not to be seen as exotic additives to the liturgy. Perhaps, we can end this discussion with every liturgist making up his mind to start from today to include the question "who is playing the organ?" in his inquiries for liturgical planning.

Therefore, the challenge is there for all Nigerian Catholic liturgists and musicians to find ways of applying the various directives of the Church on the necessary but appropriate use of musical instruments in the liturgy, especially, in line with the genuine spirit of *aggiornamento* or authentic reform principles of Vatican II, for the proper and fitting enrichment of liturgical music in our local church. In doing this, one needs to bear in mind the gulf of difference between sacred

music and profane music and that a mixture of or confusion about the two within the liturgy constitutes a painful clash that impedes the Church's desire of arriving at an authentic liturgical worship that can really serve as "the primary and indispensable source from which the faithful are to derive the true Christian spirit,"<sup>48</sup> a quality worship that serves to proclaim "the glory of God" while achieving "the sanctification of the faithful."<sup>49</sup>

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18. <sup>20</sup> Joseph Ratzinger, *A New Song for the Lord: Faith in Christ and Liturgy Today*, trans. by Martha M. Matesich, (New York: The Crossroad Publishing Company, 1997), p. 144.
19. <sup>21</sup> *Ibid.* p. 176.
20. <sup>22</sup> M. Merleau-Ponty, *Phenomenology of Perception*, trans. by D. A. Landes (Routledge, 2012 [Original work published 1944]), p. 147, quoted in Michael R. Kearney, "The Phenomenology of the Pipe Organ," *Phenomenology & Practice*, Vol. 15 (2020), No. 2, p. 25.
21. <sup>23</sup> *Ibid.*
22. <sup>24</sup> Rudolf Otto, *The Idea of the Holy*, trans. John W. Harvey, (USA: Oxford University Press, 1923), p. 12. <sup>25</sup> The Phenomenology of the Pipe Organ, p. 32.
23. <sup>26</sup> *Musicam Sacram*, \*65
24. <sup>27</sup> The Phenomenology of the Pipe Organ, p. 27.
25. <sup>28</sup> *Ibid.*
26. <sup>29</sup> *Musicam Sacram*, \*64
27. <sup>30</sup> *Ibid.* \*66
28. <sup>31</sup> General Instruction of the Roman Missal, \*313, emphasis mine.
29. <sup>32</sup> Circular Letter Concerning the Preparation and Celebration of the Easter Feasts, *Paschale Solemnitatis*, Congregation for Divine Worship and the Discipline of the Sacraments, January 16, 1988, \*50
30. <sup>33</sup> *Sacrosanctum Concilium*, \*119
31. <sup>34</sup> *Musicam Sacram*, \*\*62–63. Emphasis mine.



32. <sup>35</sup> Francis Cardinal Arinze, "Liturgy is no Time for Popular Music," *Sacred Music* (Summer 2006), Vol. 133, No. 2, p. 31.
33. <sup>36</sup> I am deliberately using this term here parenthetically and in a generic, not theological sense. <sup>37</sup> *Musicam Sacram*, \*4
34. <sup>38</sup> *Ibid.*, \*63.
35. <sup>39</sup> Jude Orakwe, (2015). *Joyful Noise and Violent Prayer: Music and Charismatic Worship Performance in Nigerian Catholic Communities in Rome, Italy*, (Indiana University [Ph.D. diss.], 2015, p. 243. Cf. Christopher Waterman, *Jùjú: A Social History and Ethnography of an African Popular Music* (Chicago: University of Chicago Press, 1990), p. 90.
36. <sup>40</sup> *Sacrosanctum concilium*, \*112
37. <sup>41</sup> *Musicam Sacram*, \*63.
38. <sup>42</sup> *Musicam Sacram*, \*64
39. <sup>43</sup> *Tra le sollecitudini*, \*15
40. <sup>44</sup> *Ibid.* \*20
41. <sup>45</sup> Pius XII, Encyclical *Musicae sacrae disciplina*, On Sacred Music, 1955, \*59.
42. —<sup>46</sup> Pius XI, *Divini Cultus*, On Divine Worship, Dec. 20, 1928.
43. <sup>47</sup> *The Spirit of the Liturgy*, p. 136.
44. <sup>48</sup> *Sacrosanctum concilium*, \*14
45. <sup>49</sup> *Sacrosanctum concilium*, \*112
46. <sup>48</sup> *Sacrosanctum concilium*, \*14
47. <sup>49</sup> *Sacrosanctum concilium*, \*112



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